The Driving Force for Sustaining Future Competencies for University Students in the Digital Era: Learning Strategies

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Abstract

This study explores how learning strategies act as key drivers in strengthening sustainable competencies among university students in the digital age. As issues such as misinformation, cyberbullying, and online fraud increasingly threaten personal and societal well-being, digital literacy has become a critical competency. Learning strategies, particularly metacognitive self-regulation and resource management, play a crucial role in enhancing digital literacy by facilitating the critical evaluation of information and ethical decision-making. These strategies interact with digital literacy to foster core competencies—encompassing cognitive, emotional, and social abilities—which enable students to navigate complex digital environments responsibly and ethically. In this way, students not only enhance their capacity for critical thinking and problem-solving but also contribute to societal progress and pursue personal well-being in an increasingly digital world.

This study employs a quantitative research design, using surveys with university students and random sampling to examine the relationship between learning strategies and digital literacy. The findings reveal that while cognitive strategies alone had limited effects, metacognitive self-regulation and resource management strategies were essential in translating digital literacy into practical skills. These skills empower students to critically assess information, identify credible sources, and navigate ethical challenges in both academic and real-world contexts.

The results underscore the importance of embedding targeted learning strategies, particularly metacognitive self-regulation and resource management, within educational frameworks. These strategies help cultivate resilient, responsible digital citizens who are capable of addressing the ethical and practical challenges posed by the digital era. By equipping students with the necessary tools to engage responsibly and ethically in digital spaces, higher education institutions can foster the development of autonomous, reflective learners prepared for the complexities of the digital world.

Keywords: digital literacy, core competencies, learning strategies, metacognitive self-regulation, sustainable digital citizenship

1. Introduction

In the digital era, university students face the challenge of navigating a vast landscape of information, requiring them to critically evaluate data, identify credible sources, and uphold cyber ethics and safety. The rapid advancement of information technology has escalated issues such as cyberterrorism, fake news, and online fraud, underscoring the importance of digital safety and civic responsibility (Fraga-Lamas & Fernández-Caramés, 2019). To address these challenges and support a sustainable society, students must cultivate diverse capabilities, including the recognition and effective response to digital threats, beyond simply maintaining their personal quality of life (Anthonysamy et al., 2020).

The competencies demanded of students today extend beyond basic information usage, encompassing critical thinking, problem-solving, creativity, and collaboration. According to the OECD Learning Compass 2030, these competencies are essential for fostering responsible societal engagement and building a sustainable society in the digital age. Foundational skills like digital literacy serve as critical enablers, allowing students to navigate complex information environments effectively (OECD, 2019). Digital literacy fosters a continuous cycle of evaluation, reflection, and

improvement, empowering students to assess information critically and apply it meaningfully to enhance societal well-being and sustainability. By equipping students with the ability to search, evaluate, organize, and express information, digital literacy strengthens core competencies and enables students to make informed and ethical decisions in both academic and real-world contexts (Çoklar, Yaman, & Yurdakul, 2017; Gardner & Davis, 2013).

Enhancing digital literacy naturally facilitates the development of core competencies such as critical thinking, collaborative problem-solving, and civic ethics. Frank and Castek (2017) argue that digital literacy equips students to assess information credibility and analyze problems critically, while Çoklar et al. (2017) report that digital literacy components, such as online information search skills, positively impact learning outcomes. These studies underscore digital literacy's role in preparing students to confront complex ethical and practical challenges in digital spaces. However, digital literacy alone may be insufficient to foster higher-order competencies, as ongoing evaluation of information accuracy and ethical judgment in digital settings requires the support of specific learning strategies (Friesem, 2019).

Learning strategies act as critical regulatory tools, elevating digital literacy from a foundational skill to an advanced competency that fosters sustainable personal well-being and societal flourishing. Metacognitive self-regulation strategies and resource management strategies are particularly vital within digital environments. Metacognitive self-regulation strategies empower students to set meaningful goals, monitor their progress, and adapt as needed, enabling continuous evaluation of information credibility and the application of critical insights in diverse digital contexts (Pintrich et al., 1993; Marboot et al., 2020). These strategies are intricately tied to the promotion of individual happiness and societal development, as they encourage critical and reflective thinking, equipping students to assess the ethical and societal dimensions of information while distinguishing between reliable and misleading sources (Chowning et al., 2012; Wineburg & McGrew, 2019). By honing these skills, students are prepared not only to tackle the complexities of the digital age but also to contribute actively to a more sustainable and ethical global community. Resource management strategies are crucial in transforming digital literacy into a driver of sustainable learning and broader societal contributions. These strategies—encompassing time management, organization of the learning environment, effort regulation, peer collaboration, and help-seeking—allow students to engage effectively with relevant information and optimize learning resources in self-directed digital environments (kim, 2019). By fostering efficient and thoughtful use of digital tools, resource management strategies promote collaborative learning, independent problem-solving, and the cultivation of ethical standards essential for navigating cyberspace. Furthermore, these strategies directly support personal well-being and collective progress by enabling students to approach challenges with resilience and creativity while contributing meaningfully to their communities (He & Zhu, 2017). Sevillano-García and Vázquez-Cano (2015) emphasize the role of mobile learning in developing students' core competencies, illustrating how resource management enhances collaboration, autonomy, and problem-solving—critical for thriving in the digital age and building a sustainable, ethical society.

Recognizing the critical role of learning strategies, Chinese universities have implemented innovative educational programs designed to enhance digital literacy and integrate effective learning strategies in practical contexts. Shanghai Jiao Tong University's "Haodaxue Online" platform exemplifies this effort by enabling students to autonomously manage their time and learning efforts through a comprehensive digital environment. This platform not only fosters self-regulation but also promotes the development of digital literacy by engaging students in interactive and structured digital learning activities, thereby improving their ability to navigate and evaluate digital information responsibly (Hong et al., 2023). Similarly, Fudan University's "Online Test" platform focuses on strengthening resource management strategies. Through this system, students learn to utilize digital resources efficiently, critically assess the credibility of information, and apply these skills to academic problem-solving. This integration of digital tools into the learning process empowers students to enhance their resource management abilities while promoting ethical information usage and digital fluency.

These programs demonstrate the practical implementation of digital literacy and learning strategies in real-world settings. For example, studies have shown that digital platforms that emphasize self-regulated learning significantly enhance students' ability to critically engage with information and apply it in diverse contexts (Dabbagh & Kitsantas, 2012). Furthermore, such initiatives align with global recommendations like the OECD Learning Compass 2030, which emphasizes the integration of digital literacy and self-regulation as foundational for sustainable learning and societal well-being (OECD, 2019). Programs like those at Shanghai Jiao Tong University and Fudan University contribute directly to cultivating critical thinking and ethical judgment, equipping students with the core competencies needed to address the challenges of digital environments responsibly.

By leveraging these educational models, Chinese universities provide valuable insights into how digital literacy, when

paired with well-structured learning strategies, can prepare students for ethical and responsible digital engagement. These findings underscore the potential of platforms like “Haodaxue Online” and “Online Test” to serve as benchmarks for developing supportive digital learning environments. Such environments enable students to refine resource management strategies, practice ethical decision-making, and optimize their digital literacy skills, ultimately contributing to responsible digital citizenship and sustainable societal progress (Sevillano-García & Vázquez-Cano, 2015; Zhao & Chen, 2023).

This study examines the regulatory role of learning strategies in the relationship between digital literacy and core competencies, aiming to provide a theoretical framework for developing essential skills that promote sustainable personal happiness and societal prosperity in the digital era. By empirically investigating the moderating effects of cognitive strategies, metacognitive self-regulation, and resource management strategies, this study highlights how these approaches enhance critical information evaluation, ethical decision-making, and reflective practices. Such learning strategies bridge foundational digital literacy with advanced competencies, equipping students to navigate complex digital landscapes while contributing to a thriving, ethical society. The findings aim to inform contemporary higher education practices, guiding the integration of digital literacy and learning strategies to foster resilient, responsible, and socially engaged learners prepared for the challenges of the digital age.

In sum, this study investigates how learning strategies facilitate the sustainable development of university students’ core competencies in the digital age, emphasizing their role in promoting sustainable personal happiness and societal prosperity. Specifically, it explores the moderating effects of metacognitive self-regulation and resource management strategies on the relationship between digital literacy and key competencies. By analyzing these dynamics, the study highlights how digital literacy, when supported by effective learning strategies, enables students to critically evaluate information, engage ethically with digital environments, and assume roles as responsible digital citizens. These competencies not only prepare students to confront digital challenges but also empower them to reflect on and improve societal structures, fostering collective well-being and ethical progress.

The theoretical implications of this research lie in its contribution to understanding the interplay between digital literacy, learning strategies, and core competencies. It provides a framework for exploring how targeted interventions in higher education can enhance students’ capacity for critical thinking, self-regulation, and ethical decision-making. Practically, this study offers actionable insights for educators and policymakers aiming to design educational environments that integrate digital tools and learning strategies to cultivate students' reflective abilities and their potential to contribute to a sustainable and thriving society. By fostering cycles of reflection, evaluation, and improvement, this research underscores the transformative potential of education in achieving long-term personal fulfillment and social advancement in the digital era.

2. Research Methodology

2.1 Research Design

This study employs a quantitative, cross-sectional design to examine the moderating role of learning strategies in the relationship between digital literacy and core competencies among university students in China. A survey-based approach was used to collect data from a large sample of students. To ensure a representative and diverse sample, random sampling was employed, considering factors such as academic background, year of study, gender, and major. The data provides valuable insights into how various learning strategies impact students' digital literacy and core competencies in practical, real-world settings.

2.2 Research Participants

This study was conducted with a sample of 900 university students from five universities in Hebei and Hunan provinces, China. The participants were selected using a random sampling method to ensure a diverse representation in terms of academic background, year of study, gender, and major. Among the participants, 53.44% were from four-year universities, while 46.56% were from vocational colleges. In terms of gender, 50.22% were male and 49.78% were female. Regarding academic disciplines, 33.11% were from the humanities and social sciences, while 57.89% were from engineering, and 9.00% were from other fields. Additionally, 51.11% were first-year students, 25.33% were second-year students, 12.67% were third-year students, and 10.89% were fourth-year students.

2.3 Research Instruments

Digital literacy was assessed using the "Digital Literacy Scale" developed by Sozdamar-Keskin et al. (2015), which includes 22 items across four sub-dimensions: digital tool proficiency, digital learning platform management, advanced digital tool utilization, and security and ethical awareness. The scale demonstrated high internal consistency,

with a Cronbach's alpha of .963.

Learning strategies were measured using the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich et al. (1993), focusing on cognitive strategies, metacognitive strategies, and resource management strategies. After excluding items that reduced reliability, the final scale contained 44 items, with a Cronbach's alpha of .983, indicating very high internal consistency.

Core competencies were measured using a scale developed by Kim Yeon-hee et al. (2010), which includes 28 items across seven sub-dimensions: communication and interpersonal relationships, professionalism, creativity, self-directed learning, general job competence, international perspective, and problem-solving ability. The scale demonstrated high reliability, with an overall Cronbach's alpha of .975.

2.4 Research Procedure and Data Analysis

Data collection took place in December 2023 across five universities in China, yielding 900 valid responses. Descriptive statistics and reliability analyses were conducted to ensure the internal consistency of the scales. Mean comparison techniques were used to assess differences in digital literacy and core competencies based on the level of learning strategies. Hierarchical regression analysis was employed to examine the moderating role of learning strategies in the relationship between digital literacy and core competencies. The SPSS Process Macro (Hayes, 2022) was used to test the moderating effects of specific learning strategies in detail, providing insights into which sub-dimensions of learning strategies had the most significant impact on the relationship between digital literacy and core competencies. By utilizing these robust methodological procedures, this study provides empirical evidence on how digital literacy and learning strategies interact to shape core competencies among university students, offering valuable insights for educational policy and curriculum development.

3. Research Results

3.1 Correlation Among Research Variables

The analysis of means and Pearson correlation coefficients for the study variables—digital literacy, core competencies, and learning strategies among university students—is presented in Table 1. The correlation coefficients ranged from .167 ($p < .001$) to .789 ($p < .001$), indicating significant positive correlations. None of the correlations exceeded .8, suggesting that multicollinearity, which could cause estimation errors due to excessive correlation among independent variables, was not a concern in this study. Additionally, to verify the normality of variables, skewness and kurtosis were examined. According to Kline (2011), skewness values exceeding an absolute value of 3.0 or kurtosis values of 10 or more indicate severe skewness or kurtosis. In this study, all variables met the criteria for a normal distribution.

Table 1. Results of Correlation Analysis Among Variables

Variable	Digital literacy	Core Competencies	*Learning Strategies*			
			Learning Strategies (Overall)	Cognitive Strategies	Metacognitive Self-Regulation Strategies	Resource Management Strategies
Digital Literacy	1	.789***	.235***	.167***	.191***	.212***
Core Competencies		1	.298***	.195***	.237***	.283***
M	4.026	4.023	4.501	4.357	4.404	4.620
SD	.696	.669	1.064	1.184	1.127	1.130
Skewness	-.394	-.100	-.273	-.458	-.383	-.514
Kurtosis	-.060	-.779	.955	.972	1.442	1.395

*** $p<.001$

3.2 Moderating Effect Analysis of Learning Strategies

The moderating effect of learning strategies on the relationship between digital literacy and core competencies was examined using the SPSS Process moderation model (Model 1) developed by Hayes (2022). The analysis revealed that the interaction term between digital literacy and learning strategies was statistically significant ($B = 0.056$, $p < 0.01$). This result indicates that learning strategies play a meaningful moderating role in the relationship between digital literacy and core competencies. Specifically, students with higher levels of digital literacy tend to show greater core

competencies when they employ effective learning strategies. The positive moderation effect suggests that learning strategies, such as metacognitive self-regulation and resource management, enhance the ability of digital literacy to foster the development of core competencies, including problem-solving and critical thinking skills.

Table 2. Results of the Moderating Effect of Learning Strategies on the Relationship between Digital Literacy and Core Competencies

Variable	B	SE	t
Digital Literacy	0.965	0.087	11.108***
Learning Strategies	0.330	0.093	3.538***
Digital Literacy*Learning Strategies	0.056	0.024	2.764**
F			527.9867***
R^2			0.639
ΔR^2			0.003(F=7.641**)

**p<.01, ***p<.001

The moderating effect of cognitive strategies on the relationship between digital literacy and core competencies was also tested using Hayes' SPSS Process moderation model (Model 1). The analysis revealed that the interaction term between digital literacy and cognitive strategies was not statistically significant (B = 0.011, p > 0.05). This suggests that cognitive strategies alone do not significantly moderate the relationship between digital literacy and core competencies.

Table 3. Results of the Moderating Effect of Cognitive Strategies on the Relationship between Digital Literacy and Core Competencies

Variable	B	SE	t
Digital Literacy	.7044	.081	8.715***
Cognitive Strategies	.0863	.090	.955
Digital literacy * Cognitive Strategies	.011	.020	.553
F			501.102***
R^2			0.626
ΔR^2			0.001(F=.306)

***p<.001

The moderating effect of metacognitive self-regulation strategies on the relationship between digital literacy and core competencies was assessed using the same moderation model by Hayes (2022). The analysis revealed that the interaction term between digital literacy and metacognitive self-regulation strategies was statistically significant (B = 0.005, p < 0.01). This result confirms that metacognitive self-regulation strategies significantly moderate the relationship between digital literacy and core competencies. Specifically, students who engage in higher levels of metacognitive self-regulation, such as planning, monitoring, and evaluating their learning processes, are better able to leverage their digital literacy skills to enhance their core competencies.

Table 4. Results of the Moderating Effect of Metacognitive Self-Regulation on the Relationship between Digital Literacy and Core Competencies

Variable	B	SE	t
Digital Literacy	0.959	0.097	9.901***
Metacognitive Self-Regulation	0.359	0.102	3.504**
Digital Literacy * Metacognitive Self-Regulation	0.057	0.023	2.504*
F			538.280***
R^2			0.643
ΔR^2			0.005(F=6.265**)

*p<.05, **p<.01, ***p<.001

The moderating effect of resource management strategies on the relationship between digital literacy and core competencies was evaluated using Hayes' SPSS Process moderation model. The analysis results indicated a statistically significant interaction term (B = 0.005, p < 0.001), demonstrating a notable moderating effect. This suggests that resource management strategies, such as effective time management, organization of learning environments, and effort regulation, play a crucial role in enhancing the relationship between digital literacy and core competencies. Students who effectively manage their resources are better able to apply their digital literacy skills, leading to improved competencies in areas such as problem-solving, critical thinking, and self-directed learning

Table 5. Results of the Moderating Effect of Resource Management Strategies on the Relationship between Digital Literacy and Core Competencies

Variable	B	SE	t
Digital Literacy	0.509	0.070	7.283***
Resource Management Strategies	0.341	0.081	4.207***
Digital Literacy * Resource Management Strategies	0.060	0.018	3.359**
F		532.984***	
R^2		0.641	
ΔR^2		0.005(F=11.284***)	

**p<.01, ***p<.001

4. Discussion

This study found the moderating role of learning strategies, specifically metacognitive self-regulation and resource management strategies, in fostering sustainable future competencies among university students in the digital age. The findings revealed that digital literacy serves as a core foundation, equipping students with essential skills to manage, evaluate, and synthesize the overwhelming information they encounter in their daily lives, learning, and job preparation. As Gardner and Davis (2013) emphasize, digital literacy is vital in enhancing students' abilities to analyze and utilize information critically. Similarly, digital literacy goes beyond mere technical skills; it encompasses the ability to organize and assess information—a competency that is fundamental for students' problem-solving and critical thinking development (Kaeophanuek, Na-Songkhla, & Nilsook, 2019; Weda & Fansury, 2023).

In line with these insights, this study reinforces the view that metacognitive self-regulation strategies play an indispensable role in enabling students to critically assess information, identify credible sources, and address emerging issues within their learning environments (Pintrich et al., 1993; Zeitlhofer et al., 2023). These findings suggest that university students are better equipped to navigate the complexities of digital information, fostering a foundation for ethical responsibility, civic engagement, and ethical decision-making when faced with cyber threats, misinformation, and online harassment.

Metacognitive self-regulation serves as a critical component in students' ability to navigate digital spaces autonomously (Burin et al., 2020). This strategy involves a multi-step process where students independently plan, monitor, and evaluate their learning journeys, adapting their strategies as needed to ensure continued effectiveness. Metacognitive strategies are instrumental in refining students' analytical capabilities, enhancing their ability to discern credible information from falsehoods. Eggers, Oostdam, and Voogt (2021) add that engaging in self-regulatory practices provides students with a strong foundation to address misinformation and make informed judgments that align with ethical considerations. This aligns with Pintrich et al. (1993), who emphasize that metacognitive self-regulation not only cultivates high-level cognitive abilities but also fosters resilience and adaptability in students, enabling them to refine their information assessment criteria in diverse and challenging digital contexts. Through self-regulation, students develop their standards for truth assessment and build a sense of responsibility that transcends technical skills, guiding them in filtering trustworthy information while maintaining a critical perspective (Liz-Domínguez et al., 2022).

In the context of digital safety and citizenship, metacognitive self-regulation enhances students' capacity to differentiate between reliable and unreliable information, promoting ethical decision-making within the digital space (Demirbag & Bahcivan, 2021). The ability to recognize and resist cyber threats, cyberbullying, and unethical behaviors requires students to engage actively in self-regulatory processes that prioritize ethical considerations and social responsibility (Paciello et al., 2023). Green, Sung, and Copeland (2014) argue that metacognitive self-regulation not only strengthens critical thinking but also helps students anticipate potential issues, enabling proactive and ethical

responses to digital challenges. This suggests that self-regulation is not merely a skill but a foundational aspect of digital citizenship, equipping students with the judgment required to act as responsible members of the digital community.

In addition to self-regulation, resource management strategies provide students with practical tools to apply their digital literacy skills to real-world learning scenarios (Anthonysamy et al., 2020). Resource management strategies, including time management, learning environment management, effort regulation, peer collaboration, and help-seeking, are designed to maximize learning efficiency and encourage autonomous learning (Trentepohl et al., 2023). These strategies offer students a framework to set specific learning objectives, track their progress, and employ learning resources effectively. According to Sevillano-García and Vázquez-Cano (2015), combining digital literacy with resource management strategies enables students to foster collaboration, enhance problem-solving capabilities, and engage in reflective thinking, which are essential for navigating complex digital contexts and achieving sustainable learning outcomes. By integrating these strategies, students can cultivate skills that allow them to work independently while also collaborating effectively with peers, thereby enhancing their ability to adapt to the dynamic digital landscape (Bitar & Davidovich, 2024).

Resource management strategies also help students develop time and environmental management skills essential for achieving autonomy in digital learning. These strategies empower students to prioritize tasks, allocate resources effectively, and make informed decisions regarding their learning needs. Sevillano-García and Vázquez-Cano (2015) observe that resource management fosters collaboration and problem-solving within digital environments, essential competencies for students in higher education and beyond. Time management, for example, allows students to balance their academic responsibilities while managing digital distractions, leading to more effective learning outcomes (Galindo-Domínguez & Bezanilla, 2021). Peer collaboration and help-seeking further enable students to create networks of support and share diverse perspectives on digital issues, facilitating a more comprehensive and ethical understanding of digital challenges (Dabbagh & Kitsantas, 2012).

Practical examples from Chinese universities highlight how these strategies can be applied effectively in real educational settings. At Shanghai Jiao Tong University, the “Haodashe Online” platform provides a self-regulated learning environment where students manage their time and resources autonomously within a digital framework. This model showcases how resource management strategies facilitate the development of self-regulation and digital literacy skills, which are essential for thriving in digital environments. Similarly, Fudan University’s online testing program empowers students to engage in critical assessments of digital information, enhancing their metacognitive self-regulation abilities to evaluate the reliability of information and discern misinformation. These educational programs offer students opportunities to apply self-regulation and resource management strategies, fostering practical skills for evaluating information critically and using digital literacy as a means of achieving optimal learning outcomes.

5. Conclusion

This study emphasizes the importance of learning strategies, particularly metacognitive self-regulation and resource management, in helping students develop sustainable future competencies in the digital era. As the findings reveal, digital literacy enables students to evaluate information critically, exercise ethical judgment, and respond to cyber threats effectively, underscoring its role as a foundational competency. Metacognitive self-regulation and resource management further strengthen the connection between digital literacy and essential competencies, enabling students to build a secure digital environment and fulfill ethical responsibilities as digital citizens (Karagianni, 2024). These strategies, as Dabbagh and Kitsantas (2012) suggest, are vital for fostering autonomous and responsible learning, enabling students to leverage digital tools effectively.

Higher education institutions must integrate digital literacy training with structured learning strategy programs that promote critical thinking, information evaluation, and collaborative problem-solving (Goodsett, 2020). This approach can be implemented through various methods, including learning management systems, workshops focused on time and environmental management, and collaborative learning environments that foster competency development aligned with the needs of the digital age (Sjølie, Strømme, & Boks-Vlemmix, 2021).

The innovative learning strategy programs in Chinese universities, such as Peking University’s integration of digital literacy education with metacognitive strategies, underscore the potential for other higher education institutions to adopt similar approaches. Cernicova-Bucă and Ciurel (2022) highlight the importance of these programs in fostering essential competencies, such as critical analysis and ethical responsibility, that enable students to protect themselves from misinformation and cyber threats. Tsinghua University further exemplifies this approach by offering educational

opportunities that support students in using resource management strategies to make effective use of learning resources and enhance self-regulation. Chen, Ong, Ng, and Coppola (2021) argue that resource management enhances learning efficiency, providing a framework for students to set goals, monitor progress, and achieve sustainable learning outcomes.

This study reaffirms the pivotal role of learning strategies in fostering sustainable competencies that empower university students to thrive in the digital age. These strategies not only enable students to critically and responsibly evaluate information but also enhance their capacity for ethical decision-making, collaborative problem-solving, and reflective engagement within digital spaces. By integrating learning strategies such as metacognitive self-regulation and resource management with digital literacy, students can actively contribute to personal well-being and societal progress, aligning their digital practices with ethical standards and sustainable values.

The theoretical implications of this study emphasize the moderating role of learning strategies in maximizing the impact of digital literacy on core competencies. By highlighting how these strategies strengthen the relationship between digital literacy and critical thinking, ethical engagement, and collaborative skills, this study contributes to a deeper understanding of the mechanisms through which students can achieve sustainable growth. Practically, the research calls for higher education institutions to design and implement programs that integrate digital literacy with targeted learning strategies, equipping students to evaluate information credibility, address digital threats, and engage in continuous self-improvement.

Future research could explore how metacognitive self-regulation and resource management strategies operate across diverse cultural and educational contexts, shedding light on the nuanced ways in which learning strategies foster key competencies necessary for ethical and sustainable digital participation. Furthermore, examining these interactions over time could reveal their long-term impact on students' personal fulfillment and ability to contribute to societal prosperity. By advancing cycles of reflection, assessment, and ethical action, this study provides a roadmap for nurturing resilient, capable individuals who are prepared to address the challenges and opportunities of an interconnected digital world.

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