

Constructing Critical Digital Literacy Among Housewives in Responding to Hoaxes, Online Fraud and Artificial Intelligence

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ABSTRACT

Keywords:

Artificial
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The rapid expansion of digital communication technologies has increased public exposure to misinformation, online fraud, and AI-generated deceptive content, posing serious challenges for digitally vulnerable groups, particularly housewives. This study examines the effectiveness of a community-based digital literacy empowerment program in enhancing participants' awareness and critical understanding of hoaxes, online fraud, and AI-generated misinformation. A qualitative descriptive approach supported by pre-test and post-test assessments was employed through direct educational socialization involving housewives. Data were collected using observations, documentation, and pre-test/post-test instruments to measure participants' knowledge before and after the intervention. The findings reveal significant improvements in participants' ability to verify information, identify AI-generated manipulation, and critically evaluate digital content. Interpreted through Berger and Luckmann's Social Construction Theory, the results demonstrate that critical digital awareness is socially constructed through educational intervention. Following the program, all participants reported greater caution in sharing online information and recognized AI's potential to generate deceptive content, while also showing improved ability to distinguish authentic from manipulated materials. The study concludes that community-based digital literacy empowerment effectively strengthens critical digital awareness and provides a practical strategy for reducing the risks of hoaxes, online fraud, and AI-driven misinformation among vulnerable social groups.

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INTRODUCTION

The rapid expansion of digital communication technologies has fundamentally transformed how individuals access, evaluate, and disseminate information. While these developments provide unprecedented opportunities for information exchange, they simultaneously increase public exposure to misinformation, online fraud, and AI-generated deceptive content. Social media such as WhatsApp, Facebook, and TikTok have now become the main source of information for various groups, including housewives. Among community groups, housewives represent an important but often overlooked population because they actively participate in family-based digital communication networks that strongly influence information dissemination. The ease of internet access causes information to spread quickly, on the other hand, this condition raises new problems, namely the increasing spread of information that is not necessarily true, including hoaxes, online fraud, and other misuse of digital technology (Hazzan, 2023). This phenomenon often occurs in groups of people who have a low level of digital literacy, so they are vulnerable to becoming victims of information manipulation on platforms such as WhatsApp and other social media (Ogbodo et al., 2023). In this context, housewives are one of the most vulnerable groups due to the high intensity of social media use in daily life, but it is not always followed by adequate information verification capabilities.

The phenomenon of spreading hoaxes in Indonesia is still a serious problem. Based on data from the Ministry of Communication and Information, there are 12,547 hoax content that have been handled from 2018 to 2023, covering various issues such as health, fraud, and government (Kominfo, 2024). Even in 2024 alone, 1,923 hoax content were found, with the most dominant fraud issue (Komdigi, 2025). This shows that hoaxes are not only large in number, but also continue to grow following trends in society. In practice, hoaxes are often spread through family WhatsApp groups or the surrounding environment, so they have the potential to cause panic and misunderstanding, especially among housewives.

Another problem that is no less serious is the increase in cases of online fraud in the community. The development of digital technology is used by criminals to carry out various fraud modes, such as sending fake links on behalf of banks via WhatsApp, gift fraud, to personal data theft (phishing) (Marwi & Oskar, 2023). Based on data from the National Police Criminal Investigation Center, in the period from January to March 2026, there were 10,583 cases of online fraud, with an average of thousands of cases occurring every month (Polri, 2026). This shows that online fraud is not only increasing, but also occurring massively and continuously in society. In addition, a report from the Financial Services Authority through the Indonesia Anti-Scam Center (IASC) revealed that

the total losses due to online fraud in Indonesia have reached around IDR 3.2 trillion until June 2025 (ANTARA, 2025). These figures show that online fraud is not only increasing in terms of the number of cases, but also causing enormous financial losses to society. Fraud in online buying and selling transactions is also increasingly prevalent, such as goods received that do not match the photos or descriptions displayed in online stores (Management et al., 2024). New modes have also emerged such as fictitious Cash on Delivery (COD) fraud, where victims receive packages that have never been ordered but are still asked to make payments. These various forms of online fraud show that criminals continue to adapt their modes to people's digital habits.

These patterns demonstrate that digital vulnerability extends beyond technological limitations and involves behavioural, cognitive, and social dimensions. Consequently, strengthening digital literacy should not merely focus on technological competence but also on developing critical judgement in evaluating digital information.

The development of artificial intelligence (AI) technology also brings new challenges in the digital world. AI is currently not only being used for positive needs, but it is also beginning to be abused to commit various forms of digital crime, one of which is voice and identity manipulation. Deepfake technology allows perpetrators to imitate a person's face and voice as if they were real so that it is difficult to distinguish them from the real thing. The emergence of generative AI has fundamentally altered the landscape of digital misinformation by enabling the production of highly realistic synthetic content that is increasingly difficult for ordinary users to identify. AI technology such as deepfakes can be used for a variety of crimes, including fraud, identity forgery, and manipulation of information that can mislead society (Blauth et al., 2022). This condition raises concerns because people often find it difficult to distinguish between real information and the results of technological manipulation.

Based on these conditions, it can be seen that the development of digital technology has two sides, namely providing ease of access to information while increasing the risk of spreading hoaxes and digital crimes. Therefore, efforts are needed to improve people's digital literacy, especially in the group of housewives, so that they are able to understand, filter, and respond to information wisely. Based on this, this study wants to find out the extent of housewives' understanding of hoaxes, online fraud, and AI abuse.

Previous studies have predominantly examined digital literacy from three perspectives. First, several studies have focused on digital literacy and hoax prevention (Cindoswari et al., 2023; Fardiah et al., 2023). Second, other researchers have investigated online fraud awareness (Chhabra Roy & Prabhakaran, 2023; Noorbehbahani et al., 2022). Third, recent studies have explored AI-generated misinformation (Bashardoust et al., 2024; Farooq & de

Vreese, 2026). Despite the growing body of literature on digital literacy, existing studies remain fragmented in examining hoaxes, online fraud, and AI-generated misinformation as separate issues. This study addresses this gap by integrating these three dimensions within a single analytical framework focusing on digitally vulnerable housewives. Furthermore, this study contributes theoretically by interpreting digital literacy empowerment through Berger and Luckmann's Social Construction Theory. However, these studies remain fragmented because they examine each issue separately. Limited attention has been given to the integrated relationship among hoaxes, online fraud, and AI-generated misinformation within vulnerable community groups such as housewives. Furthermore, previous studies rarely interpret digital literacy through the perspective of Berger and Luckmann's Social Construction Theory. Therefore, this study does not merely combine these three dimensions but also explains how critical digital awareness is socially constructed through community-based educational intervention, providing a broader understanding of digital literacy beyond technological competence.

Accordingly, this study investigates how community-based digital literacy empowerment shapes housewives' critical awareness toward hoaxes, online fraud, and AI-generated misinformation by employing Berger and Luckmann's Social Construction Theory as an analytical framework. The focus of this research is directed at housewives in the Rungkut Menanggal area, Surabaya, as a group that actively uses social media but has vulnerability to digital risks. The study area was selected because community members actively engage in neighborhood-based digital communication through WhatsApp groups, making it an appropriate setting for examining digital literacy challenges among housewives.

Practically, this research is expected to increase public awareness and ability to filter information and avoid online fraud in daily life. Academically, this research is expected to contribute to the development of digital literacy studies, especially those related to non-academic community groups. Theoretically, this study extends the application of Social Construction Theory within digital literacy studies by demonstrating how critical awareness toward digital misinformation is socially developed through community empowerment activities. Thus, this research not only examines the problems that occur, but also offers an educational approach as an effort to improve and face challenges in the digital era.

METHOD

This study employed a qualitative descriptive approach to examine the effectiveness of community-based digital literacy empowerment in enhancing housewives' awareness of hoaxes, online fraud, and Artificial Intelligence (AI)-

generated misinformation. A qualitative approach was selected because the study sought to understand participants' experiences, perceptions, and changes in digital awareness following an educational intervention. The research was conducted in the Rungkut Menanggal area, Surabaya, involving housewives who actively use digital media in their daily lives. Participants were selected purposively based on their involvement in the digital literacy empowerment program and their willingness to participate throughout the research process.

Data were collected through observation, documentation, pre-test, post-test, and interactive discussions conducted during the digital literacy empowerment activities. The pre-test was administered before the educational intervention to identify participants' initial understanding of hoaxes, online fraud, and AI-generated misinformation, while the post-test was conducted immediately after the intervention to assess changes in participants' knowledge and awareness. The quantitative results from the pre-test and post-test were used as supporting evidence, whereas qualitative findings obtained from observations and participant interactions were employed to provide a deeper interpretation of behavioural and cognitive changes throughout the empowerment process.

Data were analysed using the interactive model of Miles, Huberman, and Saldaña, consisting of data condensation, data display, and conclusion drawing/verification. The findings were subsequently interpreted through the perspective of Berger and Luckmann's Social Construction Theory, which explains how social reality is constructed through continuous interaction, habitual practices, and shared knowledge within society. In this context, the circulation of hoaxes, online fraud, and AI-generated misinformation is understood as a socially constructed phenomenon shaped by repeated exposure to digital information. Ethical principles were observed throughout the study by obtaining participants' informed consent prior to data collection, ensuring voluntary participation, maintaining confidentiality, and using the collected data solely for academic research purposes.

RESULT

Participants' Initial Digital Literacy Condition

The digital literacy empowerment program was conducted among housewives in the Rungkut Menanggal area, Surabaya, with the objective of strengthening participants' understanding of hoaxes, online fraud, and Artificial Intelligence (AI)-generated misinformation. Prior to the educational intervention, participants completed a pre-test designed to assess their initial knowledge and digital awareness regarding these issues. Observations conducted during the activity also provided additional insights into participants' digital behaviour and information verification practices.

The pre-test findings revealed that almost all participants actively used

social media platforms, particularly WhatsApp, Facebook, Instagram, and TikTok, as primary sources of daily information. Although participants were familiar with the term "hoax" and generally understood that information circulating on social media could not always be trusted, most participants demonstrated limited ability to verify information before sharing or believing it. Messages received from unknown sources were frequently accepted without further confirmation, and several participants admitted that they had previously redistributed information without checking its credibility.

The findings also indicate limited awareness regarding the misuse of Artificial Intelligence (AI). Most participants were unfamiliar with AI-generated images, voice cloning, and deepfake videos, making them vulnerable to digital manipulation. These findings suggest that intensive use of digital media is not necessarily accompanied by adequate digital literacy skills, particularly in evaluating the credibility and authenticity of online information.

Changes in Participants' Digital Literacy After the Educational Intervention

Following the implementation of the community-based digital literacy empowerment program, participants completed a post-test to evaluate changes in their knowledge and awareness. The findings demonstrate a substantial improvement across almost all assessed indicators. Participants showed greater understanding of digital misinformation, improved ability to verify information, and increased awareness of the potential misuse of Artificial Intelligence in digital communication.

Most participants reported that they would verify suspicious information before forwarding it to others and became more cautious when interacting with digital content. Participants also demonstrated a better understanding of various forms of online fraud, including phishing, fraudulent banking links, fake Cash on Delivery (COD) schemes, and AI-generated manipulation. Furthermore, participants expressed increased confidence in distinguishing authentic digital content from AI-generated misinformation after receiving practical examples during the educational sessions. The improvement in participants' understanding is summarized in Table 1.

Table 1. Comparison of Average Pre-test and Post-test Results

Indicator	Pre-test Average (%)	Post-test Average (%)	Difference
Understanding hoaxes	100%	100%	0%
Ability to distinguish between true and false information	100%	100%	0%
Verify information before trusting information	0%	91,7%	+91,7%
Caution in disseminating information	0%	100%	+100%

Understanding that AI can be used to create false information	0%	100%	+100%
Ability to distinguish between original content and AI content	0%	100%	+100%

Table 1 demonstrates that the most significant improvements occurred in participants' ability to verify information before trusting it, their awareness of responsible information sharing, and their understanding of AI-generated misinformation. Before participating in the empowerment program, none of the participants reported verifying information prior to dissemination. Following the intervention, 91.7% indicated that they would verify information before accepting or sharing it, while all participants acknowledged the importance of exercising greater caution when engaging with digital content.

Similarly, participants' awareness of AI-generated misinformation increased substantially. Before the intervention, most participants were unfamiliar with the existence of AI-generated fake images and videos. After the educational program, all participants recognized that AI could be exploited to manipulate digital information and reported greater confidence in distinguishing authentic content from manipulated media. These findings suggest that the empowerment program effectively enhanced participants' critical awareness toward emerging digital threats.

Observation Findings

Field observations further supported the quantitative findings. Throughout the educational sessions, participants demonstrated high levels of enthusiasm, particularly when discussing real-life examples of health-related hoaxes, phishing scams, fraudulent WhatsApp messages, fictitious Cash on Delivery (COD) schemes, and AI-generated fake videos. Practical demonstrations encouraged participants to critically evaluate information they frequently encounter through social media platforms.

Although participant interaction during the discussion session remained relatively limited, this was primarily because most participants had never directly experienced AI-based fraud or sophisticated digital manipulation. Nevertheless, participants actively followed the learning process and acknowledged that the educational activities increased their awareness of digital risks. Community leaders and local women's cadres also emphasized the importance of conducting similar literacy programs regularly, considering the rapid evolution of digital technology and misinformation practices.

Overall, the findings indicate that community-based digital literacy empowerment contributes positively to strengthening digital awareness among

housewives by improving their capacity to identify misinformation, recognize online fraud, and critically respond to AI-generated deceptive content.

DISCUSSION

Digital Literacy Empowerment: A Social Construction Perspective

The findings demonstrate that community-based digital literacy empowerment contributes positively to improving participants' understanding of hoaxes, online fraud, and Artificial Intelligence (AI)-generated misinformation. The substantial improvement observed between the pre-test and post-test indicates that educational intervention not only increases factual knowledge but also encourages participants to adopt more critical attitudes when receiving, evaluating, and disseminating digital information. This finding suggests that digital literacy should be understood as a continuous social learning process rather than merely the acquisition of technical skills (UNESCO, 2021; Ng, 2012).

From the perspective of Berger and Luckmann's Social Construction Theory, digital literacy is socially constructed through repeated interactions, shared experiences, and continuous communication within everyday social environments (Obreja, 2024). Before participating in the empowerment program, many participants tended to accept and redistribute information without verification because such practices had become habitual within family and neighbourhood communication networks. The educational intervention disrupted these habitual patterns by introducing new knowledge, critical reflection, and practical verification strategies. Consequently, participants gradually reconstructed their understanding of digital information by developing new habits of checking information sources before accepting or sharing digital content.

The findings further indicate that community interaction plays an essential role in shaping digital awareness. Housewives frequently exchange information through WhatsApp groups, neighbourhood associations, and informal social gatherings. These communication spaces function as important arenas where meanings are negotiated and reconstructed. Consequently, strengthening digital literacy within community groups creates opportunities for collective learning, enabling participants not only to improve their own understanding but also to influence the digital behaviour of family members and surrounding communities (Smit et al., 2025; Zhao et al., 2023).

The improvement in participants' awareness of AI-generated misinformation is particularly significant considering the rapid development of generative Artificial Intelligence. The emergence of deepfake technology, synthetic voice cloning, and AI-generated visual manipulation has created increasingly complex challenges for ordinary digital users (Dehghani & Saberi,

2025; Folorunsho & Boamah, 2025). The present findings indicate that educational intervention effectively increased participants' ability to recognize these emerging forms of digital manipulation. This suggests that digital literacy programs should continuously adapt to technological developments by incorporating contemporary examples of AI-generated misinformation into educational materials.

These findings are consistent with previous studies reporting that digital literacy education significantly enhances individuals' ability to evaluate online information critically and reduces vulnerability to misinformation and digital fraud (Guess et al., 2020; UNESCO, 2021; Livingstone, 2014). However, unlike many previous studies that primarily examine hoaxes, online fraud, or AI-generated misinformation separately, the present study integrates these three dimensions within a single community-based empowerment framework. This integrated approach provides a broader understanding of digital literacy by acknowledging that contemporary digital risks often occur simultaneously rather than independently.

Moreover, this study extends the application of Social Construction Theory within digital literacy research. Rather than viewing digital literacy solely as an individual cognitive competence, the findings demonstrate that critical digital awareness develops through ongoing social interaction, educational experiences, and collective learning processes. Thus, community empowerment should be considered an effective strategy for strengthening digital resilience, particularly among vulnerable community groups such as housewives.

Practical Implications for Community-Based Digital Literacy

The findings of this study have several practical implications for community-based digital literacy programs. First, educational interventions should move beyond introducing basic digital skills and place greater emphasis on developing critical thinking, information verification, and awareness of emerging digital threats, including AI-generated misinformation (UNESCO, 2021).

Second, digital literacy initiatives should be designed using participatory and contextual learning approaches. The active involvement of participants through discussion sessions, case studies, and practical demonstrations enabled participants to relate educational materials to their daily digital experiences. Such learning strategies encourage deeper understanding and facilitate long-term behavioural change (Endres et al., 2021).

Third, collaboration among local governments, educational institutions, community organisations, and digital platforms is necessary to ensure the sustainability of digital literacy programs. Considering the rapid evolution of online fraud and AI-based digital manipulation, continuous educational

activities are required to strengthen community resilience against increasingly sophisticated forms of digital deception (OECD, 2021).

Despite these contributions, this study has several limitations. The research involved participants from a single community in Surabaya, limiting the generalisability of the findings to broader populations. Furthermore, the evaluation focused on short-term changes in participants' understanding immediately after the educational intervention. Future studies are therefore encouraged to involve more diverse participant groups, employ longitudinal research designs, and investigate the long-term effectiveness of digital literacy empowerment in strengthening community resilience toward evolving digital threats.

CONCLUSION

This study demonstrates that community-based digital literacy empowerment effectively enhances housewives' awareness and critical understanding of hoaxes, online fraud, and Artificial Intelligence (AI)-generated misinformation. The educational intervention contributed not only to improving participants' knowledge but also to encouraging more critical digital behaviour, particularly in verifying information before sharing it and recognizing emerging forms of digital deception. These findings indicate that strengthening digital literacy requires educational approaches that integrate technological understanding with critical thinking and responsible digital practices.

From a theoretical perspective, this study confirms the relevance of Berger and Luckmann's Social Construction Theory in explaining how digital awareness is socially developed through continuous interaction, collective learning, and community empowerment activities. Digital literacy is therefore not merely an individual cognitive competence but also a socially constructed process shaped by everyday communication within community networks.

The study also contributes to the growing literature by integrating three contemporary digital challenges hoaxes, online fraud, and AI-generated misinformation within a single community-based empowerment framework. This integrated perspective extends previous studies that have generally examined these issues separately (UNESCO, 2021; Guess et al., 2020).

Despite these contributions, this research was conducted within a single community and evaluated participants' understanding immediately after the educational intervention. Future studies are therefore encouraged to involve broader participant groups, examine long-term behavioural changes, and explore digital literacy empowerment across different social and demographic contexts.

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