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DIGITAL CITIZENSHIP AND CLIL IN THE AI ERA: EVALUATING PRE-SERVICE CIVICS TEACHERS' VERIFICATION STRATEGIES OF AI-GENERATED CONTENT IN ENGLISH

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ABSTRACT

This study investigates the integration of Generative Artificial Intelligence (Gen-AI) among pre-service Civic Education teachers in Indonesia, specifically focusing on how they utilize AI tools to process English-language civic content and the extent of their verification strategies. A descriptive quantitative survey was conducted with 14 Civic Education students enrolled in an English for Specific Purposes (ESP) course. Data were analyzed using descriptive statistics to identify usage patterns, functional applications, and verification frequencies. The results reveal a 100% adoption rate of ChatGPT, primarily used as a linguistic scaffold for translating complex Indonesian legal terms and summarizing English academic articles. However, a "Verification Gap" was identified: while 88.5% of students perceive AI as highly effective for language improvement, only 46.2% frequently verify the substantive accuracy of AI outputs against primary legal sources like the 1945 Constitution. This suggests a "Fluency Trap," where grammatical perfection masks potential ideological or conceptual inaccuracies. The study underscores the urgent need for "Critical AI Literacy" within teacher training programs. It recommends a "Dual-Verification" pedagogical framework that mandates students to triangulate AI-generated content with national legal repositories, ensuring that the use of AI for language learning does not compromise the ideological integrity of civic education.

Keywords: Generative AI, Civic Education, ESP, Digital Citizenship, Verification Strategies, CLIL.

INTRODUCTION

The rapid emergence of Generative Artificial Intelligence (Gen-AI), spearheaded by Large Language Models (LLMs) such as ChatGPT, Gemini, and Claude, has fundamentally reshaped the landscape of higher education. In the context of teacher education, these tools offer unprecedented opportunities for Content and Language Integrated Learning (CLIL), particularly for students in non-English departments who must engage with global academic discourse. For Pre-service Civic Education students in Indonesia, the intersection of mastering complex legal-political concepts and achieving English language proficiency presents a unique pedagogical challenge. While Gen-AI acts as a linguistic bridge, translating and simplifying intricate constitutional and civic frameworks into English, it simultaneously introduces a critical risk: the potential for "algorithmic hallucinations" and ideological biases that may distort national civic values.

Despite the proliferation of AI in academic settings, current literature primarily focuses on the general efficiency of AI in language acquisition or its broad ethical implications. There is a noticeable scholarly void regarding how students in specialized fields—specifically Civic Education—navigate the dual task of linguistic translation and substantive verification. In a discipline where terminology is deeply rooted in specific national jurisdictions and ideological histories (e.g., *Pancasila* or *Gotong Royong*), the reliance on AI-generated English outputs without rigorous verification may lead to "conceptual drifting." This occurs when localized civic identities are misinterpreted through the "Western-centric" lens often embedded in AI training datasets.

Furthermore, the concept of Digital Citizenship in the 21st century demands more than just technical proficiency; it requires a high level of Epistemic Agency. For future civic educators, the ability to critically verify AI-generated content is not merely an academic skill but a professional necessity to prevent the dissemination of misinformation. However, initial observations suggest a "verification gap,"

where students may prioritize the linguistic fluency of AI outputs over their conceptual and legal accuracy.

This study aims to address this gap by analyzing the patterns of Gen-AI usage among Civic Education students enrolled in English for Specific Purposes (ESP) courses. Specifically, it investigates the extent to which these students perform cross-platform and cross-reference verification when processing civic-related content in English. By exploring the nexus between AI-assisted language learning and civic literacy, this research provides critical insights into the development of a framework for Critical AI Literacy in teacher training programs. The findings are expected to contribute to the global discourse on how specialized social science disciplines can integrate AI tools without compromising ideological integrity or academic rigor.

LITERATURE REVIEW

2.1. Generative AI as a Scaffolding Tool in CLIL Contexts

The integration of Large Language Models (LLMs) like ChatGPT and Gemini has redefined Content and Language Integrated Learning (CLIL). In this framework, students learn a non-linguistic subject (Civic Education) through a foreign language (English). Recent studies (e.g., Baidoo-Anu & Ansah, 2023; Kasneci et al., 2023) suggest that Gen-AI serves as a powerful "cognitive scaffold," reducing the cognitive load for students who struggle with complex academic vocabulary. For Civics students, AI can simplify dense legal texts and provide real-time translations of constitutional terminologies. However, while AI enhances linguistic accessibility, it may inadvertently overshadow the depth of the subject matter if used superficially.

2.2. The Challenge of "Conceptual Drifting" and Algorithmic Bias

A significant concern in the use of Gen-AI for social sciences is its inherent algorithmic bias. Most LLMs are trained on predominantly Western datasets, which may lead to "conceptual drifting"—a phenomenon where localized civic concepts are misinterpreted through Western liberal-democratic frameworks (O'Neil, 2016; UNESCO, 2023). In the Indonesian context, terms such as *Pancasila Democracy* or *Gotong Royong* possess unique socio-historical nuances that differ from Western definitions of "Democracy" or "Collaboration." If Civics students rely solely on English AI outputs without critical verification, they risk adopting a distorted understanding of their own national identity, prioritizing "algorithmic truth" over "constitutional accuracy."

2.3. Epistemic Agency and Digital Citizenship in Teacher Education

The role of a 21st-century citizen, particularly a future educator, requires Epistemic Agency—the capacity to actively evaluate and validate the knowledge one consumes. In the digital era, Digital Citizenship extends beyond technical skills to include "Information Literacy" and the ability to detect AI-generated misinformation (Frau-Meigs, 2022). For pre-service Civics teachers, the verification process is not merely an academic exercise but a professional duty. Current research (Chun, 2024; Luckin, 2023) highlights a "verification gap," where students often exhibit over-reliance (automation bias) on AI because of its fluent and authoritative linguistic delivery, despite potential factual inaccuracies in specialized content.

2.4. Conceptual Framework: The Dual-Verification Process

This study adopts a conceptual framework that merges AI Literacy with Critical Civic Literacy. This dual-verification process necessitates that students perform two levels of validation:

1. Linguistic Validation: Ensuring the English terminology used by AI is academically appropriate for international civic discourse.

2. Substantive Validation: Comparing AI-generated explanations with primary sources, such as the 1945 Constitution of Indonesia (UUD 1945) and national legal documents. Understanding how students navigate this intersection is vital for developing specialized AI-literacy modules in Civic Education curricula.

2.5. Automation Bias and the "Fluency Trap" in AI Interaction

A critical psychological dimension in AI-assisted learning is automation bias—the human tendency to favor suggestions from automated systems even when they contradict one's own knowledge (Cummings, 2017). In linguistic tasks, this is often manifested as the "Fluency Trap" (Chai et al., 2024).

When an LLM produces a response in grammatically perfect and sophisticated English, students often mistake linguistic fluency for factual accuracy. For Civics students, the authoritative tone of AI-generated English can mask subtle misinterpretations of legal principles, leading to a diminished impulse to verify the content against domestic legal sources (Gimpel et al., 2023). This study examines whether the "professional authority" of AI inhibits the critical skepticism necessary for civic educators.

2.6. Cross-Linguistic Mediated Learning in Civic Education

The use of AI in this context represents a form of Cross-Linguistic Mediated Learning, where a second language (L2 - English) is used to process a first-language (L1) core subject (Civics). According to the Interdependence Hypothesis (Cummins, 2021), deep conceptual knowledge in L1 should facilitate the acquisition of L2. However, when AI acts as the primary mediator, it introduces a "black-box" element to the translation of specialized civic terms. Research by Lo (2023) indicates that without high-level Metacognitive Awareness, students may fail to notice when AI "globalizes" specific local legal terms—such as converting *Negara Hukum* (the Indonesian Rule of Law) into a generic Western *Rule of Law*, which may have different constitutional underpinnings.

2.7. AI Literacy as a New Dimension of Civic Competence

Civic competence in the digital age has evolved to include Algorithmic Literacy. This involves understanding that AI models are not "truth-tellers" but "probabilistic predictors" (Bender et al., 2021). For pre-service teachers, this literacy is paramount to ensure that the Pedagogical Content Knowledge (PCK) they deliver remains untainted by AI-generated misinformation. Recent scholarship (Villasenor, 2024; Southgate, 2023) argues that AI literacy must be embedded within social science curricula, focusing on Prompt Engineering and Source Triangulation as essential tools for the modern "digital citizen" who operates in a multilingual information environment.

METHODOLOGY

3.1. Research Design

This study employed a descriptive quantitative research design using a cross-sectional survey method. This approach was selected to identify patterns, frequencies, and trends in how pre-service Civic Education teachers utilize Generative AI (Gen-AI) tools and the extent of their verification behaviors when processing civic-related content in English. By adopting a quantitative lens, the study provides a statistically grounded overview of the "verification gap" in the intersection of AI literacy and content-language integration.

3.2. Participants and Sampling

The participants consisted of 14 undergraduate students majoring in Civic Education (PPKN) at Universitas Muhammadiyah Makassar. These students were purposively sampled based on two criteria:

1. They were actively enrolled in or had completed an English for Specific Purposes (ESP) or English for Civics course.

2. They had utilized Gen-AI tools (e.g., ChatGPT, Gemini, Claude) for academic purposes within the last six months. The use of purposive sampling ensures that the respondents possess the necessary experiential background to provide relevant data regarding the dual challenge of content and language processing.

3.3. Instrumentation

Data were collected through a structured online questionnaire titled the "AI-Civic Integration & Verification Scale (ACIVS)." The instrument was developed based on the frameworks of AI Literacy (Long & Magerko, 2020) and Digital Citizenship. The questionnaire was divided into three primary sections:

1. Section A: Demographic & Usage Patterns: Frequency of AI use and preferred platforms.
2. Section B: Functional Use in ESP: Likert-scale items measuring how AI is used for linguistic scaffolding (e.g., translating legal terms, summarizing English articles).
3. Section C: Verification Strategies: Items focused on "Dual-Verification"—checking for linguistic accuracy (English) and substantive accuracy (Indonesian constitutional/Civics content).

The instrument underwent expert judgment for content validity and a pilot test to ensure internal consistency (Cronbach's Alpha > 0.70).

3.4. Data Collection Procedures

The survey was administered digitally via Google Forms during the Odd Semester of 2025-2026. Participation was voluntary, and informed consent was obtained from all respondents, ensuring anonymity and data confidentiality. To minimize social desirability bias, participants were encouraged to report their actual habits rather than "ideal" academic behaviors.

3.5. Data Analysis

The collected data were analyzed using descriptive statistics (mean, standard deviation, and percentage) to categorize the levels of AI reliance and verification frequency. Furthermore, a Correlation Analysis was conducted to explore whether there was a significant relationship between students' English proficiency levels and their tendency to verify AI-generated civic content. The analysis was performed using SPSS version 31.0 or R programming.

RESULTS

4.1. AI Usage Patterns in English-Civic Contexts

The data reveals a universal adoption of Generative AI among Civic Education students. ChatGPT is the most dominant tool, utilized by 100% of the respondents, followed by Gemini (38.5%) and Claude (11.5%). In terms of frequency, 65.4% of students report using these tools "Frequently" for their English-Civic assignments, while 19.2% use them "Every time." This high frequency confirms that AI has transitioned from an optional aid to a primary learning mediator for Civics students.

Table 1. Distribution of AI Tool Selection and Usage Frequency

Variable	Indicators	Percentage (%)
Most Used Platform	ChatGPT	100%
	Gemini	38.5%
	Claude	11.5%
Usage Frequency	Frequent Use	65.4%
	Every Time (High Dependency)	19.2%

4.2. Functional Scaffolding for Language and Content

AI is primarily used to bridge linguistic barriers in processing civic materials. The top three functional uses identified are:

1. Translating complex Indonesian civic terms into English (92.3%).
2. Summarizing English-language academic articles on politics/law (73.1%).
3. Correcting grammar and syntax in English essays (65.4%).

Table 2. Functional Application of AI in Civic-English Learning Scenarios

Primary Functional Use	Application in Learning Tasks	Percentage (%)
Translation	Translating complex Indonesian civic terms into English	92.3%
Academic Scaffolding	Summarizing English international journals on politics/law	73.1%
Linguistic Correction	Grammar checking and syntax correction for Civics essays	65.4%

These findings suggest that students utilize AI as a bilingual scaffold, allowing them to interact with international civic discourses that would otherwise be linguistically inaccessible.

4.3. Verification Paradox: Fluency vs. Accuracy

A significant finding of this research is the "Verification Paradox." While students rely heavily on AI, their verification habits are inconsistent.

1. Linguistic Verification: 76.9% of students admit to "Sometimes" checking the AI's English vocabulary against dictionaries, showing a moderate level of linguistic skepticism.

2. Substantive Verification: Interestingly, 46.2% of students "Frequently" verify AI outputs with the 1945 Constitution (UUD 1945) or other primary sources, but a significant 42.3% only do so "Sometimes."

3. Source Triangulation: Only 15.4% of respondents "Always" compare outputs between different AI platforms (e.g., comparing ChatGPT with Gemini), while the majority (53.8%) only do so "Sometimes."

Table 3. Verification Strategies and Quality Control of AI Outputs

Verification Method	Frequency Category	Percentage (%)
Substantive Verification	Frequent cross-check with 1945 Constitution (UUD 1945)	46.2%
	Occasional cross-check (Sometimes)	42.3%
Cross-Platform Triangulation	Occasional comparison between different AI tools	53.8%
	Systematic/Always compare between AI platforms	15.4%

This indicates a **"Fluency Trap"**—where the grammatical perfection of AI's English output may inadvertently reduce the students' perceived urgency to verify the substantive legal accuracy of the content.

4.4. Perceived Impact on Civic-English Competence

Despite verification gaps, the perceived impact is overwhelmingly positive. **88.5%** of students "Agree" or "Strongly Agree" that AI has significantly improved their ability to understand international civic concepts in English. Furthermore, **80.8%** believe that AI makes them more confident in communicating civic issues to a global audience.

DISCUSSION

The findings of this study underscore a transformative shift in how pre-service Civic Education teachers engage with English-language content through the mediation of Generative AI. This discussion synthesizes the observed usage patterns with existing theoretical frameworks on AI literacy, CLIL, and digital citizenship.

5.1. AI as a Linguistic Bridge in Civic Education

The results demonstrate that 100% of respondents utilized ChatGPT, with 92.3% using it specifically for translating complex Indonesian civic terms into English. This aligns with the "scaffolding" theory proposed by Baidoo-Anu & Ansah (2023), where AI reduces the cognitive load of students operating in a second language (L2). In the context of Civic Education, where legal terminology—such as *pembagian kekuasaan* or *supremasi hukum*—can be linguistically daunting, AI serves as a vital mediator. However, the heavy reliance on translation tools also suggests a "Language Anxiety" among Civics students, where AI is perceived as a safety net that enables them to participate in global civic discourse.

5.2. The "Fluency Trap" and Substantive Accuracy

A pivotal point of this research is the discrepancy between linguistic confidence and substantive verification. While the majority of students found AI helpful for English grammar (88.5%), only 46.2% frequently verified the output against the 1945 Constitution (UUD 1945). This phenomenon confirms the "Fluency Trap" or "Automation Bias" discussed by Cummings (2017) and Chai et al. (2024). Because the

AI produces grammatically flawless and authoritative English, students may develop a false sense of security, assuming that linguistic "fluency" equates to factual or ideological "accuracy." For a Civic Education student, this is particularly risky; an AI might provide a Western-centric definition of "Democracy" or "Human Rights" that subtly conflicts with the Indonesian constitutional context. The fact that 42.3% of students only verify content "sometimes" indicates a critical vulnerability in their Epistemic Agency.

5.3. Implications for Digital Citizenship and Teacher Training

The positive perception of AI's impact on confidence (80.8%) must be balanced with the necessity of Algorithmic Literacy. As future educators, these students will be responsible for filtering information for their pupils. If pre-service teachers exhibit inconsistent verification behaviors, there is a risk of "conceptual drifting"—where national civic values are diluted through generic AI interpretations.

This study suggests that Digital Citizenship for Civics students must now include the ability to perform "Source Triangulation." The low percentage of students (15.4%) who always compare outputs between different AI platforms (e.g., ChatGPT vs Gemini) highlights a need for a more rigorous pedagogical intervention. This supports Villasenor's (2024) argument that AI literacy is no longer a technical skill but a core civic competence required to navigate the "post-truth" digital environment.

5.4. Beyond Translation: Towards Critical AI Integration

Finally, the findings suggest that while AI is effective for Content and Language Integrated Learning (CLIL), it requires a "Dual-Verification" framework. The high interest in using AI for simulated debates or interactive chatbots (as indicated in the survey) shows that students are ready for higher-level AI interaction. However, this must be accompanied by training in Prompt Engineering—teaching students how to instruct AI to provide citations and use specific Indonesian legal frameworks as a primary reference point.

CONCLUSION

The integration of Generative Artificial Intelligence (Gen-AI) in the learning of English for Specific Purposes (ESP) among Civic Education students has established a new paradigm of "Linguistic Scaffolding." This study concludes that AI tools, primarily ChatGPT, have become indispensable mediators for students in overcoming linguistic barriers associated with complex legal and political terminology in English. However, this linguistic ease has fostered a behavioral contradiction: students tend to prioritize the grammatical fluency generated by AI over the substantive accuracy of civic content.

Table 4. Students' Perceived Impact of AI Integration

Perceived Benefit	Level of Agreement	Percentage (%)
Improved understanding of international civic concepts	Agree/Strongly Agree	88.5%
Increased confidence in global civic communication	Agree/Strongly Agree	80.8%

While students exhibit high self-efficacy in utilizing AI, a significant "verification gap" persists. The process of validating AI outputs against primary legal sources—such as the 1945 Constitution—is not consistently performed across the student population. This suggests that while AI is highly effective as a language bridge, its use without robust algorithmic literacy risks distorting national ideological understanding due to potential biases or hallucinations inherent in AI training datasets.

IMPLICATIONS AND RECOMMENDATIONS

7.1. Theoretical Implications

Theoretically, this research extends the framework of Content and Language Integrated Learning (CLIL) by incorporating a critical dimension of AI Literacy. The findings suggest that in value-laden social science disciplines like Civic Education, the efficacy of AI must not be measured solely by second-language (L2) proficiency but must involve cognitive precision regarding local constitutional values. This prevents "conceptual drifting," where localized civic identities are diluted by generic global AI interpretations.

7.2. Pedagogical Implications

For educators in the fields of Civics and ELT (English Language Teaching), the study implies that the curriculum can no longer ignore AI's ubiquity. There is an urgent need to integrate a "Dual-Verification" strategy into coursework. Students should be trained not only in effective prompt engineering but also in compulsory "source triangulation"—comparing AI outputs with official government repositories, legal documents, and national academic literature.

7.3. Recommendations for Future Research

Future research should employ experimental methods to compare a control group with a group trained in "Civics-Specific Prompt Engineering" to measure improvements in critical thinking. Furthermore, qualitative inquiries are needed to explore how students perceive ideological nuances when AI explains national values like *Pancasila* in English. Longitudinal studies could also track how long-term AI reliance affects the retention of technical legal vocabulary among pre-service teachers.

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