TIIKM

BRIDGING THE PARTICIPATORY GAP: DIGITAL LITERACY AND CIVIC ENGAGMENT AMONG INDONESIA'S GEN Z FROM CIVIC EDUCATOR'S PERSPECTIVE

Retnasari L[1]*, Abdulkarim A[1], Sundawa D[1], Bestari P[1], and Kusumawardani E[2]

[1]*Civic Education Department, Faculty of Education in Social Sciences, Universitas Pendidikan Indonesia, Indonesia*
[2]*Elementary School Education Department, Faculty of Education and Psychology, Universitas Negeri Yogyakarta, Indonesia*

Abstract: This study aims to examine the relationship between digital literacy and civic engagement of 150 Gen Zs. The findings showed a moderate correlation (r = 0.340, p < 0.001), indicating a contribution of digital literacy to civic participation of 11.5%. Meanwhile, the results of interviews with 18 Civics lecturers illustrate three obstacles to Gen Z's involvement in pub lik issues, namely dominated by social media algorithms that emphasize entertainment content rather than policy discussions, a rigid Civics learning approach that has not responded to digital dynamics, and gaps in access and inequality in using digital technology. Not a few lecturers suggested strengthening the project-based learning model based on the value of Pancasila as the state ideology. Integration of critical algorithm literacy in Civics learning is needed. These findings provide an important contribution to the pedagogical reform agenda in education. Citizenship. Especially strengthening the capacity for participation of the younger generation in the digital era. There are limitations in scope, sampling, and test subjects in this study, which only focuses on the Indonesian context. This recommendation aligns with achieving Sustainable Development Goals (SDGs) related to quality education and resilient institutions

Keywords: digital literacy, civic engagement, Gen Z, Indonesia, civic education

Introduction

The proliferation of digital technologies is changing the landscape of youth political participation globally, creating a paradox where democratic access to information is not always directly proportional to meaningful political engagement (Boulianne & Theocharis, 2020). In developed countries such as the United States, technical digital literacy is a strong predictor of civic participation, with Gen Z using social media platforms for policy advocacy (Kahne & Bowyer, 2019; Wilf et al., 2023). However, in Global South countries like Indonesia, high internet penetration (89.3%) goes hand in hand with low consumption of sociopolitical content (33.4%) and the dominance of surface activism (APJII, 2024; Lim, 2017). This phenomenon suggests a digital ecosystem gap that is not only technical but also cultural and structural.

Clicktivism and no viral no justice show that digital engagement is reactive and vulnerable to superficial public pressure (Caren et al., 2025; Kharisma, 2025). On the other hand, the flow of social media such as TikTok, Instagram, and X offers broad and real-time access to information. However, so much of it has led to the rise of hoaxes and misinformation that are difficult to refute regarding political and democratic issues in Indonesia (N. R. Santoso et al., 2024). Moreover, this access is not always directly proportional to meaningful political engagement (Pangrazio & Sefton-Green, 2021; Perloff, 2021). This

*Corresponding Author's Email: *lisaretnasari@upi.edu

phenomenon is forming the "algorithmized self", a digital identity construction curated by algorithmic logic (Bhandari & Bimo, 2022; Noble, 2018), strengthening the echo chamber. Citizen engagement shifts to being measured by social media engagement rather than deliberation (Calice et al., 2023).

In addition, a study conducted by Ida et al. (2025) revealed that Indonesian youth are more active in reactive digital engagement on viral issues, but less in sustained civic participation. Research conducted by Sari (2023), related to civic engagement in Generation Z in Indonesia, shows that 85% of respondents have a high involvement in civic activities, with a preference for hands-on activities. However, in another field, research findings conducted by Saud (2020) found that social networks have a significant role in increasing the political engagement of Indonesian youth, but do not always guarantee an increase in the quality of democratic participation in offline spaces.

Regarding technological progress and the internet, Indonesia, which is vast, still shows a digital infrastructure gap. By 2023, the percentage of households accessing the internet in the past three months will be 64.10% in urban areas and 35.9% in rural areas, reflecting a gap of 28.2% (Fakultas Ekonomika dan Bisnis UGM, 2024), which exacerbates the participation gap between Gen Z in urban and disadvantaged areas. This divide is not only related to access but also includes differences in skills, usage patterns, and the ability to utilize digital services (Limilia et al., 2022). The Indonesia Digital Literacy Index 2022 study by Kominfo shows a national score of 3.54 out of 5, reflecting the disparity between technological mastery and critical literacy, especially in policy analysis and disinformation detection (Ameliah et al., 2017). This condition creates a chain of vulnerabilities, especially among students, who still have difficulty distinguishing valid political information from hoaxes (Kaufman, 2021; Sunara Akbar et al., 2024). Research conducted by Muannas & Mansyur (2020) 12% of students had received training on social media algorithms.

Digital literacy is an essential competency to deal with the flood of information and encourage responsible citizen participation (Consoli, 2024; Kaufman, 2021). Moon & Bai (2020a). The study highlights that digital skills serve not only as technical skills but also as tools for public advocacy. This study indicates that critical digital literacy correlates with improving the quality of citizen engagement (Tarsidi et al., 2023). Reflective digital literacy is crucial for building participatory skills (Jenkins & Jie, 2024; Kusnadi et al., 2023). Key indicators of digital literacy for young Indonesians encompass critical analytics, digital ethics, collaboration, and problem-solving based on values (Khairunisa & Sundawa, 2023; Zahrah & Dwiputra, 2023).

Civic Education in higher education plays an important role in shaping digital citizens who are responsive to political change (Tambunan et al., 2024). However, the main challenge in the Civics learning process in Indonesia remains adapting to the demands of the digital era. During three months of initial observations at the Yogyagrata campus, 8 out of 10 Civics lecturers admitted that the learning process still focuses on cognitive strengthening, in this case memorization, and has not yet incorporated algorithm literacy. Learning models that are still oriented toward lectures and memorization (Komalasari & Rahmat, 2019) are considered insufficient to develop applicative citizenship competencies, such as policy analysis or digital collaboration. Research by Tarsidi et al. (2023) proved that students who have critical digital literacy will be more active in public policy advocacy. A study

by Knowles & Suganda (2023) emphasized the benefits of open discussion for democratic understanding. Even though project-based methods (like science) are proven to help improve higher-order thinking skills (HOTS), the absence of policy support for teaching changes makes it hard to use these methods in Civics (Hamidah et al., 2020; Kubiatko & Vaculová, 2011). The lack of policy support for pedagogical innovation hinders its implementation in Civics (G. Santoso et al., 2023; Widiatmaka & Kurniawan, 2023).

Civic education focuses on the Indonesian values of Pancasila (Wahab & Sapriya, 2011; Winataputra, 2008). However, many young people are increasingly moving away from the nation's philosophy due to the globalization of democracy. Political discussions on social media tend to be shallow, emotional, and lack facts, encouraging an uncritical mindset (Sari, 2023). The rise of political "buzzer" accounts exacerbates apathy and erodes trust in the democratic process. Click or tap here to enter text. Strengthening the character of Pancasila has also received attention through case study-based digital approaches and active participation (Jayadiputra et al., 2023; Hardiman et al., 2020). Civics learning still dominates cognitive aspects, ignoring the internalization of affective values and integrity practices. According to (Komalasari, 2012; Syaifullah et al., 2020; Widiatmaka, 2016). This is still the case. According to Winataputra, Udin S., et al. (2007)(Cents-Boonstra et al., 2022), the perception that traditional civics is irrelevant lowers students' learning motivation.

Previous research has focused primarily on individual competence factors as the cause of low political participation among young people (Huwaida et al., 2024; Nurjanah et al., 2024; Wijaya & Amalia, 2024), without examining systemic factors, such as algorithmic colonialism (Obreja, 2024; Omran et al., 2023a; Zhou, 2024) nd digital infrastructure inequality. Platforms like TikTok, which prioritize conflictual content over substantive discussion, exacerbate the problem of low political participation among young people. Civic Education (Civics) should serve as a participatory bridge through adaptive curricular approaches (Alscher et al., 2022; Audette et al., 2020). This research aims to address the lack of information by looking at how civics teachers can help break down media based on Pancasila values and by changing the focus from individual analysis to improving the overall system of digital literacy in citizenship. Using a mixed methods approach (sequential explanatory design), this research examines two main questions:

How do algorithmic bias and pedagogic rigidity moderate Gen Z's civic disengagement?

What pedagogical reforms do educators recommend to bridge this gap?

This research aims to improve understanding and practice of digital citizenship by looking at it through media ecology and critical pedagogy, while also creating new learning models that fit with Indonesia's education plans and the Sustainable Development Goals (SDGs), particularly in promoting inclusive education and supporting democratic institutions. The research's primary focus on exploring the relationship between digital literacy and civic engagement, as well as identifying pedagogical reforms to bridge the participatory gap, is relevant to current needs. Integrating multiple perspectives between educators and students expands the aim of this research, leading to a more holistic understanding.

Digital Literacy and Critical Algorithm Awareness

Civic education reform in Indonesia needs to critically respond to digital challenges by focusing on conventional curricula and integrating an understanding of algorithmic biases that shape young people's active engagement (Moon & Bai, 2020; Kaufman, 2021). In this context, digital literacy becomes an essential prerequisite for meaningful engagement in digital public spaces, which are increasingly influenced by algorithmics.

Jenkins and Jie (2024) emphasize that critical digital literacy should equip young people with the ability to evaluate information, detect misinformation, and participate in healthy public discourse, including through algorithmic awareness and understanding how platforms filter and present content.

According to Bhandari & Bimo (2022), demonstrate how algorithms shape the digital identities of youth by creating echo chambers that narrow perspective and weaken democratic engagement. Therefore, civic algorithmic bias transforms Pancasila civic values into digital competencies. Through this integration, it will ensure that digital literacy is not only a navigation tool but also a critical weapon to restore digital public space as a healthy deliberative arena.

Civic Engagement and Participatory Skills in the Digital Era

Civic engagement includes individual and collective actions to respond to public issues (Branson, 1998; Patrick, 2003). For Generation Z, many forms of participation now take place through digital media. However, the ease of superficial activism known as clicktivism (Caren et al., 2025).

Research by Torney-Purta et al. (2001) reminds that full citizenship competencies include cognitive, attitudinal, and participatory dimensions. In the digital era, this participatory dimension should be expanded to include the ability to create civic content, engage in online deliberative discussions, and voice aspirations critically (Khairunisa & Sundawa, 2023).

However, the algorithmic bias of TikTok or Instagram platforms that prioritize emotional and conflictual content erodes opportunities for meaningful participation. As Perloff (2021) suggests, changing the civic curriculum should include teaching critical digital literacy to fight algorithmic bias and create learning experiences that connect real-life actions with online participation, ensuring that young people's civic engagement goes beyond just clicking and is rooted in the thoughtful values of Pancasila.

Civic Education and the Role of Educators

Civic Education (PKn) plays a strategic role in shaping democratic values, critical awareness, and participatory competence. In Indonesia, Civic Education (PKn) is directed to instill the values of Pancasila and strengthen national identity, while responding to the dynamics of global democracy (Winataputra, 2008; Wahab & Sapriya, 2011).

However, various studies show that the practice of civic education in the field is still predominantly cognitive and lecture-based, failing to address the challenges of the digital era (Komalasari & Rahmat, 2019; Tarsidi et al., 2023). Therefore, pedagogical innovation becomes key. Knowles & Suganda (2023) emphasize the importance of an open classroom climate in building students' knowledge and democratic values.

One promising approach is Project-Based Learning (PBL), especially when combined with strengthening digital literacy. Research by Hamidah et al. (2020) and Jayadiputra et al. (2023) shows that Project-Based Learning (PjBL) encourages critical student engagement and increases participation in public policy issues. In this context, educators play a central role as facilitators who bridge the normative values of democracy with the real digital experiences in the lives of Gen Z.

Media Ecology and Algorithmic Colonialism

The current media landscape is dominated by global digital platforms that tend to prioritize emotional and viral content over informative and deliberative discussions. The concept of algorithmic colonialism, as raised by Obreja (2024) and Noble (2018), illustrates how the algorithmic dominance of major technology companies has the potential to erode local civic culture and replace it with a global consumption logic.

From the perspective of media ecology, digital platforms are not just communication tools, but environments that shape civic behavior and the identity of the younger generation. The disparity between entertainment content and political discourse poses a systemic challenge to the development of civic engagement. Therefore, civic education needs to respond with a more adaptive approach—building resilience against algorithm manipulation while also fostering critical and constructive digital participation.

Research Method

Mixed-Methods Design

Citizen engagement is a competency part of the civic education paradigm. Based on the literature review, there is a gap in civic education in the digital era that requires an approach that measures civic engagement and explores educators' perspectives in responding to algorithmic bias and integrating innovative pedagogies such as project-based learning models. In addressing this complexity, this research utilizes a sequential explanatory mixed-methods research design (Creswell & Plano Clark, 2018). Thus, results were obtained that not only mapped the gap between digital literacy levels and student participation but also explored the perspectives of lecturers as key in the transformation of the Civics curriculum

 Qualitative data were obtained from the collection and analysis of a survey questionnaire of 150 students aged 18-25 years from various universities in Yogyakarta. A stratified random sampling technique was used to ensure proportional representation to measure the level of digital literacy and community engagement of public and private university students (Etikan, 2016). The subject selection

criteria were active students taking civics courses and willing to participate in the research. The second stage involved conducting in-depth qualitative interviews with 18 Civics lecturers from public and private universities in Indonesia. These lecturers were selected using a purposive sampling technique, based on their teaching experience of more than 5 years and their involvement in curriculum development (Patton, 2015).

Instruments and Procedures

The quantitative research instrument is a questionnaire consisting of two main parts, namely digital literacy and civic engagement. Using a 5-point Likert scale (1=never, 5=always) to measure. The following table shows the measurement indicators of digital literacy and civic engagement.

Table 1: Indicators of digital literacy and civic engagement

Digital Literacy Indicator	Civic Engagement Indicator
Q6: Accessing news through official media.	Q1: Discussing public issues on online platforms.
Q7: Using digital tools to monitor issues.	Q3: Participating in social activities.
Q9: Verifying information from multiple sources before sharing.	Q5: Attending public forums for policy transparency.
Q17: Creating campaign content on social media.	Q18: Signing online petitions.
Q24: Creating visual content to disseminate policies	Q19: Participating in official public consultations.
Q28: Sharing political information from trusted sources.	Q23: Collaborating with local communities.

(Patrick et al., 2003; UNESCO, 2018)

Furthermore, content validity was validated by 2 Civics experts and 1 methodologist (CVR ≥ 0.75). The reliability test is presented in the following table.

Table 2: Summary of instrument reliability

Construct	Cronbach's α	Category
Digital literacy	0,732	Good enough
Civid Engagement	0,780	Good

The interviews were semi-structured, focusing on issues of pedagogical challenges in teaching digital literacy, structural barriers to citizenship, and pedagogical recommendations for Civics in higher education. Furthermore, data collection was conducted with a questionnaire using Google Forms online with 150 respondents. Qualitative data was collected in person or through Zoom and transcribed verbatim. The average interview was conducted in 45 minutes.

Data Analysis

Quantitative data analysis was conducted using SPSS version 25 with a series of statistical tests to obtain a picture of the relationship between digital literacy and civic engagement. This analysis included:

- Descriptive statistics are used to look at data trends such as mean, standard deviation, and frequency distribution.

- Person correlation test to determine the extent to which digital literacy is related to civic engagement.

- Linear regression to understand how much digital literacy can predict civic engagement.

- A paired t-test was used to compare participation patterns in digital and non-digital spaces (Field, 2018)

Next, qualitative data were analyzed using a reflexive thematic approach with the help of MAXQDA software (Rädiker & Kuckartz, 2020). Stages included inductive coding until four main themes emerged: pedagogical approaches and cultural barriers. The validity of qualitative findings was tested through triangulation with quantitative results (Lincoln et al., 1985).

Findings

Digital Literacy: Dominance of Consumption vs. Lack of Content Production

The results of the quantitative analysis of 150 students revealed a striking imbalance between content consumption and content production in digital literacy.
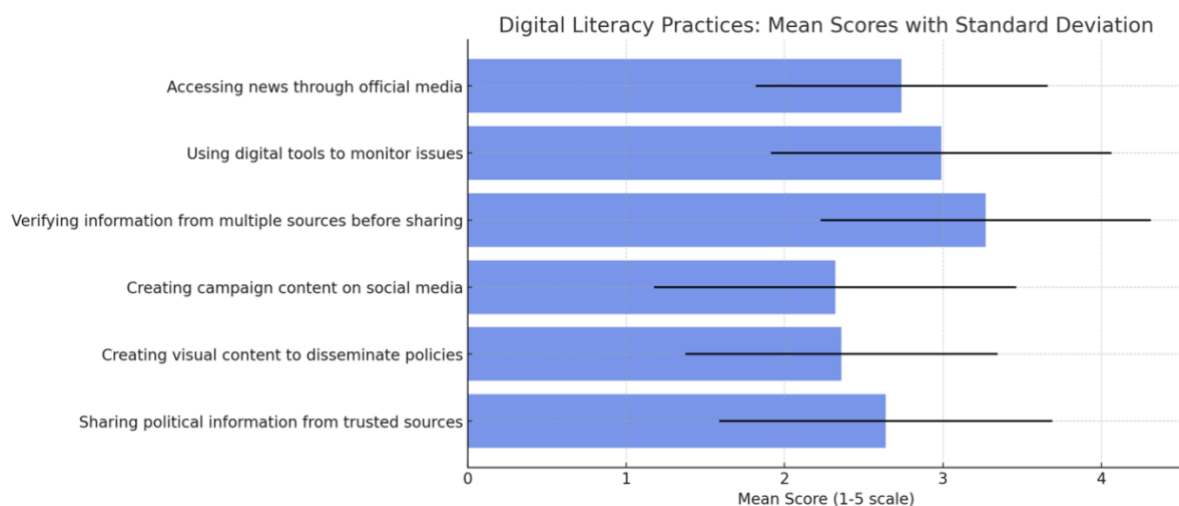

Figure 1: Digital literacy practice

As shown in Figure 1, the activity of verifying information from multiple sources obtained the highest average score, M = 3.27, SD = 1.042. This trend reflects the tendency of students to act as critical consumers of information. Information overload makes "students confused about distinguishing between facts and opinions; a lot of information makes them doubt" (L3). Hoaxes and disinformation: "Students are easily influenced by viral content without verification; basic digital literacy is still low" (L4). However, at the same time, the lowest score is on political or policy advocacy content production activities, M = 2.32, SD = 1.143. With a fairly high standard deviation indicating an unequal level of engagement, only a small number of students actively produce policy content, while others choose to be passive spectators. "Students can use TikTok for entertainment, but do not understand how to create policy content that dances" (L15). There are other views, such as "The campus has not taught tools such as Canva or simple data analysis for digital kampanye" (L11).

These findings reveal a pattern of digital behavior among students that oscillates between challenges and opportunities. To further enrich the analysis, qualitative data from interviews with 18 Civics lecturers were collected. These interviews provided deeper insights into students' digital practices and their capacity to engage in civic participation through digital media. Figure 2 presents a synthesis of the key themes identified by lecturers, illustrating the digital behavior of the change generation (change), a term used to describe the current generation's potential to face civic challenges and digital opportunities.
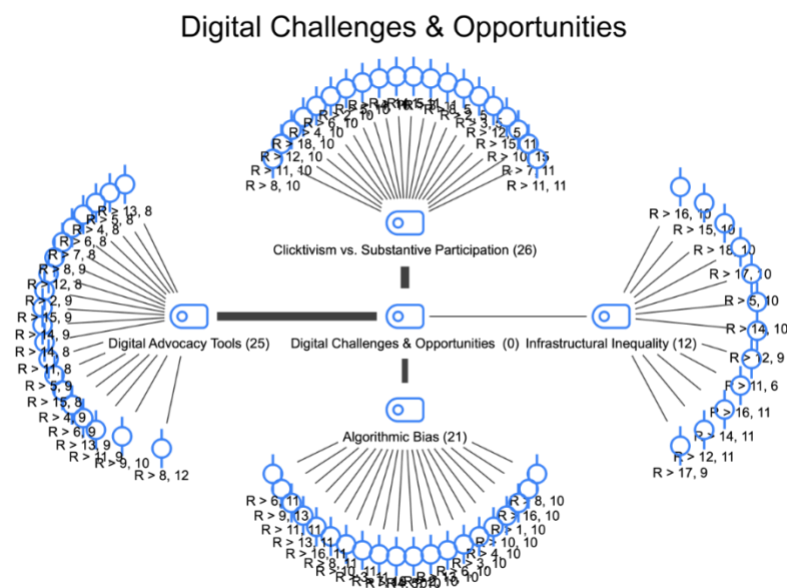

Figure 2: Digital Challenges and Opportunities

On the one hand, digital technology provides opportunities for innovative civic participation. Some informants said,

"Platforms such as Instagram, TikTok, and YouTube are utilized to share the results of civics learning projects (environmental campaign projects are uploaded on social media), but their effectiveness has not been measured comprehensively." (L18).

"Technology-based learning (such as LMS, Kahoot, and interactive videos) increases student motivation to learn ("students are more interested in learning through videos than lectures" (L8).

On the other hand, complex challenges hinder productive participation, such as echo chambers and algorithm bias, clicktivism culture, and the risk of sensitive content. Several informants expressed their views in the interviews.

"Students are trapped in the echo chamber; they often scroll through human and FOMO content rather than creating critical content" (L14).

Social media algorithms reinforce political polarization and passive consumption habits. "Student participation is often superficial (such as liking and sharing civic issues without taboo content)" (L12).

Meanwhile, substantive engagement, such as data-based issue analysis, is only followed by a minority. The risk of sensitive content is increasing and becoming uncontrollable. "The rise of fake accounts, buzzers, and provocative content triggers students' unwillingness to engage in it" (L15). In addition, "the fear of verbal and digital attacks when making comments on social media" (L14).

These qualitative findings confirm that the negative flow of digital technology is not just a matter of technical skills but is related to psychosocial, cultural, and structural dynamics. Holistic solutions are needed to transform students from passive spectators to critical content producers who are ready to contribute to digital democracy. As the results of an interview with a dozen revealed: "Technology is a double-edged knife; our job is to make sure students can use it to build, not destroy" (L18).

Civil Participation: High Polarization, Low Involvement

Survey findings show that students' participation in civic activities, both online and offline, is rather low. Digital and non-digital participation are out of balance. The findings indicate that students are more engaged in local community-based activities (M= 2.83; SD= 1.394) than in digital involvement such as forums (M= 2.83; SD= 1.314) and public conversations online (M= 2.55; SD= 1.262). All indicators reveal a high standard deviation value (SD > 1.3), suggesting a polarization of participation

whereby a small number of students exhibit very high involvement while the majority fall into the passive category (Figure 3).
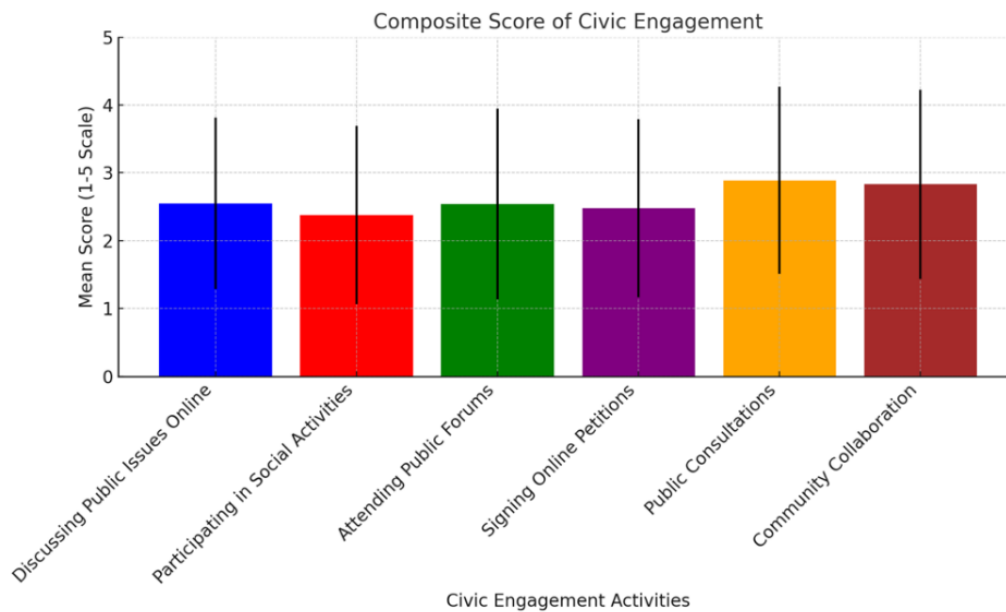

Figure 3: Composite Score of Civic Engagement

This polarization in civic participation underscores the challenges of fostering deliberative democracy among Gen Z. Although some students actively contribute to forums, petitions, or community events, most display limited initiative. To further unpack these patterns, qualitative interviews with 18 Civics lecturers were conducted, revealing three key themes that help explain the low engagement levels.

Table 3 Qualitative Interview with Civics Lecturer

Theme	Description	Frequency (n)	Percentage (%)
Pedagogic Rigidity	Learning that is too theoretical and irrelevant to real social contexts.	22	50 %
Political Apathy	Ignorance of political content and public policy.	17	39 %
Paternalistic Culture	A culture of shyness and authoritativeness that inhibits student expression and criticism	5	11%

Pedagogic rigidity emerged as the most dominant theme, with half of the lecturers stating that Civics education remains confined to rote learning and abstract theory. Lecturers noted that

> *"Full lecture, how can students be active? From the start, they have been passive."* (L15)
>
> *"Students who memorize the theory of democracy may not necessarily know how to advocate for issues in the regional parliament."* (L17)

This detachment from real-life applications leaves students unprepared and uninspired to engage civically.

Political apathy was the second major theme. Students reportedly perceive politics as untrustworthy, irrelevant, or even corrupt, further distancing them from participation. Next, the subject of political apathy, which manifests in students' apathy toward political concerns, public policy, and the democratic process. Students would rather be lifestyle influencers than participate in policy activities; politics are seen as irrelevant.

> *"Students would rather be lifestyle influencers than participate in policy activities; politics are seen as not relevant."* (L6)
>
> *"Hoaxes about corruption and elections make students cynical; they wonder, 'Why care? It's all filthy, nonetheless.'"* (L12)

Lastly, paternalistic culture, though mentioned less frequently, was described as a significant barrier. Students fear being labeled disobedient or extreme if they speak up, particularly in academic settings:

> *"Students fear being labeled 'rebels' if they question university policies. This is about culture, not technology."* (L2)
>
> *"One important criticism on social media can backfire; others are concerned about being branded as extreme."* (L8)

These three interrelated challenges reflect a systemic issue, not merely individual reluctance. They point to a curriculum disconnected from students' lived realities, a crisis of trust in the political system, and an academic environment that inhibits expression. As one lecturer powerfully stated:

> *"Students are not lazy but tired of seeing a facade of participation. Give them a genuine stage instead of just paper assignments"* (L18)

To cultivate meaningful civic engagement among youth, Civic Education must transform, moving beyond memorization towards experiential learning, real-life issue advocacy, and institutional cultures that empower student voice. Universities play a crucial role in making this shift, creating spaces where students are not only taught democracy but trusted to practice it.

Impact of Digital Literacy on Civic Engagement

Simple linear regression analysis shows that there is a significant positive relationship between digital literacy and student civic participation. The beta coefficient ($\beta = 0.340$) implies that any increase in digital literacy will be followed by an increase in civic participation. The significance value of p < 0.001 means that the results are highly statistically significant. However, the R² value = 11.5% of the variance in civic participation can be explained by digital literacy. The rest is influenced by other factors.

The scatter plot below illustrates the trend of a positive relationship between the two variables, but with a wide spread of data (Figure 4).
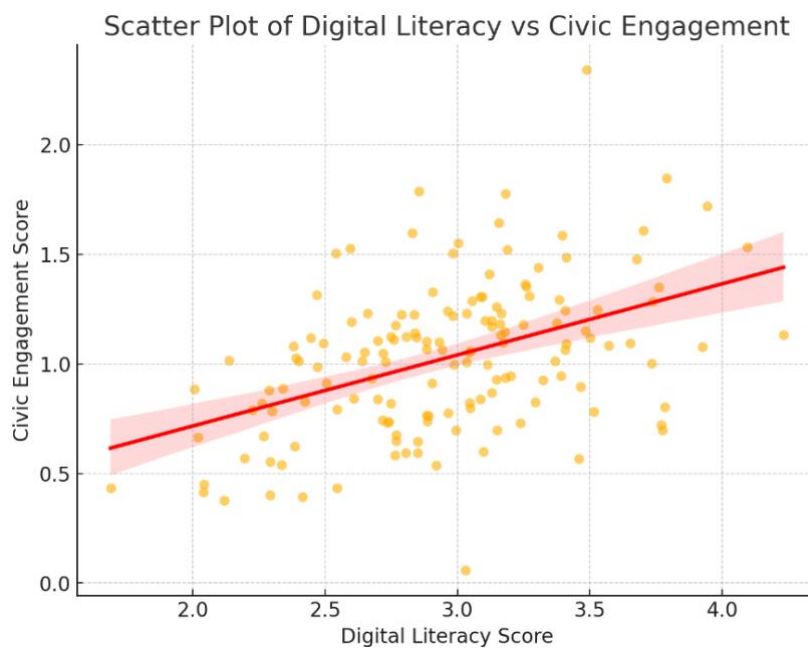

Figure 4: Scatter Plot of Digital Literacy vs Civic Engagement

This wide distribution shows that, in addition to digital literacy, other factors influence students' civic engagement. This finding was reinforced by interviews with Civic Education (Civics Education) lecturers. Some quotes from informants reveal additional factors that influence civic participation:

> *"Digital literacy alone is not enough; students who live in remote areas have difficulty accessing the internet" (L13).*

> *"They need training to think critically, not just consume information" (L1).*

> *"Students often do not understand what the rights and obligations of citizens in the digital world are" (L6).*

> *"Their ability to communicate in digital public spaces is minimal, and they tend to be passive if not facilitated" (L4).*

"Technical digital literacy does not automatically make them sensitive to socio-political issues. Awareness must be formed through discussion and direct engagement" (L10).

"Collaborative skills and the ability to take part in decision-making are much more important to be instilled in civic education" (L2).

The interview also explored in depth the definition and components of participatory citizenship skills, which are the main target of strengthening students' civic engagement, following the results of thematic analysis of interviews with Civics lecturers.

Table 4: Thematic analysis of participatory civic skills from interview data

Definition of PCS	Key Components Identified	Illustrative Quote
Active and responsible participation in civic life	4C skills (communication, collaboration, critical thinking, creativity)	"We want students not only to know, but also to *want* and *dare* to act in society" (L3).
Understanding rights and duties as a citizen	Literacy, critical thinking, social and personal skills	"Students often know their rights but forget their responsibilities as citizens" (L6).
Engaging in decision-making and collaboration	Reading, tech, and political literacy	"They need to be trained to discuss, disagree, and make decisions collectively" (L5).
Exercising democratic rights	Legal awareness, critical thinking	"Democracy is not just about elections it's about daily, active participation" (L8).
Understanding political processes	Communication, collaboration, leadership	"If they don't understand how policies are made, how can they contribute meaningfully?" (L9).
Recognizing and acting on socio-political issues	Empathy, information literacy, social awareness, organizing skills	"We hope students become sensitive to inequality and willing to take action" (L10).
Advocacy and engagement in public policy	Civic knowledge, civic skills, disposition, ethical responsibility	"Civic engagement is not just protest it's also advocacy and constructive contribution" (L7).

This finding strengthens the argument that, although digital literacy is important, it is not the only factor determining students' civic engagement. It needs to be complemented with aspects of cognitive, affective, and social skills strengthening to contribute significantly to shaping participatory citizenship skills.

Pedagogical Reform: Between Opportunities and Challenges

The research findings from the paired samples T-test indicate that students tend to engage in digital citizenship activities more frequently than non-digital ones, depending on the social context. Figure 5

262

compares the critical ability to manage information and participation in public issues between digital and non-digital activities.
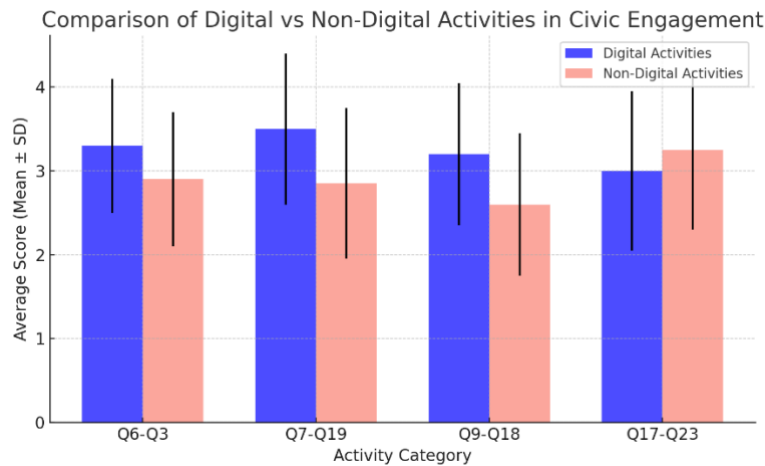

Figure 5: Comparison of Digital vs Non Digital Activities in Civic Engagement

The higher mean value of digital activities is evident in almost every pair of activities, supporting this finding. For example, the activity of verifying information before disseminating it (M = 3.27) has a higher mean than participation in formal public consultations (M = 2.89). Likewise, using digital tools to monitor public issues (M = 2.99) is significantly higher than attendance at public policy forums (M = 2.54). The effect of this difference is large, indicated by a Cohen's value > 1.4, and significant at the 0.05 level.

While the trend shows that students are increasingly familiar with digital spaces, the data also reveals something interesting. For example, participation in community activities was higher (Cohen's d = -0.339, p < 0.001) when compared to creating campaign content on social media (Q17) and working with local communities (Q23). Such behavior is an important signal that, despite the prominence of the digital world, direct interaction in the neighborhood still feels more meaningful to many students.

The relationship between activities also reinforced this. Digital and non-digital activities were found to be complementary. For example, there is a positive correlation between participating in online discussions (Q6) and engaging in real social activities (Q3), with a value of r = 0.220 (p = 0.007). This suggests that being active in the digital world does not automatically lead students away from participating in the real world.

However, not all activities exhibit interrelatedness. For example, the skill of verifying information (Q9) was found to be unrelated to participation in public consultation (Q18), with a fragile correlation value

(r = -0.022, p = 0.793). This could be a sign that digital literacy skills are not necessarily followed by engagement in formal democratic processes. From a learning perspective, this finding conveys two important points: first, there is a tremendous opportunity to include digital practices such as digital literacy, online participation, and digital advocacy in civics learning. Secondly, there is a challenge that digital approaches do not mean forgetting conventional forms of participation, such as face-to-face discussions, citizen forums, or public deliberations that are relevant in Indonesia today.

Amid socio-political changes and technological advances, the need for pedagogical reform is getting stronger. To complement the quantitative findings, a thematic analysis of interviews with civics lecturers showed data, as shown in Figure 6.

Pedagogical Approaches & Learning Design

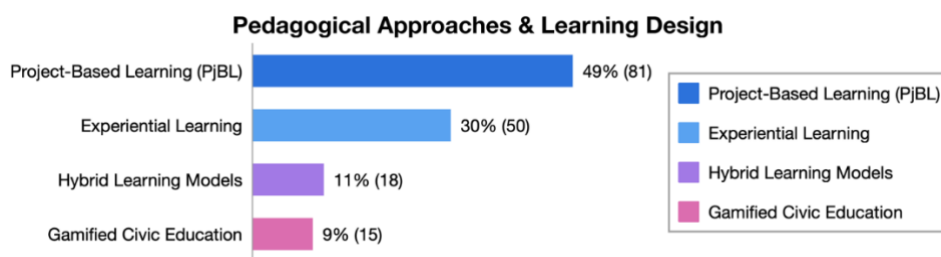| Approach	Percentage
Project-Based Learning (PjBL)	49% (81)
Experiential Learning	30% (50)
Hybrid Learning Models	11% (18)
Gamified Civic Education	9% (15)

Figure 6: Pedagogical Approaches and Learning Design

To complement these quantitative findings, thematic analysis of interviews with Civics lecturers revealed views and practices that reflect the spirit of pedagogical reform. One of the most frequently mentioned approaches was Project-Based Learning (PBL). Almost half of the informants ranked PjBL as a top choice because of its ability to combine civic theory with real-world practice. Through social projects, students learn to identify problems, collaborate, and design and implement real solutions. This activity not only strengthens conceptual understanding but also hones students' participatory skills and critical awareness.

> *"Students learned civic duty, negotiation, advocacy, and social media campaigning when they did a campus waste management project." (L18).*

In addition to the project-based approach, experiential learning also has a strong place in the lecturers' practice. Such experiences can take the form of field visits to state institutions, such as the DPR or KPU, or student involvement in community activities. This experience is considered to make a strong impression and spark students' political awareness more concretely.

> *"We invite them to be directly involved in traditional villages and participate in community meetings. After that, they understand much better what real deliberation is." (L17)*

264

However, with the development of technology, some lecturers have begun to develop hybrid learning approaches, which combine face-to-face and online learning. This model tackles mobility and flexibility issues and allows for the use of digital media in civics education. Students can discuss through online forums, write opinions on blogs, and present ideas through creative videos.

However, not all challenges are solved by this new approach. Some lecturers highlighted the digital literacy gap, limited access to technology, and the old paradigm that places lecturers as the only source of knowledge.

> *"We are required to be active, but not all lecturers are ready to be facilitators who free students to think. Some are still too rigid, especially when talking about sensitive issues such as politics" (L5).*

In addition, there is a need to develop a more inclusive and reflective model, especially in dealing with the diversity of student backgrounds. Open dialogue, critical discussion, and respect for differences are essential aspects that must be strengthened.

> *"They are active on social media and have their opinions. We must facilitate that space in the classroom; don't turn it off" (L10).*

This new awareness brings a broader spirit of pedagogical reform. The perception of students as active, critical, and digital young citizens is also changing, not just the teaching methods. This is where the challenges and opportunities for civics learning renewal arise: bridging the digital world with civic awareness and turning the classroom into a space for democratic dialogue.

Discussion

This study reveals the complex relationship between digital literacy and civic engagement of Gen Z Indonesians, which is not only influenced by individual factors but also moderated by structural dynamics such as algorithmic colonialism (Couldry & Mejias, 2019), infrastructural inequality, and pedagogical rigidity (Paulo Freire, 2021). Quantitative findings show the contribution of digital literacy to civic participation ($\beta = 0.340$), but this correlation is weak ($R^2 = 11.5\%$), suggesting the presence of other systemic factors that inhibit it, following an in-depth analysis. The research results indicate that while students scored an average of 3.27 in information verification activities, this shows they are trying to be critical consumers of information, but they still encounter difficult issues like echo chambers, algorithmic bias, and clicktivism (Gonçalves et al., 2023; Omran et al., 2023).

The findings also highlight that using digital tools to keep track of public issues (M=2.99) is more common than going to policy forums (M=2.54), and the difference is significant (Cohen > 1.4). This study (Duke et al., 2021; Manao et al., 2024)emphasizes the need for innovative pedagogical approaches, such as Project-Based Learning (PJBL), to bridge the gap between digital engagement and real participation. Through PJBL, students develop digital literacy and apply practical solutions, strengthening their critical awareness and participatory capacity in dealing with the dynamics of citizenship in the digital age. Thus, the integration between information verification, public issue

monitoring, and project-based learning can be an effective strategy to enhance more productive and meaningful citizen participation (Komalasari et al., 2024).

Algorithm as a Battleground for Digital Citizenship

The finding that students are more passive spectators than content creators of public policies (Figure 1) is the result of the logic of surveillance capitalism, which turns civic participation into a commodity (Mendoza, 2022). In Indonesia, TikTok and Instagram algorithms systematically marginalize policy discussions in what has been termed platformization politics (Popiel & Vasudevan, 2024). A similar study in India (Udupa et al., 2020) found that algorithmic bias reinforces populism and erodes the space for liberation, while in Latin America, the use of digital technology to achieve innovative political change has been around since the 1980s (von Bülow, 2022).

In Indonesia, algorithmic bias has the potential to reinforce a paternalistic culture that limits critical expression (Table 3). One civics lecturer revealed that students often refrain from openly criticizing campus policies on social media, fearing ostracism. This phenomenon is consistent with Noelle-Neuman's (1974) spiral of silence concept in the article (Cobis & Rusadi, 2023), in a digital ecosystem where social pressure and algorithms together silence critical voices. This finding is in line with research (Saini et al., 2023) on how a culture of mutual respect inhibits youth online participation in Malaysia.

Meanwhile, in the context of pedagogy, the rigidity of learning methods is a dominant theme, with half of the lecturers stating that civic education still revolves around memorization and abstract theory (Cotter, 2023; Ionescu & Licu, 2023). This detachment from practical reality causes students to be less motivated to engage in social issues. Furthermore, Saini et al. (2023) state that political apathy is also a major obstacle. Many students view politics as untrustworthy, irrelevant, or corrupt, so they prefer to elevate their lifestyles rather than engage in policy processes. In addition, (Omran et al., 2023) paternalistic culture, although not often mentioned, remains a significant obstacle. It was found in this research that students are often reluctant to speak out for fear of being perceived as activists or radicals, especially in a hierarchical academic environment. Thus, the combination of algorithmic bias, rigid pedagogy, political apathy, and paternalistic culture creates a multidimensional challenge to the critical participation of the younger generation.

Pedagogical Reform: Between Opportunities and Challenges

The lecturer's recommendation of a project-based learning (PjBL) model based on Pancasila values is in line with the critical digital pedagogy movement (Aguilera & Salazar, 2023) that emphasizes collaborative practices. A concrete example of research conducted by Cortesi et al. (2020) mentioned that digital education initiative programs that carry inclusiveness in technology, such as the AI4ALL program in America and Indian Girls Code in India, better help minorities. Indonesia itself has a lot of research on project-based learning, which is indeed able to increase student involvement in public participation (Anazifa & Djukri, 2017; Dahliyana et al., 2024; Prasetiyo et al., 2023), but has not yet touched on comprehensive project digitization.

However, implementation in Indonesia faces unique challenges such as the digital literacy gap of its educators (Harmanto et al., 2023) and a centralized curriculum that is still rigid, overcoming pedagogical innovation (Kusuma et al., 2024). What civics lecturers say about rigid learning reflects the global struggle to modernize the civics curriculum (Bowyer & Kahne, 2020).

Potential solutions can be adopted from South Korea, where the integration of AI ethics in civics has increased students' awareness of algorithm bias (Lee et al., 2022). In Indonesia, similar approaches need to be contextualized with local wisdom values, such as using customary cases to teach digital project-based natural resource governance. In addition, teaching collaboration tools such as Canva and visual data to design evidence-based campaigns can address the buzzer culture (Aditya Dewantara et al., 2022).

The findings of (Panyavaranant et al., 2023) are specific to a single ASEAN country. Thailand initiated PPA with sociodemographics and citizen participation as the basis for designing interventions for social status, gender, and age groups. Case studies from Australia and Canada show that community-based PPA initiatives such as Go Digi and ABC Internet Matters help check safety and control children's online activities (Popiel & Vasudevan, 2024). This evidence can serve as a basis for the Indonesian government to design future civic education policies that are not only adaptive to the digital ecosystem but also utilize lessons from global practices to strengthen the role of civil society and government collaboratively (G. Santoso et al., 2023; Widiatmaka & Kurniawan, 2023).

There is a need for further studies on the critical integration of digital literacy in the Indonesian education curriculum. This recommendation is not just a necessity but a strategic step to encourage more meaningful political participation among the younger generation (Faresta, 2023). Furthermore, the digital literacy that is taught not only provides how they access technology but also how to analyze the sources of information acquisition and understand information bias so that they can apply it in the classroom (Isrokatun et al., 2022; Moon & Bai, 2020).

Limitations and Future Research

The digital literacy instrument, although reliable, still needs to be refined, especially in measuring critical literacy, digital ethics, and algorithmic intelligence. Geographical coverage is limited; the study was only conducted in Yogyakarta, which has good digital access. Further studies are recommended to reach the 3T areas (underdeveloped, frontier, outermost) to see more diverse dynamics.

Conclusion

The research findings reveal that digital tools have the potential to campaign and increase learning motivation. However, the trend reflects that students tend to be critical consumers of information. The study also reviewed how student participation is polarized, with some students being very active, while the majority are passive and have limited initiative. Findings related to the influence of digital literacy show that there is a correlation between it and increased citizen participation. However, other factors such as cognitive, affective, and social skills also play a role. There is a gap between digital and non-digital activities. The research found that the use of digital tools to monitor public issues is higher than

attendance at policy forums, with a significant difference in effect. This data suggests a trend toward increased student engagement in digital citizenship. The learning approach was also found to be effective in combining theory with practice.

The main limitation lies in the measurement instrument, which does not fully cover critical digital literacy and has limited geographical coverage in Yogyakarta. Addressing the Generation Z participation gap requires dismantling algorithmic echo chambers and reimagining Civic Education as a laboratory of democracy. By equipping students to not only access but also transform digital spaces, Indonesia can foster a generation of critical algorithmic citizens rooted in the ethics of Pancasila. This vision aligns with the Sustainable Development Goals (SDGs), specifically Target 4 on quality education and Target 16 on peace and justice, transforming education from a mere means of imparting values to a catalyst for civic innovation.

Acknowledgements

Declaration of Interest Statement

The author declares that there is no conflict of interest.

References

Alscher, P., Ludewig, U., & McElvany, N. (2022). Civic Education, Teaching Quality and Students' Willingness to Participate in Political and Civic Life: Political Interest and Knowledge as Mediators. *Journal of Youth and Adolescence*, *51*(10), 1886–1900. https://doi.org/10.1007/s10964-022-01639-9

APJII. (2024). *Survei Penetrasi Internet Indonesia 2024*. https://survei.apjii.or.id/

Audette, A. P., Brockway, M., & Cornejo, R. C. (2020). *Religious Engagement, Civic Skills, and Political Participation in Latin America*. https://aquila.usm.edu/fac_pubs/17268

Bhandari, A., & Bimo, S. (2022). Why's Everyone on TikTok Now? The Algorithmized Self and the Future of Self-Making on Social Media. *Social Media and Society*, *8*(1). https://doi.org/10.1177/20563051221086241

Boulianne, S., & Theocharis, Y. (2020). Young People, Digital Media, and Engagement: A Meta-Analysis of Research. *Social Science Computer Review*, *38*(2), 111–127. https://doi.org/10.1177/0894439318814190

Calice, M. N., Bao, L., Freiling, I., Howell, E., Xenos, M. A., Yang, S., Brossard, D., Newman, T. P., & Scheufele, D. A. (2023). Polarized platforms? How partisanship shapes perceptions of "algorithmic news bias." *New Media and Society*, *25*(11), 2833–2854. https://doi.org/10.1177/14614448211034159

Caren, N., Andrews, K. T., & Lu, T. (2025). Contemporary Social Movements in a Hybrid Media Environment. *Annual Review of Sociology*, *35*, 59. https://doi.org/10.1146/annurev-soc-121919

Cents-Boonstra, M., Lichtwarck-Aschoff, A., Lara, M. M., & Denessen, E. (2022). Patterns of motivating teaching behaviour and student engagement: a microanalytic approach. *European Journal of Psychology of Education*, *37*(1), 227–255. https://doi.org/10.1007/s10212-021-00543-3

Consoli, T. (2024). Different Media Education Approaches Predict Distinct Aspects of Digital Citizenship. *Frontline Learning Research*, *12*(4), 113–137. https://doi.org/10.14786/flr.v12i4.1555

Cotter, K. (2023). "Shadowbanning is not a thing": black box gaslighting and the power to independently know and credibly critique algorithms. *Information Communication and Society*, *26*(6), 1226–1243. https://doi.org/10.1080/1369118X.2021.1994624

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Duke, N. K., Halvorsen, A. L., Strachan, S. L., Kim, J., & Konstantopoulos, S. (2021). Putting PjBL to the Test: The Impact of Project-Based Learning on Second Graders' Social Studies and Literacy Learning and Motivation in Low-SES School Settings. *American Educational Research Journal*, *58*(1), 160–200. https://doi.org/10.3102/0002831220929638

Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Faresta, R. A. (2023). The Urgency Of Digital Literacy Skills For Educators To Face Global Challenges In the Society 5.0 Era. In *Jurnal Kependidikan* (Vol. 8, Issue 2). https://www.e-journallppmunsa.ac.id/index.php/kependidikan/article/view/1192

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics*. SAGE Publications.

Gonçalves, J., Weber, I., Masullo, G. M., Torres da Silva, M., & Hofhuis, J. (2023). Common sense or censorship: How algorithmic moderators and message type influence perceptions of online content deletion. *New Media and Society*, *25*(10), 2595–2617. https://doi.org/10.1177/14614448211032310

Hamidah, H., Rabbani, T. A. S., Fauziah, S., Puspita, R. A., Gasalba, R. A., & Nirwansyah. (2020). *HOTS-Oriented Module: Project-Based Learning* (2020th ed.). SEAMEO QITEP in Language. http://www.qiteplanguage.org/

Huwaida, L. A., Yusuf, A., Satria, A. N., Darmawan, M. A., Ammar, M. F., Yanuar, M. W., Hidayanto, A. N., & Yaiprasert, C. (2024). Generation Z and Indonesian Social Commerce: Unraveling key drivers of their shopping decisions. *Journal of Open Innovation: Technology, Market, and Complexity*, *10*(2). https://doi.org/10.1016/j.joitmc.2024.100256

Ida, R., Mashud, M., Saud, M., Yousaf, F. N., & Ashfaq, A. (2025). Politics in Indonesia: democracy, social networks and youth political participation. *Cogent Social Sciences*, *11*(1). https://doi.org/10.1080/23311886.2024.2432071

Ionescu, C. G., & Licu, M. (2023). Are TikTok Algorithms Influencing Users' Self-Perceived Identities and Personal Values? A Mini Review. In *Social Sciences* (Vol. 12, Issue 8). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/socsci12080465

Isrokatun, I., Pradita, A. A., Ummah, S. A., Amalia, D. Y., & Salsabila, N. S. (2022). Digital Literacy Competency of Primary School Teacher Education Department Students as the Demands of 21st Century Learning. *Mimbar Sekolah Dasar*, *9*(3), 466–483. https://doi.org/10.53400/mimbar-sd.v9i3.44057

Jayadiputra, E., Karim, A. A., Sapriya, S., & Rahmat, R. (2023). The Pancasila and Civic Education curriculum model in the 21st century. *Jurnal Civics: Media Kajian Kewarganegaraan*, *20*(1), 65–74. https://doi.org/10.21831/jc.v20i1.49455

Jenkins, H., & Jie, Y. (2024). The path from participatory culture to participatory politics: A critical investigation—An interview with Henry Jenkins. *Communication and the Public*, *9*(1), 11–30. https://doi.org/10.1177/20570473231224816

Kahne, J., & Bowyer, B. (2019). Can media literacy education increase digital engagement in politics? *Learning, Media and Technology*, *44*(2), 211–224. https://doi.org/10.1080/17439884.2019.1601108

Kardiman, Y., Al Muchtar, S., & Abdulkarim, A. (2020). *Pancasila and Civilized Society*.

Kaufman, C. (2021). Civic Education in a Fake News Era: Lessons for the Methods Classroom. *Journal of Political Science Education*, *17*(2), 326–331. https://doi.org/10.1080/15512169.2020.1764366

Khairunisa, W., & Sundawa, D. (2023). *The Urgency Of Digital Literacy In Developing Character Education For Youth In Society 5.0.*

Kharisma, D. B. (2025). No viral, no justice: Is it a principle of social justice? (Study of viral cases on social media in Indonesia). *Safer Communities*, *24*(2), 103–115. https://doi.org/10.1108/SC-07-2024-0037

Knowles, R. T., & Suganda, L. A. (2023). Rethinking Classroom Climates: Exploring Civic Education in Indonesia Using Data from the International Civic and Citizenship Study. In *Proceedings of the Fifth Sriwijaya University Learning and Education International Conference (SULE-IC 2022)* (pp. 219–232). Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-010-7_25

Komalasari, K. (2012). The Effect of Contextual Learning in Civic Education on Students ' Character Development. *Asia Pacific Journal of Educators and Education*, *27*(229), 87–103. DOI:10.3844/jssp.2009.261.270

Komalasari, K., Abdulkarim, A., & Sopianingsih, P. (2024). Digital-Based Living Values Project Activities Learning Model for Strengthening Students' Pancasila Character. *New Educational Review*, *75*, 127–139. https://doi.org/10.15804/tner.2024.75.1.10

Kubiatko, M., & Vaculová, I. (2011). Project-based learning: characteristics and the experiences with application in the science subjects. In *Energy Education Science and Technology Part B: Social and Educational Studies* (Vol. 3, Issue 1). https://www.muni.cz/en/research/publications/943420

Kusnadi, K., Sapriya, S., Budimansyah, D., & Wahab, A. A. (2023). Analyzing a project-based blended learning model for citizenship education to foster humanity literacy. *Jurnal Civics: Media Kajian Kewarganegaraan*, *20*(1), 124–134. https://doi.org/10.21831/jc.v20i1.58858

Lim, M. (2017). Klik yang Tak Memantik: Aktivisme Media Sosial di Indonesia. *Jurnal Komunikasi Indonesia*, *3*(1). https://doi.org/10.7454/jki.v3i1.7846

Limilia, P., Gelgel, R. A., & Rahmiaji, L. R. (2022). *Digital Literacy Among the Z Generation in Indonesia*. 1–11. https://doi.org/10.15405/epsbs.2022.01.02.1

Lincoln, Y. S., Guba, E. G., & Pilotta, J. J. (1985). Naturalistic inquiry. *International Journal of Intercultural Relations*, *9*(4), 438–439. https://doi.org/10.1016/0147-1767(85)90062-8

Manao, S., Manik, S., Manurung, L. W., & Sinambela, E. (2024). The Implementation of Project-Based Learning and Discovery Learning Models on Students' Narrative Writing of SMA Swabina Karya Medan. In *Jurnal Kependidikan* (Vol. 13, Issue 1). https://jurnaldidaktika.org

Moon, S. J., & Bai, S. Y. (2020). Components of digital literacy as predictors of youth civic engagement and the role of social media news attention: the case of Korea. *Journal of Children and Media*, *14*(4), 458–474. https://doi.org/10.1080/17482798.2020.1728700

Muannas, & Mansyur, M. (2020). Model Literasi Digital untuk Melawan Ujaran Kebencian di Media Sosial Digital Literacy Model to Counter Hate Speech on social media. *Jurnal Ilmu Pengetahuan Dan Teknologi Komunikasi*, *22*(2). https://doi.org/10.33164/iptekkom.22.2.2020.125-142

Noble, S. U. (2018). *Algorithms of Oppression*. NYU Press. https://doi.org/10.2307/j.ctt1pwt9w5

Nurjanah, N., Abdulkarim, A., Komalasari, K., Bestari, P., & Suwandi, M. A. (2024). Critical literacy of young citizens in the digital era. *Jurnal Civics: Media Kajian Kewarganegaraan*, *21*(2). https://doi.org/10.21831/jc.v21i2.70232

Obreja, D. M. (2024). When Stories Turn Institutional: How TikTok Users Legitimate the Algorithmic Sensemaking. *Social Media and Society*, *10*(1). https://doi.org/10.1177/20563051231224114

Omran, E., Al Tararwah, E., & Al Qundus, J. (2023a). A comparative analysis of machine learning algorithms for hate speech detection in social media. *Online Journal of Communication and Media Technologies*, *13*(4). https://doi.org/10.30935/ojcmt/13603

Omran, E., Al Tararwah, E., & Al Qundus, J. (2023b). A comparative analysis of machine learning algorithms for hate speech detection in social media. *Online Journal of Communication and Media Technologies*, *13*(4). https://doi.org/10.30935/ojcmt/13603

Pangrazio, L., & Sefton-Green, J. (2021). Digital Rights, Digital Citizenship, and Digital Literacy: What's the Difference? *Journal of New Approaches in Educational Research*, *10*(1), 15–27. https://doi.org/10.7821/NAER.2021.1.616

Panyavaranant, P., Lai Nguyen, T. P., San Santoso, D., Nitivattananon, V., & Tsusaka, T. W. (2023). Analyzing Sociodemographic Factors Influencing Citizen Participation: The Case of Infrastructure Planning in Khon Kaen, Thailand. *Social Sciences*, *12*(4). https://doi.org/10.3390/socsci12040225

Patrick, John. J., Hamot, Gregory. E., & Leming, Robert. S. (2003). *Civic Learning in Teacher Education: International Perspectives on Education for Democracy in the Preparation of Teachers*. ERIC Clearinghouse for Social Studies/Social Science Education, Indiana University.

Patton, M. Q. (2015). *Qualitative research & evaluation methods*. SAGE Publications.

Perloff, R. M. (2021). *The Dynamics of Political Communication*. Routledge. https://doi.org/10.4324/9780429298851

Rädiker, S., & Kuckartz, U. (2020). *Focused Analysis of Qualitative Interviews with MAXQDA Step by Step*.

Saini, M., Sengupta, E., Singh, M., Singh, H., & Singh, J. (2023). Sustainable Development Goal for Quality Education (SDG 4): A study on SDG 4 to extract the pattern of association among the indicators of SDG 4 employing a genetic algorithm. In *Education and Information Technologies* (Vol. 28, Issue 2). Springer US. https://doi.org/10.1007/s10639-022-11265-4

Santoso, G., Abdul Karim, A., Maftuh, B., & Murod, M. (2023). Pengantar Pendidikan Kewarganegaraan di Perguruan Tinggi melalui Kajian Filosofis Pembukaan UUD 1945 Indonesia Abad 21. *Jurnal Pendidikan Trnasformatif (Jupetra)*, *2*(1), 297–311. https://doi.org/10.9000/jupetra.v2i1.137

Santoso, N. R., Pramesti, O. L., Puspita, B. B., & Wulandari, T. D. (2024). Democratic literacy: Challenges and opportunities to engage youth participation in the age of digital media. *Jurnal Magister Ilmu Komunikasi*, *10*(2), p-ISSN. http://journal.ubm.ac.id/

Sari, L. (2023). *Civic Engagement pada Generasi Z di Indonesia*. https://doi.org/10.2685/jippuhamka.v9i1.11383

Saud, M. (2020). Civic engagement, youth socialisation, and participation in public spheres in Indonesia. *Children and Youth Services Review*, *119*. https://doi.org/10.1016/j.childyouth.2020.105669

Sunara Akbar, R., Iskandar, T., Abadi, M. D., Bachtiar, S., Khomaidi, I., Damayanti, T. O., Prasetyo, A., & Renhard, R. (2024). Memperkuat Ketahanan Nasional: Aktualisasi Bela Negara Melalui Literasi Digital. *Jurnal Pendidikan Ilmu Pengetahuan Sosial (JPIPS), Desember*, *2024*(16), 253–261. http://e-journal.upr.ac.id/index.php/JP-IPS

Syaifullah, Affandi, I., & Somantri, Muh. N. (2020). *Civic Education, Global Issues, and Global Citizen*. *418*(Acec 2019), 541–545. https://doi.org/10.2991/assehr.k.200320.102

Tambunan, R., Budimansyah, D., & Darmawan, C. (2024). The Implementation of Digital Literacy to Encourage Students' Democratic Engagement in Civic Education Learning. *JUPIIS: JURNAL PENDIDIKAN ILMU-ILMU SOSIAL*, *16*(1), 109. https://doi.org/10.24114/jupiis.v16i1.53503

Tarsidi, D. Z., Suryadi, K., Budimansyah, D., & Rahmat, R. (2023a). Social media usage and civic engagement among Indonesian digital natives: An Analysis. *Jurnal Civics: Media Kajian Kewarganegaraan*, *20*(2), 257–269. https://doi.org/10.21831/jc.v20i2.60812

Tarsidi, D. Z., Suryadi, K., Budimansyah, D., & Rahmat, R. (2023b). Unlocking Civic Participation: The Power of Digital Literacy for Indonesian Digital Natives. *European Online Journal of Natural and Social Sciences*, *12*(3), 292–307. www.european-science.com

UNESCO. (2018). *A Global Framework of Reference on Digital Literacy*. http://www.uis.unesco.org

Widiatmaka, P. (2016). Kendala Pendidikan Kewarganegaraan dalam membangun karakter peserta didik di dalam proses pembelajaran. *Jurnal Civics: Media Kajian Kewarganegaraan*, *13*(2), 188–198. https://doi.org/10.21831/civics.v13i2.12743

Widiatmaka, P., & Kurniawan, D. (2023). Peningkatan Civic Literasi dengan Memanfaatkan Literasi Digital Melalui Pendidikan Kewarganegaraan di Perguruan Tinggi. *Jurnal Pekommas*, *2023*, 59–70. DOI:10.56873/jpkm.v8i1.5126

Wijaya, M. M., & Amalia, H. S. (2024). Enhancing Political Participation through Civic Education: Integrating Digital and Social Media for Peaceful Elections among Generation Z in Indonesia. *Global Educational Research Review*, *1*(2), 92–99. https://doi.org/10.71380/GERR-08-2024-9

Wilf, S., Wray–Lake, L., & Saavedra, J. A. (2023). Youth civic development amid the pandemic. In *Current Opinion in Psychology* (Vol. 52). Elsevier B.V. https://doi.org/10.1016/j.copsyc.2023.101627

Zahrah, F., & Dwiputra, R. (2023). Digital Citizens: Efforts to Accelerate Digital Transformation. *Jurnal Studi Kebijakan Publik*, *2*(1), 1–11. https://doi.org/10.21787/jskp.2.2023.1-11

Zhou, R. (2024). Understanding the Impact of TikTok's Recommendation Algorithm on User Engagement. *International Journal of Computer Science and Information Technology*, *3*(2), 201–208. https://doi.org/10.62051/ijcsit.v3n2.24

Appendix

Attachment of Interview Guidelines

1. How do you see the challenges of digital technologies for participatory civic skills?
2. How do you practice teaching civic education with digital literacy?
3. How do you see the opportunities of digital technologies for participatory civic skills?
4. What do you think civic participation skills mean?
5. Can you tell us the components of participatory civic skills?
6. What are your views on tactics that reflect project-based learning to strengthen civic engagement?