

Learning Citizenship in the AI Era: A Qualitative Study of Perplexity's Use in Shaping Students' Digital Citizenship

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Abstrak

Studi ini menganalisis penggunaan platform berbasis kecerdasan buatan (AI), Perplexity, dalam mata kuliah Konsep Dasar Kewarganegaraan dari perspektif kewarganegaraan digital. Perkembangan teknologi AI mendorong transformasi dalam praktik pembelajaran kewarganegaraan, dari pendekatan teks dan teoretis menuju pembelajaran yang lebih responsif terhadap dinamika ruang digital. Studi ini menggunakan pendekatan kualitatif dengan wawancara mendalam dan pengamatan partisipatif bersama dosen dan mahasiswa yang menggunakan Perplexity dalam proses pembelajaran. Hasil penelitian mengungkapkan dua temuan utama. Pertama, penggunaan Perplexity meningkatkan kecepatan akses informasi dan memperluas referensi mahasiswa terhadap isu-isu kewarganegaraan kontemporer. Namun, pada saat yang sama, terdapat kecenderungan mahasiswa menjadi kurang mampu memverifikasi, mengkritisi, dan mengkontekstualisasikan informasi yang dihasilkan oleh AI. Kedua, meskipun platform ini memperkuat keterlibatan digital mahasiswa, terdapat risiko ketergantungan pada jawaban instan, yang berpotensi melemahkan proses refleksi kritis dan pemahaman yang lebih dalam tentang nilai-nilai kewarganegaraan digital. Berdasarkan temuan ini, penelitian ini menekankan bahwa integrasi AI dalam pendidikan kewarganegaraan harus disertai dengan penguatan literasi digital, etika digital, dan keterampilan berpikir kritis agar teknologi tidak hanya meningkatkan efisiensi pembelajaran tetapi juga mengembangkan warga digital yang reflektif, bertanggung jawab, dan kritis.

Kata kunci: AI, Kewarganegaraan Digital, Pembelajaran, Kebingungan

Abstract

This study analyzes the use of an artificial intelligence (AI)-based platform, Perplexity, in the Basic Concepts of Citizenship course from a digital citizenship perspective. The development of AI technology is driving a transformation in citizenship learning practices, from a textual and theoretical approach to learning that is more responsive to the dynamics of the digital space. This study used a qualitative approach using in-depth interviews and participant observation with lecturers and students who utilized Perplexity in the learning process. The results revealed two main findings. First, the use of Perplexity increases the speed of information access and broadens students' references to contemporary citizenship issues. However, at the same time, there is a tendency for students to be less able to verify, critique, and contextualize the information generated by AI. Second, although this platform strengthens students' digital engagement, there is a risk of reliance on instant answers, which could potentially weaken the process of critical reflection and a deeper understanding of digital citizenship values. Based on these findings, this study emphasizes that the integration of AI in citizenship education must be accompanied by strengthening digital literacy, digital ethics, and critical thinking skills so that technology not only improves learning efficiency but also develops reflective, responsible, and critical digital citizens.

Keywords : AI, Digital Citizenship, Learning, Perplexity

INTRODUCTION

The rapid development of information and communication technology, particularly artificial intelligence (AI), has significantly transformed higher education by reshaping how information is accessed, interpreted, and constructed. AI-based platforms such as Perplexity, which utilize Natural Language Processing (NLP), enable users to obtain information quickly and contextually. However, this efficiency also presents challenges related to students' critical abilities to verify, interpret, and evaluate automatically generated information. UNESCO (2023) highlights that the rapid adoption of AI in higher education has not been sufficiently balanced with the strengthening of information literacy, source evaluation skills, and digital ethics, increasing the risks of misinformation, knowledge bias, and superficial learning practices. An OECD survey (Borgonovi et al. 2025) further indicates that while over 70% of students use AI-based search engines for academic purposes, only around 40% consistently cross-check primary sources.

Within the context of citizenship education, particularly the Basic Concepts of Citizenship course, learning has traditionally emphasized a normative understanding of citizens' rights and obligations. However, the development of digital society demands a broader orientation toward digital citizenship, defined as the capacity to participate critically, ethically, and responsibly in digital spaces. Digital literacy, digital ethics, and information evaluation skills are therefore essential competencies. Data from the Ministry of Communication and Informatics (Zhai,

Wibowo, and Li 2024) shows that more than 80% of Indonesian internet users aged 18–25 access public information through digital platforms, while the national digital literacy index remains at a moderate level, indicating a gap between technology use and critical digital capacity.

Despite increasing demands for digital citizenship education, learning practices in Indonesian higher education remain largely theoretical and lecture-oriented. Digital technologies are often used for administrative purposes rather than as pedagogical tools that foster critical analysis and reflective participation. Yue Yim (2024) reports that more than 65% of citizenship courses in higher education continue to rely on concept-based instruction with minimal integration of technology for critical evaluation and digital participation. This gap highlights the mismatch between the objectives of citizenship education in the digital era and actual classroom practices.

AI platforms such as Perplexity offer potential to bridge this gap by providing rapid access to contemporary citizenship issues and expanding students' contextual understanding. However, without a strong framework of digital literacy and ethics, AI use may encourage dependence on instant answers and weaken reflective thinking skills. Zhai, Wibowo, and Li (2024) found that students' reliance on AI-based dialogue systems negatively correlates with critical reasoning abilities, particularly in analytical and argument-based tasks.

Unlike previous studies that primarily focus on AI use in STEM education or general learning effectiveness, this research specifically examines the integration of Perplexity in citizenship education from a digital citizenship perspective. The study focuses on how AI influences students'

civic understanding, information ethics, and participatory tendencies in digital spaces. A review of publications from 2019–2023 indicates that less than 10% of AI-in-education research explicitly addresses digital citizenship and public ethics, highlighting a significant gap addressed by this study.

Citizenship education in higher education must therefore adapt to contemporary digital realities. Students are required not only to understand civic rights and obligations but also to participate critically and responsibly in digital environments (Melisa et al. 2025). Digital citizenship encompasses the ability to access, evaluate, and engage with digital information ethically and responsibly (Alkan 2024; Fatimah and Nugroho 2023). However, many lecturers have not yet optimally integrated AI-based technologies into citizenship learning to enhance these competencies (Bowen 2009).

Although AI-based platforms provide opportunities for more efficient access to information and engagement with digital-era citizenship issues (Nafis and Fathurrahman 2024), students continue to face difficulties in filtering and evaluating digital information, increasing vulnerability to misinformation. Effective citizenship education should therefore balance theoretical understanding with practical digital skills that enable students to navigate political, social, and ethical challenges in online spaces (Al-shraifin et al. 2025; Bennett, Wells, and Rank 2009).

This study aims to contribute to the development of digital citizenship education by analyzing the pedagogical integration of Perplexity in a Basic Concepts of Citizenship course. By presenting qualitative data from students and lecturers, the research provides insights into both the

opportunities and challenges of using AI to foster informed, reflective, and responsible digital citizens. Ultimately, this study contributes to the literature on AI in social sciences while offering practical implications for innovation in citizenship education in the digital era.

METHOD

This study employs an exploratory qualitative approach to gain an in-depth understanding of the use of the Perplexity AI platform in the Basic Concepts of Citizenship course. This approach is considered appropriate because it enables the researcher to explore participants' experiences, perceptions, and interaction dynamics between lecturers and students in utilizing AI technology within the context of citizenship education. Through this approach, the study seeks to capture participants' perspectives holistically, encompassing their experiences, interpretations, and understanding of the phenomenon under investigation (Creswell and Poth 2018).

This research is categorized as exploratory qualitative research, which aims to develop a comprehensive understanding of the integration of artificial intelligence (AI)-based platforms in digital citizenship learning. Specifically, the study examines how students and lecturers respond to the use of Perplexity AI during the learning process, as well as identifying factors that influence its utilization and potential challenges encountered in its implementation (Braun and Clarke 2006). The exploratory nature of this study is particularly relevant given the limited number of empirical studies that focus on the use of AI platforms in the context of citizenship education (Patton 2015).

The research was conducted in the Pancasila and Citizenship Education (PPKn) Study Program, which offers the Basic Concepts of Citizenship course and has integrated AI-based platforms into its instructional practices. The selected institution represents a higher education context that has begun systematically incorporating digital technologies, including AI tools, to support learning activities and enhance students' digital citizenship competencies.

The research participants consisted of two primary groups. The first group included lecturers responsible for teaching the Basic Concepts of Citizenship course, who possess experience in integrating digital technologies, particularly AI-based platforms, into their instructional practices. The second group comprised students enrolled in the course, who were considered capable of providing rich information and reflective perspectives regarding their experiences in using Perplexity AI during the learning process (DiCicco-Bloom and Crabtree 2006).

In this study, the learning process involving Perplexity AI is positioned as the **context of the educational practice being examined**, rather than as a product development or experimental intervention. The research focuses on understanding how AI-assisted learning is enacted (Spradley 2016), guided, and critically mediated by lecturers, as well as how students engage with, interpret, and reflect upon the use of AI within citizenship education.

Figure 1 illustrates the instructional flow and learning process observed in this study. The process begins with curriculum planning and the integration of AI into course design, followed by citizenship-based learning activities that encourage students to use Perplexity AI as an initial source of information. Importantly, the learning process extends beyond information retrieval to include source verification, comparison with academic literature, and the identification of potential bias or misinformation.

These stages are reinforced through structured lecturer control and academic mentoring, particularly in relation to digital ethics, academic responsibility, and reflective use of AI technologies. Learning outcomes are subsequently discussed through classroom dialogue, analytical assignments, and lecturer feedback (Patton 2015). Through this process, students are expected to develop essential digital citizenship competencies, including critical thinking, ethical awareness in digital environments, and responsible participation as citizens in the digital public sphere.

RESULT

1. Using the Perplexity Platform in Learning Basic Courses and Citizenship Concepts

First, this study aims to explore the use of artificial intelligence (AI)-based platforms, specifically Perplexity, in the teaching of the Basic Concepts of Citizenship course in the Pancasila and Citizenship Education (PPKn) Study Program at Lambung Mangkurat University (ULM). Data obtained through interviews, observations, and documentation provide a picture of how students and lecturers interact with this



Figure 1. Research Process and Flow Chart

technology in the teaching and learning process.

Based on interviews with lecturers teaching the Basic Concepts of Citizenship course, most lecturers stated that they have begun utilizing the Perplexity platform as a learning support tool. This platform is used to provide additional information relevant to the course material and to help answer student questions quickly and efficiently, particularly regarding dynamic contemporary citizenship issues. One lecturer mentioned, "By using Perplexity, I can provide direct references to students regarding current citizenship issues being discussed in society."

However, lecturers also conveyed in interviews that the use of this platform does not come without various consequences that need to be anticipated. One lecturer stated, "Although students frequently use it, and we are aware of this, there are still many negative impacts that need to be anticipated, both by students and lecturers." This statement demonstrates a critical awareness among lecturers of the potential risks of using AI-based platforms in the learning process.

The use of the AI-based platform, Perplexity, is also considered to contribute to accelerating student knowledge development. Students are required to continuously update their information through Perplexity and access relevant research journals recommended by the platform. However, several lecturers felt that the use of Perplexity was still limited to searching for information related to basic civics concepts, without adequate guidance on how the platform could be used critically to understand civics issues in a digital context.

2. The Impact of Using Perplexity on the Learning Process of Civics Students

Several lecturers expressed hesitation about fully integrating Perplexity into the Basics and Concepts of Citizenship course. This course not only emphasizes mastery of fundamental concepts such as the rights and obligations of citizens, democracy, the constitution, and the values of Pancasila, but also requires students to understand the normative meaning and ethical implications of each concept. One lecturer expressed concern that students could become overly reliant on answers generated by the platform without verifying them with more authoritative academic sources, resulting in a shallow and superficial understanding of citizenship concepts.

Interview findings with students indicate that most students directly benefit from using Perplexity, particularly in terms of easier access to information and accelerated understanding of basic citizenship concepts. One student stated, "Perplexity really helps me find answers quickly about citizenship concepts, especially when I'm having difficulty understanding material like democracy or human rights." Other students explained that the platform makes it easier to obtain initial definitions and overviews of basic topics, such as the Indonesian political system, the constitution, and citizenship.

However, field data also reveals student concerns about potential dependency. One student expressed, "I'm worried that if I rely too much on Perplexity, I'll lose my ability to think critically and analyze the material deeply." This concern is particularly relevant in the context of the Basics and Concepts of Citizenship course, which aims not only to provide students with conceptual definitions but also to

understand the philosophical foundations, values, and socio-political consequences of each concept.

Classroom observations corroborate this finding. Researchers found that students frequently used Perplexity to obtain brief explanations of the citizenship concepts being discussed, particularly during group discussions on topics such as democracy, human rights, and civic obligations. In some cases, students directly quoted answers from Perplexity without comparing them to the Civics textbook or journal articles that serve as the primary references for the course. This pattern suggests that, while the platform facilitates faster access to information, deepening conceptual understanding and critical reflection on civic values has not yet fully developed.

On the other hand, some students used Perplexity as a starting point for further exploration. Several students stated that the initial information obtained from the platform prompted them to seek out other academic sources when lecturers requested comparisons between Perplexity's answers and official references, such as Civics textbooks or journal articles. In this context, Perplexity served as a learning trigger, not as a primary source of civics knowledge.

Overall, the findings of this study indicate that the use of Perplexity in the Basics and Concepts of Civics course had a positive impact on learning efficiency and students' access to information on civics concepts. However, this impact was not fully aligned with the course's primary objective, which is to develop a deep, reflective, and ethical understanding of civics. Without pedagogical guidance that emphasizes source verification, critical analysis, and internalization of Pancasila values and constitutionalism, the use of Perplexity risks reducing

civics learning to merely an answer-seeking activity. Therefore, this platform should be positioned as a conceptual learning tool, not a substitute for the critical thinking process and internalization of civics values that are at the core of the course.

3. Perplexity Implementation Challenges: Dependency, Information Verification, and Digital Ethics

Based on observations conducted in several classes, researchers found that students tended to use Perplexity to seek additional information during learning activities, particularly during group discussions. Students were often seen accessing the platform to obtain brief explanations regarding civics concepts being discussed in class. Some students were also seen asking each other questions and sharing information they found through Perplexity with their group mates, indicating a social interaction in the platform's use.

However, researchers also observed a phenomenon where some students focused more on the answers provided by Perplexity without attempting to seek out other sources of information or conduct further verification. In some cases, students even relied on information that was not entirely relevant or accurate. This was evident when some students quoted information from Perplexity without cross-checking with more credible sources.

Observations of the role of lecturers in using Perplexity indicated that the learning process was still dominated by conventional approaches, such as lectures and written assignments. The use of Perplexity as a learning tool generally only became apparent when lecturers provided clarification or answered student

questions after the lecture. Lecturers tend to direct students to use Perplexity as a supplementary reference, but they haven't provided clear instructions on how this platform can be utilized more critically.

In some lecture sessions, lecturers also appear to emphasize the use of official sources, such as textbooks and scientific journals, over AI-based platforms like Perplexity. However, some lecturers have begun to demonstrate efforts to integrate technology into the course material in a more structured manner, for example by providing examples of how students can utilize AI to gain multiple perspectives on citizenship issues in the digital world.

Based on the documentation collected, it was found that some teaching materials have been designed to include references from Perplexity as one of the additional sources of information available to students. In some assignments, students are asked to search for explanations on specific citizenship issues through Perplexity and then compare that information with other sources. However, there are no clear instructions on how students should verify or evaluate the accuracy of the information presented by the platform.

On the other hand, some assignments explicitly require students to use official sources, such as scientific journal articles or textbooks, as the primary reference in completing the assignment. These findings indicate that although the use of Perplexity is beginning to be integrated into some aspects of learning, overall teaching practices still rely on conventional and academic sources of information.

DISCUSSION

1. Transforming the Dynamics of Civic Learning through the Use of Perplexity

Based on interviews and classroom observations, the use of Perplexity brought about a marked change in learning dynamics. Students became more active during discussions, sought references more quickly, and frequently shared their findings with their group mates. Compared to the previous situation, which tended to be one-way and centered on lectures, the learning atmosphere appeared more lively and responsive after using this platform.

However, field findings also revealed another aspect that warrants attention. In some activities, students appeared to rely more on instant answers from Perplexity without exploring other sources or double-checking (George-Reyes, Avello-Martínez, and Buenestado-Fernández 2025). This aligns with the lecturer's statement that Perplexity's use was still limited to information-seeking, lacking clear guidance on how to evaluate sources, compare information, or critically reflect on issues. Assignment documentation also showed that although students were asked to search for and compare information, explicit guidance regarding verifying credibility and potential bias was not provided.

These findings indicate that the use of Perplexity in Civics (PPKn) learning remains primarily practical and functional, not fully geared toward fostering critical, ethical, and participatory civic thinking. Therefore, for this technology to be truly pedagogically meaningful, its integration needs to be accompanied by a learning design that encourages students to examine sources, analyze

information in depth, and reflect on ethical responsibilities in the use of digital information.

To provide a more systematic understanding of how the Perplexity platform operates in the context of the Basic Courses and Citizenship Concepts, the following subsections describe specific learning dimensions influenced by its use in classroom and independent learning activities.

a. Fast and Accurate Access to Citizenship Concept Information

One of the key findings of this study indicates that Perplexity makes it easier for Civics students to quickly access information when discussing civics issues. In class discussions and group assignments, students frequently use the platform to search for explanations about human rights, democracy, or the Indonesian political system, then share these information with their peers. Observations also show that students are more responsive because they can quickly obtain references without having to search through multiple sources separately (Jiwa Permana et al. 2023; Venkatesh et al. 2003).

However, field data also revealed important limitations. Some students tend to accept information from Perplexity directly without double-checking with other academic sources. Several lecturers emphasized that while the platform helps expedite reference searches, its use has not been accompanied by a habit of source verification and critical analysis. This suggests that Perplexity is still positioned as an information-seeking tool, not yet fully utilized to foster digital literacy and civic ethics. Without adequate support, this convenience risks fostering dependency and undermining the goal of Civics in developing reflective, critical, and responsible citizens in the digital space.

b. Self-Directed Learning and Time Flexibility

In civics education, students are encouraged to take an active role in managing their learning process. Interview results indicate that using Perplexity makes it easier for students to independently search for information and deepen the material outside of class hours. Several students reported using the platform to explore topics such as democracy, human rights, and governance when they felt they didn't understand the explanations in class. This flexibility of access helps students adjust their learning pace to their individual needs and manage their study time more efficiently (Haleem et al. 2022; Polly, Martin, and Byker 2023).

However, observational data also shows that this independent learning is not always accompanied by conceptual deepening. Some students tend to focus on the initial information obtained from Perplexity without conducting further research or comparing it with other academic sources. Without assignment designs that require reflection, analysis, and evaluation of sources, the flexibility offered by this platform risks resulting in rapid but shallow learning. These findings emphasize that AI-based independent learning needs to be pedagogically guided to truly support the development of critical, independent, and responsible students in the digital space.

Based on the findings above, this study has fundamentally captured the expectations and perceived ease of use of the Perplexity platform by students and lecturers. However, another equally important aspect emerged: concerns from both lecturers and students about the potential for over-reliance on the platform. While the Perplexity platform has been shown to facilitate access to

information, accelerate learning, and encourage student independence, the findings of this study indicate that digital ethics remains the most crucial aspect (Karakaya et al. 2025).

To map Perplexity's place in civics learning, this study uses a conceptual framework that illustrates the relationship between AI-based information access, students' cognitive processes, and its pedagogical and ethical implications. This framework is not intended as a technical model, but rather as an analytical tool for understanding how the use of Perplexity can impact learning while simultaneously raising challenges in the context of civics education.

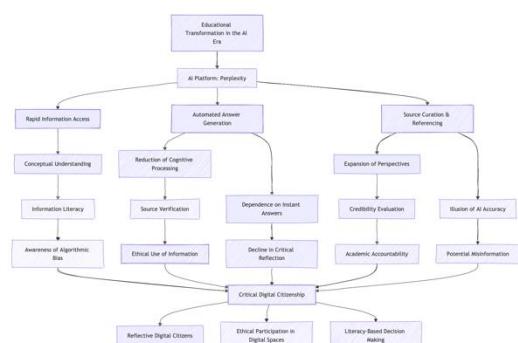


Figure 2. Integrated Conceptual Framework

This conceptual framework serves as the basis for analysis in the following discussion. The dimensions presented in the framework are used to interpret empirical findings related to the impact of Perplexity on conceptual understanding, inquiry processes, and the development of students' digital literacy and ethics. Furthermore, this framework helps identify implementation challenges that require lecturer oversight and guidance, as discussed in the following subsection.

2. The Impact of Using Perplexity on the Learning Process of Civics Students

The findings of this study reveal that the use of the Perplexity platform meaningfully influences the learning process of Civics students in basic courses and foundational citizenship concepts. Rather than producing merely technical efficiency, the platform reshapes students' engagement with civic knowledge, their inquiry practices, and their awareness of digital responsibility. These impacts emerged consistently across classroom observations, students' reflective writings, and analysis of learning artifacts.

a. Enhancing Students' Conceptual Understanding in Basic Civics Courses

Data from classroom observations and analysis of students' written responses indicate a noticeable improvement in students' understanding of fundamental citizenship concepts after the integration of Perplexity. Most students demonstrated clearer and more coherent explanations of core topics such as constitutional principles, state institutions, civic rights and obligations, and democratic governance. Compared to initial learning sessions, students' explanations became more structured and conceptually connected.

Students' reflective journals further reveal that many participants experienced greater ease in understanding abstract and normative concepts. Perplexity's synthesized explanations and contextual examples enabled students to relate theoretical civic concepts to concrete social and political realities. This pattern suggests that the platform functions as a conceptual scaffold, supporting students in constructing civic knowledge in introductory Civics courses where abstract reasoning often poses significant challenges.

b. Supporting Inquiry-Based and Critical Learning Processes

The use of Perplexity also contributed to qualitative changes in students' learning behavior, particularly in terms of inquiry and critical engagement. Observational data show that classroom discussions increasingly featured analytical and evaluative questions, rather than requests for factual clarification. Students frequently posed questions comparing constitutional ideals with contemporary political practices or critically examining the application of civic principles in real-world contexts.

Analysis of students' assignments indicates that many participants engaged with multiple perspectives and referred to supporting sources when discussing civic issues. This shift reflects a movement away from surface-level responses toward more reflective and analytical engagement. The findings suggest that Perplexity, when embedded within guided instructional activities, supports inquiry-based learning by enabling students to explore civic issues more deeply while remaining anchored to credible information.

c. Improving Learning Efficiency and Accessibility of Civic Knowledge

Another recurring theme in the data relates to learning efficiency and access to information. Students consistently reported that Perplexity facilitated quicker access to relevant explanations and references, particularly when dealing with complex legal and constitutional materials. This accessibility reduced initial confusion and enabled students to engage more actively in subsequent discussions (Forester et al. 2024).

From a cognitive standpoint, this reduced information-search burden allowed students to focus more on interpretation and meaning-making. Classroom interactions consequently shifted from clarifying terminology toward discussing implications, values, and civic responsibilities. These findings align with the view that AI-assisted platforms can support meaningful learning when they reduce unnecessary cognitive obstacles without replacing critical engagement.

d. Strengthening Learning Autonomy and Digital Citizenship Competencies

The qualitative data also indicate that the use of Perplexity fostered greater learning autonomy among students. Many participants demonstrated increased confidence in independently exploring Civics topics, formulating questions, and verifying information beyond classroom requirements. This autonomy is particularly significant in basic Civics courses, as it supports the development of lifelong civic learning habits.

In addition, students became more aware of issues related to digital ethics and information credibility. Reflective writings frequently mentioned the importance of checking sources, recognizing potential inaccuracies in AI-generated content, and using digital tools responsibly. This awareness reflects the development of digital citizenship competencies, which are essential components of contemporary Civics education.

e. Interpreting the Findings Through the Perplexity-Based Learning Framework

To further explain the mechanisms underlying these impacts, this study refers to the Perplexity-based learning

framework as an analytical lens. The framework highlights three interconnected dimensions: rapid information access, automated response generation, and source citation support. The qualitative findings of this study empirically support this framework by illustrating how these dimensions interact in Civics learning contexts.

Rapid access to information supports initial conceptual understanding, while automated responses assist in reducing cognitive barriers. At the same time, the availability of sources encourages students to evaluate credibility and practice ethical information use. However, the data also reveal that without pedagogical guidance, some students tend to rely excessively on platform-generated responses. This underscores the framework's emphasis on the conditional nature of AI effectiveness and the necessity of instructional mediation.

Overall, the findings suggest that Perplexity contributes to Civics learning not as a replacement for academic instruction but as a pedagogical partner. When integrated intentionally, the platform supports critical thinking, reflective civic engagement, and informed decision-making, aligning with the broader goals of citizenship education in digital societies.

3. Challenges of Perplexity Implementation: Dependence, Information Verification, and Digital Ethics

While the research findings indicate that the use of Perplexity positively contributes to civics learning, empirical data also revealed a number of challenges that emerged during the implementation process. These findings were obtained through classroom observations, student reflections, and

analysis of learning artifacts in foundational courses and civics concepts. However, this research also shows that these challenges were not allowed to develop unchecked, but rather were managed through mentoring and learning control strategies consciously implemented by lecturers.

a. Student Dependence on AI-Based Responses and Control Strategies

Initial observations indicate that some students tended to rely directly on Perplexity-generated responses, particularly when answering conceptual questions. This pattern was evident in the uniformity of the answer structure and the lack of personal elaboration on some written assignments. This finding indicates an emerging reliance on AI as the primary source of answers.

In response to this situation, lecturers implemented pedagogical control strategies by designing open-ended assignments that required personal reflection and connection to students' own experiences or perspectives. Furthermore, the lecturer explicitly limited the use of Perplexity to the initial exploration stage, while the analysis and synthesis stages required students to use their own language and argumentation. Student reflection data showed that this strategy encouraged them to use Perplexity as a tool, not a substitute for their thinking processes, thus gradually reducing reliance on AI.

b. Challenges of Information Verification and Academic Literacy Mentoring

Research findings also revealed that although Perplexity provided source references, some students did not consistently critically verify the information they obtained. In class discussions, students were often able to cite information but did not fully

understand the academic basis and relevance of the sources to civics studies.

In response to this finding, the lecturer implemented an academic literacy mentoring strategy by integrating source evaluation exercises into the learning process. Students were asked to explain the reasons for their source selection, compare several references, and relate them to the civics concepts being studied. Observations showed that this approach gradually increased students' awareness of the importance of source validity and authority. Thus, this research confirms that information verification skills do not emerge automatically through the use of AI but rather need to be developed through ongoing pedagogical mentoring.

c. Digital Ethics and the Role of Lecturers in Developing Responsible Attitudes

The issue of digital ethics also emerged as a key finding in this study, particularly regarding students' understanding of the limits of AI use in academic contexts. Student reflections revealed initial confusion about whether the use of AI responses could diminish the originality of their work. This situation has the potential to lead to academic integrity violations if not addressed systematically.

In response to this issue, lecturers actively integrated discussions of digital ethics into citizenship learning. Students were invited to discuss issues of idea ownership, intellectual responsibility, and the position of AI as a tool, not a primary author. Reflection data indicated that this approach increased student awareness of the importance of academic honesty and the responsible use of AI. These findings demonstrate that lecturer control was not repressive, but rather educational and reflective, in line with

the goal of developing ethical citizens in the digital space.

d. Pedagogical Implications Based on Research Findings

Overall, the results of this study indicate that the challenges of implementing Perplexity can be effectively managed through a well-planned lecturer control and mentoring strategy. Student dependency, weak information verification, and ambiguity in digital ethics did not develop into serious obstacles due to consistent pedagogical interventions. These findings confirm that the successful integration of AI in civics learning depends heavily on the role of lecturers as critical facilitators, guardians of academic values, and digital ethics mentors.

Thus, this research strengthens the argument that the use of Perplexity in civics education must be placed within a controlled and reflective learning framework. When lecturers actively provide academic guidance and supervision, AI technology can be an effective tool for developing students' critical thinking skills, information literacy, and civic character in the digital age.

CONCLUSION

The use of an artificial intelligence-based platform like Perplexity in the Basics and Concepts of Citizenship course within the Civics Study Program (PPKn) demonstrates significant potential for supporting the learning process. One of its primary benefits is its ability to provide rapid access to a variety of relevant information sources, helping students understand complex civics concepts more efficiently. Furthermore, the diverse perspectives

presented by this platform provide students with the opportunity for further analysis and discussion, which in turn strengthens their critical thinking and analytical skills. Thus, the use of Perplexity not only enriches the learning experience but also supports the development of students' academic competencies.

However, the use of platforms like Perplexity also presents a number of challenges. One key issue relates to information accuracy. Because these platforms operate on algorithms, there is a risk that the information presented may be inaccurate, incomplete, or even biased. Therefore, neither students nor lecturers can rely solely on AI output but should verify it through more credible academic sources. Furthermore, privacy and data security are also important concerns. Student activities using digital platforms have the potential to be recorded as user data, so it is necessary to ensure that this information is managed securely and is not misused.

Overall, the findings of this study indicate that the use of Perplexity in Civics learning has significant potential to improve the quality of the learning process, but must be balanced with pedagogical supervision and strengthening digital ethics. With appropriate guidance, Perplexity can serve as a tool that enriches learning while remaining aligned with the goals of civics education, namely developing students who are critical, reflective, and responsible citizens in the digital space.

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