

DIGITAL LITERACY AS A FUNDAMENTAL SKILL IN MODERN ECONOMIC EDUCATION: A LITERATURE REVIEW

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ABSTRACT

This study aimed to analyze the role of digital literacy as a fundamental skill in modern economic education. Amid the rapid advancement of digital technology, digital literacy was considered an essential competence that supported students in understanding and applying economic concepts effectively. The primary objective of this research was to identify the relationship between digital literacy and the development of economic skills in the digital era. The research method employed was a qualitative approach using a literature review design. Data were obtained through the selection of relevant literature, including journal articles, books, and research reports published between 2012 and 2024. Data analysis was conducted using thematic analysis techniques, which involved identifying key themes related to digital literacy in economic education. The findings indicated that digital literacy played a significant role in enhancing students' economic skills, particularly in accessing and analyzing economic data. This study also revealed that the integration of technology in economic education improved students' understanding of economic theory and better prepared them to face the challenges of the digital economy. In conclusion, digital literacy should be an integral part of the economic education curriculum. This study made a significant contribution to the development of digital literacy as a foundational competence supporting economic learning and opened opportunities for further in-depth research on the impact of digital literacy on economic education.

INTRODUCTION

The development of digital technology has brought significant changes to various aspects of human life, including the field of education. Globalization and digitalization have compelled the education sector to adapt to continuously evolving technological innovations (Selwyn, 2012). Economic education, as an integral part of the national education system (Indahri et al., 2021), was not exempt from this demand. The integration of technology in education aimed to enhance the quality of learning and align education with the needs of the labor market in the digital era.

In the context of modern education, digital literacy emerged as a foundational skill that could not be overlooked. Digital literacy did not merely refer to the ability to use technological devices, but also encompassed the capacity to think critically about digital information, understand the ethical use of technology, and communicate information effectively (Ng, 2012). Without strong

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digital literacy, learners struggled to access, manage, and analyze information related to global economic developments.

Digital literacy in economic education was essential because it enabled students to access real-time economic data, comprehend shifts in market dynamics, and analyze various economic phenomena through digital platforms (Fraillon, 2018). Students with strong digital literacy were better prepared to face economic challenges in the era of globalization. Therefore, mastering digital literacy became an urgent necessity in the economic education curriculum (Anggraini H., 2019).

Previous studies had shown that the integration of technology in education could improve student learning outcomes (Isti'ana, 2024). Uri and Coiro (2014) argued that digital literacy served as a crucial foundation for developing 21st-century skills such as critical thinking, creativity, and collaboration. However, much of the existing research emphasized the use of learning technologies such as e-learning and blended learning, rather than focusing on the development of digital literacy skills as a primary objective.

Despite the abundance of studies on the application of technology in education, research specifically addressing the development of digital literacy in economic education remained relatively scarce (Abdurrahim et al., 2022). Most studies focused on how technology was used to deliver economic content (Means et al., 2013), rather than on how to cultivate students' digital literacy to enable them to think economically within a digital context. This situation highlighted a gap in the academic literature.

Identifying this gap became crucial for further exploration. Only a limited number of studies had investigated how digital literacy development strategies could be specifically designed within economic education, whether at the secondary or higher education level (Scherer, 2017). This gap indicated that the development of digital literacy in economic education had not received as much attention as other fields, such as STEM (Science, Technology, Engineering, and Mathematics).

This study offered a new approach by positioning digital literacy not merely as a supporting tool in the learning process, but as a core competency in economic education. This perspective aligned with Riwanto's (2020) view, which emphasized the importance of systematically building digital competence to support students' readiness for future global challenges. Therefore, digital literacy should be integrated into the learning objectives of economic education, rather than being treated as a supplementary skill.

Based on this background, the research question posed in this study was: How can digital literacy be identified and developed as a fundamental skill in modern economic education? The purpose of this study was to examine relevant literature on digital literacy in economic education, to identify effective models or approaches for developing digital literacy, and to provide implementation recommendations for a digital literacy-based economic education curriculum (Pangrazio, 2020).

The significance of this research lay not only in enriching the literature on economic education but also in offering practical contributions toward developing educational strategies relevant to 21st-century challenges. According to Science & Policy (2017), digital competence was an inseparable part of future professional skills. Therefore, strengthening digital literacy in economic education would provide a competitive advantage for graduates in the digital economy era.

By focusing on digital literacy as a fundamental skill, this study aimed to support the creation of economic learning that was more adaptive, innovative, and relevant to contemporary needs. As the world continued to advance toward an increasingly complex digital era, equipping learners with

digital literacy skills became a strategic necessity to build a generation capable of thinking critically, adapting effectively, and competing globally (El & Waruwu, 2024).

METHOD

This study employed a qualitative approach using a literature review method to analyze the concept of digital literacy in the context of modern economic education. This approach enabled an in-depth exploration of the relationship between digital literacy and the development of economic skills in the digital era (Levitt et al., 2018). The literature review was chosen as it provided a structured framework to examine and synthesize various relevant scholarly sources systematically.

The research design used was a systematic literature review, which involved a series of structured steps, starting from literature identification, selection based on inclusion and exclusion criteria, to thematic analysis of the relevant findings. This process aimed to avoid bias and enhance the credibility of the research outcomes by relying on existing empirical evidence.

The sample for this study consisted of journal articles, books, research reports, and conference proceedings published between 2012 and 2024. The inclusion criteria comprised literature that discussed digital literacy within economic education or general education, available in either Indonesian or English, and published in nationally accredited or reputable international journals. Literature that did not directly relate digital literacy to education or only discussed technical aspects of technology use was excluded.

The research instruments included a selection checklist and a data extraction form. The checklist was used to screen literature that met the eligibility requirements, while the extraction form was designed to record important information such as research objectives, methods, findings, and recommendations related to digital literacy development in economic education. These instruments helped ensure consistency and accuracy in the data collection process.

The data collection procedure began with literature searches using databases such as Google Scholar, Scopus, Web of Science, and SINTA. The identified literature was initially screened by title and abstract, then further evaluated by reading the full texts to ensure relevance to the research focus. Literature that met the criteria was compiled, and the data were extracted for further analysis.

Data analysis was conducted using thematic analysis techniques, which involved identifying key themes that emerged from the reviewed literature (Braun et al., 2008). The themes analyzed included definitions of digital literacy, models for developing digital literacy in economic education, as well as implementation challenges and strategies. This thematic analysis was carried out manually through a process of coding and categorizing the data.

RESULTS

Defining Digital Literacy in Economic Education

Based on the literature review conducted, digital literacy in modern economic education was understood as the ability of individuals to access, comprehend, evaluate, and effectively utilize digital information to support learning processes and economic decision-making. Digital literacy was not merely about mastering digital tools but also involved critical thinking skills related to online economic information (Ng, 2012). This underscores the importance of digital literacy as a fundamental competency that needs to be developed within economic education.

Models for Developing Digital Literacy

In this review, various models for developing digital literacy in economic education were identified, involving the integration of technology into educational curricula. Most of the reviewed literature indicated that the use of technology in economic learning extended beyond mastering statistical software or digital economics tools. It also encompassed students' abilities to access and critically evaluate economic information (Scherer, 2017). Project-based and collaborative learning approaches that incorporated digital technologies were found to be more effective in enhancing students' digital literacy.

Challenges in Digital Literacy Implementation

Furthermore, this study identified several challenges in implementing digital literacy within economic education. One of the major challenges was the lack of adequate digital infrastructure in certain educational institutions, particularly in developing countries.

Additionally, many students were found to have low basic digital skills, which hindered their ability to grasp more complex digital technologies in an economic context (Paavola et al., 2016). Besides infrastructure limitations, another challenge was the limited training provided to lecturers or teachers in using digital learning technologies relevant to teaching economics.

Strategic Responses to Implementation Barriers

The findings indicated that strategies to address these challenges included increased investment in digital infrastructure and technology-based learning tools. Several studies also emphasized the importance of continuous professional development for educators to ensure that they possessed sufficient skills to integrate technology into economic instruction (Eshet, 2012). This was essential for educators to manage technology effectively and to teach students how to use it to deepen their understanding of economic concepts (Abdurrahim, 2021).

Impact of Digital Literacy on Economic Competency

In a more in-depth analysis, it was found that high digital literacy levels enhanced the quality of economic decision-making by individuals and groups, particularly in the context of the digital economy. Research showed that students with strong digital literacy were more capable of conducting effective market analysis, using digital economic tools, and understanding global economic trends (Scherer, 2017). These findings highlighted the crucial role of digital literacy in developing economic skills aligned with the demands of the digital-era workforce.

Gaps in the Existing Literature

However, a significant gap was identified in the existing literature. Most of the studies focused more on theoretical understandings of digital literacy and lacked exploration of the direct relationship between digital literacy and the achievement of learning outcomes in economics.

This suggests the need for further research to explain how digital literacy specifically influences students' achievement in economic education, both theoretically and in practical application (Scherer, 2017).

Digital Literacy as Analytical Skill Development

This study also found that digital literacy in economic education did not solely focus on the mastery of tools or technologies, but also included the development of students' analytical and critical thinking skills related to economic data and information.

Several studies indicated that the ability to conduct data analysis using digital economic tools—such as statistical analysis software or big data-based platforms—greatly supported the mastery of more complex and applied economic content (Eshet, 2012).

Overall, the findings indicated that the integration of digital literacy into modern economic education was an urgent necessity. It was not merely an additional skill but a critical component that needed to be embedded in economic education curricula. Educational institutions needed to

ensure that they not only taught economic theories but also prepared students to face the challenges of the rapidly evolving digital economy.

Thus, this study successfully identified key elements related to the development of digital literacy in economic education. The use of technology in economic education not only enhanced students' practical skills but also equipped them with the ability to think critically and analytically within the increasingly digital-based global economy. This study made a significant contribution to the development of economic education curricula that are more adaptive to technological advancements and labor market demands.

DISCUSSION

The findings of this study indicate that digital literacy plays a crucial role in modern economic education. Digital literacy—which includes the ability to access, evaluate, and utilize digital information—has proven to enhance the economic skills required by students in an increasingly digital-based workforce. Students with strong digital literacy are better equipped to face the challenges of the digital economy, such as data analysis and technology-based decision-making (Ng, 2012). These findings highlight that digital literacy is not merely an additional skill but a foundational competence that supports the understanding of economic concepts within a rapidly evolving global context.

Furthermore, the results of this literature review also reveal several models for developing digital literacy in economic education. One widely implemented approach involves the use of economic analysis software and technological applications to improve students' analytical skills. These models demonstrate that technology not only enhances technical proficiency but also supports the development of critical thinking skills in evaluating economic data (Scherer, 2017). Project-based and collaborative learning approaches that integrate digital tools have also been proven effective in enhancing students' abilities to understand and apply economic theory.

However, this study also identifies various challenges in implementing digital literacy in economic education. One of the major challenges is the limited availability of technological infrastructure in many educational institutions, especially in developing countries, which hampers both students and educators from accessing relevant digital resources. Additionally, the low level of basic digital skills among students is a key obstacle to developing deeper digital literacy within economics learning (Paavola et al., 2016). This issue is compounded by the insufficient training provided to instructors on how to effectively use technology in teaching economics.

These findings also provide insight into various strategies for addressing these challenges. Several studies suggest that increasing investment in digital infrastructure and offering continuous training for educators can help bridge the digital divide. In this regard, it is essential for educational institutions to adopt policies that support the integration of technology into the economics curriculum and facilitate digital literacy training for educators (Eshet, 2012). Moreover, the use of technology-based tools in economic learning can significantly enhance students' abilities to analyze data and understand the digital market more effectively.

Nevertheless, there remains a significant gap in the existing literature, particularly regarding the direct relationship between digital literacy and the achievement of economics-based learning competencies. Most previous studies have focused more on the theoretical aspects of digital literacy without directly linking it to the mastery of practical economic skills. This study fills that gap by demonstrating how digital literacy contributes to a more applied and relevant understanding of economic concepts for the digital workforce (Scherer, 2017).

In addition, digital literacy in economic education does not merely focus on using technology for economic analysis but also on developing students' analytical and critical thinking skills toward online economic data and information. This study confirms that students with strong digital literacy are more capable of using economic analysis tools to understand market trends, predict economic behavior, and make more informed decisions (Eshet, 2012). This illustrates that digital literacy serves as a bridge between economic theory and real-world economic practice.

Overall, this study affirms that digital literacy is a fundamental competence that must be possessed by students in modern economic education. It is not only essential for improving technical skills but also for strengthening critical and analytical thinking abilities, which are crucial in the digital economy (Ririen, 2022). The findings suggest that economic education integrated with digital literacy can better prepare students to face global challenges driven by technology and information.

Nevertheless, this study also acknowledges several limitations, such as the limited scope of literature reviewed (restricted to the period of 2012–2024) and the reliance solely on literature-based methods. Therefore, further studies involving primary data and cross-country comparisons with different technological infrastructure conditions could enrich these findings and offer a broader perspective on the development of digital literacy in economic education.

Thus, the findings from this study contribute significantly to identifying and developing a conceptual framework for digital literacy in economic education. These findings also pave the way for more in-depth future research focused on the impact of digital literacy on economic learning outcomes and its implementation in various educational contexts.

CONCLUSION

This study reveals that digital literacy is a fundamental skill of great importance in modern economic education. Digital literacy enables students to effectively access, evaluate, and utilize economic information, while also enhancing their analytical abilities in addressing the challenges of the digital economy. The integration of technology into economic learning has been shown to enrich students' understanding of economic theory and improve practical skills that are increasingly relevant in today's digital-based workforce.

The implications of these findings suggest that digital literacy should be a core component of the economics education curriculum. Strengthening digital literacy will better prepare students to navigate technological advancements driving economic developments. Economics education that incorporates digital literacy can equip students with the necessary skills to understand digital markets and make more informed economic decisions. Therefore, it is essential for educational institutions to promote digital literacy as a basic competency for economics students.

This research also opens opportunities for further studies that can deepen the understanding of the impact of digital literacy on economic learning outcomes and explore innovative ways to integrate technology into economics education. Research involving empirical data and field studies will provide more comprehensive insights into the role of digital literacy in the teaching of economics. Thus, this study makes a significant contribution to the development of educational policies that support the strengthening of digital literacy in modern economic education.

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