

## DIGITAL LITERACY AS THE KEY TO EMPOWERING COMMUNITY EDUCATION

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### Abstract

This study examines digital literacy as a key to community education empowerment among learners at PKBM Pelangi Sirimau, Ambon City. It addresses the digital literacy gap and limited access to technology affecting non-formal learning quality and social participation. A qualitative case study approach was employed. Data were collected through semi-structured interviews, participatory observation, and documentation involving learners, tutors, and administrators. Analysis used the interactive model of Miles, Huberman, and Saldaña with thematic analysis. Findings reveal four themes: expanded learning access, strengthened learning identity, structural and cultural barriers, and increased participation.

Keywords: digital literacy, educational empowerment, non-formal education, PKBM, qualitative study

## INTRODUCTION

The development of digital technology has brought fundamental changes to almost every aspect of society, including in the fields of education and community empowerment. At the global level, the digitalization of information and communication opens up new opportunities for access to knowledge, interactive learning, and broader social connectivity. Digital literacy, the ability of individuals to access, evaluate, produce, and communicate through digital technology, has been identified as a key competence for meeting the demands of the 21st century. Recent studies confirm that digital literacy not only enhances technical skills but also significantly expands social and economic participation in society (Hussain, 2024). In the Indonesian national context, the digital transformation promoted in various education and development policies has great potential to empower communities, especially in rural areas and marginalized communities that still face limited access, skills, and understanding of technology. Although Indonesia is one of the countries with the largest number of internet users in the world, there is still a significant digital divide at the local level that affects the quality of education and the socio-cultural empowerment of village communities (Hanifah et al., 2024). This gap reflects structural imbalances in the distribution of technological resources and digital literacy capacity in society.

Problems in the field show that low digital literacy in society often creates obstacles in optimally utilizing technology for educational and social empowerment purposes. Qualitative research on youth within community organizations found that although basic computer operation skills are relatively adequate, skills in creating digital products, critically evaluating online information, and using technology as a means of empowerment are still lacking (Setiadi, 2023). These findings indicate that digital literacy has not yet been fully internalized as a social and cultural competence.

Other empirical findings reveal that digital literacy initiatives aimed at marginalized community groups are able to enhance their technological competencies, which in turn impacts access to job opportunities, public services, and broader community participation (Prasastiningtyas, 2024). Community-based digital literacy programs evaluated through in-depth interviews and participatory observation show that participants not only acquire technical skills but also experience increased self-confidence and social agency in using technology.

The issue of digital literacy is important to study because its implications go beyond mere technical aspects and touch on social, cultural, and educational dimensions. Digital literacy becomes the foundation for empowering communities to make appropriate informational decisions, participate in the digital economy, and preserve local cultural identity in the era of technological globalization [4] (Hanifah et al., 2024). A lack of digital literacy is often associated with low engagement in lifelong learning processes, limited access to valid information networks, and increased vulnerability to misinformation (Hussain, 2024).

Several previous studies have discussed digital competence in the context of formal education, particularly among students and educators (Farisia, 2024). However, these studies are still limited in exploring subjective experiences, social meanings, and the process of community empowerment through digital literacy in the context of non-formal education and local communities (Sogalrey, 2024). These limitations indicate a literature gap that needs to be bridged through a more contextual and emic qualitative approach.

A qualitative approach is considered relevant for examining digital literacy as a social phenomenon shaped by cultural interactions, social structures, and individual experiences. The theory of literacy as a social practice emphasizes that literacy is not merely a technical skill, but also a process of negotiating meaning influenced by social and cultural contexts (Hussain, 2024). Thus, understanding digital literacy as a tool for empowering community education requires an in-depth exploration of the narratives, perceptions, and everyday practices of the community.

Based on this description, this study aims to analyze digital literacy as a key to empowering community education through a qualitative approach. The study focuses on: (1) the perception and meaning of digital literacy in community educational life, (2) the challenges and strategies of digital learning experienced by the community, and (3) the socio-cultural implications of utilizing digital technology. This research is expected to provide theoretical contributions to enrich the study of community-based digital literacy as well as practical contributions in the form of recommendations for policymakers, educators, and local stakeholders in designing contextual and sustainable digital literacy-based empowerment programs.

Digital literacy is a multidimensional concept that encompasses an individual's ability to access, understand, evaluate, produce, and communicate information through digital technology in a critical and ethical manner. Gilster defines digital literacy as the ability to understand and use information in various formats from a variety of digital sources, which was later developed by various experts into a broader competency framework, covering technical, cognitive, and social aspects (Gilster, 1997). In a contemporary context, digital literacy is no longer understood merely as operational technology skills, but as a reflective capacity that enables individuals to actively participate in digital-based social, economic, and educational life (Hussain, 2024).

UNESCO emphasizes that digital literacy is an integral part of information and media literacy, aiming to strengthen critical thinking, creativity, and democratic participation in society (UNESCO, 2023). Digital literacy is positioned as a prerequisite for sustainable development and the reduction of social inequalities in the digital era. From the perspective of community education, digital literacy serves as an empowerment tool that enables individuals and communities to access learning resources, improve quality of life, and expand social and economic opportunities (Hanifah et al., 2024).

The theory of literacy as a social practice positions literacy not as a neutral entity, but as an activity shaped by social, cultural, and power contexts. Street emphasizes that literacy practices are always linked to social relations and cultural values present in society (Street, 2014). In the context of digital literacy, this approach is relevant because the use of technology cannot be separated from the norms, identities, and social structures of communities. Thus, the meaning of digital literacy in community educational empowerment needs to be understood through the subjective experiences and everyday practices of the community (Sogalrey, 2024).

From the perspective of empowerment theory, Freire views education as a process of liberation that enables individuals to become aware of their social reality and act to change oppressive conditions

(Freire, 2021). Digital literacy, within this framework, can be positioned as a pedagogical tool that strengthens critical consciousness and the social agency capacity of society. When society has adequate digital literacy, they not only become consumers of information but also producers of knowledge who are able to voice their aspirations and interests more broadly (Hanifah et al., 2024).

In the quantitative approach, digital literacy is often treated as an independent variable that influences dependent variables such as community empowerment, social participation, or learning quality (van Laar et al., 2017). The operational definition of digital literacy generally includes dimensions of technical competence, information literacy, digital communication, and digital security. Meanwhile, community education empowerment is operationalized through indicators such as increased access to learning, self-confidence, community participation, and the ability to make information-based decisions (Hanifah et al., 2024). The relationship between these variables shows that digital literacy contributes significantly to strengthening individual and collective capacities.

The first previous research was conducted by Setiadi (2023), who studied digital literacy among youth in the context of community empowerment in developing countries. The results of this qualitative study showed that although youths' technical skills were relatively adequate, the understanding of digital literacy as a tool for social empowerment was still limited. This study underscores the importance of a contextual approach in developing community-based digital literacy programs (Setiadi, 2023).

The second study by Prasastiningtyas (2024) evaluated a digital literacy program for marginalized community groups and found that community-based initiatives were able to improve participants' technological competence, self-confidence, and social participation (Prasastiningtyas, 2024). However, this study still focused on the program outcomes and did not delve deeply into the subjective process and meaning of digital literacy for the participants. The third study by Hanifah et al. (2024) examined a digital literacy education model in rural communities and concluded that the success of the program was highly influenced by social support and local culture (Hanifah et al., 2024).

Although various studies have discussed digital literacy and community empowerment, there are still theoretical and empirical gaps. Most research tends to be quantitative and focuses on measuring technical competencies, while qualitative exploration of the meaning, experiences, and social processes of digital literacy in community educational empowerment is still limited. Therefore, this study addresses this gap by using a qualitative approach based on literacy theory as a social practice and empowerment theory to understand how digital literacy is interpreted and internalized by the community.

Based on the description, the conceptual framework of this study integrates the concept of digital literacy as a social practice, Freire's educational empowerment theory (Freire, 2005), and UNESCO's perspective on digital literacy for sustainable development. This framework is used to analyze the relationship between digital literacy practices, community learning experiences, and the process of community educational empowerment. Thus, these theories serve as an analytical foundation in understanding digital literacy as a key to empowering community education in the local context under study.

## RESEARCH METHOD

This study uses a qualitative approach with a case study design to gain an in-depth understanding of how digital literacy is interpreted and practiced as a process of educational empowerment by the community members of PKBM Pelangi Sirimau in Ambon City. A case study was chosen because it allows the researcher to explore the phenomenon of digital literacy holistically within the natural context of a specific non-formal learning community, including social dynamics, learning practices, and the digital interactions of learners and PKBM tutors (Greenhalgh, 2021). The qualitative approach is relevant because the purpose of the research is to interpret meanings, experiences, and social processes that cannot be measured solely in quantitative terms (Lim, 2023). Thus, this design aligns with the research focus that emphasizes a contextual and interpretive understanding of digital literacy practices in the PKBM environment. Partisipan penelitian ditentukan melalui purposive sampling dengan kriteria: (a) warga belajar PKBM Pelangi Sirimau yang mengikuti kegiatan pembelajaran berbasis digital menggunakan teknologi dalam proses belajar, (b) tutor/fasilitator PKBM, dan (c) pengelola atau koordinator program literasi digital di PKBM. Teknik snowball sampling digunakan untuk reaching key informants who have specific experience in the development and utilization of digital literacy in PKBM. Data collection was carried out until information power was achieved, that is, when the data collected was sufficient to answer the research focus and showed a stable pattern (Malterud et al., 2020). Research ethics procedures are

implemented through participant consent (informed consent), protection of identity confidentiality, and granting participants the right to withdraw from involvement at any time during the study (Lim, 2023).

Data collection techniques were carried out through semi-structured interviews, participatory observation, and documentation. Semi-structured interviews were chosen because they provide the flexibility to explore the narratives of experiences, perceptions, and the meaning of digital literacy from the perspectives of learners, tutors, and PKBM managers in depth (Ruslin, 2022). The implementation of the interview follows the principles of planning, execution, and reflection so that the data obtained remains focused, rich, and sensitive to the local PKBM context (Demirci, 2024). Participatory observation was conducted to record the actual practice of technology use in learning activities, such as the use of gadgets, learning applications, and online information access by learners. Documentation includes PKBM learning modules, archives of digital literacy activities, photos of learning activities, and relevant digital artifacts. The combination of these three techniques is aimed at strengthening the triangulation of methods and sources (Ahmed, 2024).

Data validation was carried out through trustworthiness strategies, including source and method triangulation, member checking, and an audit trail. Triangulation was conducted by comparing findings from interviews, observations, and documents to test consistency and enrich data interpretation (Ahmed, 2024). Member checking was applied by returning the summary of initial findings to some PKBM participants to obtain clarification and confirmation of the accuracy of the meaning (Lloyd, 2024). The audit trail is prepared in the form of research process notes, analytical memos, as well as coding decisions and theme development to maintain the dependability and confirmability of the research (Arslan, 2023). In addition, the researcher applied reflexivity through field notes to minimize interpretive bias in analyzing the experiences of PKBM residents.

Data analysis was conducted using the interactive analysis model of Miles, Huberman, and Saldaña, which includes data collection, data condensation, data presentation, and cyclical drawing and verification of conclusions (Miles et al., 2020). At the stage of coding and theme development, this study applied thematic analysis with the following steps: data familiarization, initial coding, searching for themes, reviewing themes, defining and naming themes, and writing the analytical report. (Braun & Clarke, 2021). The integration of interactive models and thematic analysis allows for the traceability of the relationships between raw data, codes, themes, and conclusions, ensuring that the analysis process remains transparent and enabling limited replication according to qualitative research standards.

## RESULTS AND DISCUSSION

Analysis of interview data, participatory observation, and documentation of the residents of PKBM Pelangi Sirimau resulted in four main themes representing the meaning and patterns of digital literacy in the community education empowerment process, namely: (1) digital literacy as a means of opening learning access, (2) transformation of self-confidence and learning identity, (3) structural and cultural barriers in digital literacy practices, and (4) digital literacy as a space for social and economic participation. The first theme shows that digital literacy is understood by PKBM residents as a gateway to learning resources that were previously difficult to access. Most participants expressed that using gadgets and the internet helps them obtain learning information independently, especially for learners in Packages A, B, and C. Analysis of interview data, participatory observation, and documentation of residents at PKBM Pelangi Sirimau produced four main themes representing the meaning and patterns of digital literacy in the process of community education empowerment, namely: (1) digital literacy as a means to open access to learning, (2) transformation of self-confidence and learning identity, (3) structural and cultural obstacles in digital literacy practice, and (4) digital literacy as a space for social and economic participation.

The first theme shows that digital literacy is understood by PKBM residents as a gateway to learning resources that were previously difficult to access. Most participants revealed that the use of gadgets and the internet helps them obtain learning information independently, especially for learners in Packages A, B, and C. This is related to structural and cultural obstacles in digital literacy practices. Limited stable internet access, limited devices, and low basic skills of some learners are the main barriers. Observations also indicate an increase in the use of government applications for population and health administration. These findings affirm that digital literacy goes beyond merely an educational function and contributes to the socio-economic empowerment of residents. The findings of this study reinforce the

view that digital literacy is a social practice shaped by cultural context, social structures, and individual experiences, rather than merely a technical skill. The meaning of digital literacy as a means of accessing learning, reinforcing identity, and providing a space for social participation aligns with the theory of literacy as a social practice, which emphasizes that the use of technology is always related to social relations and community cultural values. In the context of PKBM Pelangi Sirimau, digital literacy is integrated into non-formal learning practices that are flexible and contextual.

The transformation of self-confidence and learning identity of PKBM residents reflects the dimension of empowerment as described in critical education theory. Digital literacy functions as a pedagogical tool that strengthens social agency and critical awareness among residents, especially in making learning decisions and independently utilizing information. These findings are in line with previous research which states that digital literacy enhances self-confidence, learning motivation, and social participation of marginalized communities.

From the perspective of obstacles, this study confirms that the digital divide is not only technical (internet access and devices) but also cultural and generational. Cultural norms that marginalize the role of technology for adult citizens create psychological barriers to adopting digital literacy. This aligns with previous studies that emphasize the importance of approaches based on local culture in implementing community-based digital literacy programs.

Findings on the use of digital literacy for economic activities and public services expand the understanding of the role of PKBM as a community empowerment center, not merely a non-formal education institution. Unlike some previous studies that focused more on the outcomes of technical skills, this study shows that the subjective meaning and everyday practices of digital literacy are in fact at the core of social and educational empowerment processes.

The practical implication of this research is the need for a digital literacy program design in PKBM that not only focuses on technical training but also on strengthening motivation, self-confidence, and contextual relevance for learners. An intergenerational and culturally-based approach needs to be developed to overcome cultural resistance to technology. In addition, sustainable digital infrastructure support is a key prerequisite for the success of digital literacy-based empowerment.

Theoretically, this study contributes to the enrichment of community-based digital literacy research by emphasizing the dimensions of meaning, identity, and social practices in the context of non-formal education. These findings fill the gap in previous studies that tended to focus solely on quantitative aspects and technical competencies. Through a qualitative approach, this research demonstrates that digital literacy is a complex and layered social process.

As a critical reflection, this study has limitations within the local context of PKBM Pelangi Sirimau, so the generalization of the findings should be done cautiously. Further research is recommended to explore digital literacy practices in other PKBMs or different communities in order to gain a broader comparative understanding. In addition, longitudinal studies could provide deeper insights into the long-term impact of digital literacy on educational and socio-economic empowerment of the community.

## **CONCLUSION**

This study shows that digital literacy plays a strategic role as a key to empowering community education in the context of PKBM Pelangi Sirimau residents in Ambon City. The main findings reveal that digital literacy is not only understood as a technical skill in using devices and the internet, but also as a means to open access to learning, strengthen self-confidence and learning identity, as well as expand spaces for social and economic participation of residents. Digital literacy practices integrated into non-formal learning activities have been proven to encourage the social agency of learners, increase learning motivation, and expand their ability to independently access sources of knowledge.

From a theoretical perspective, this study contributes to the enrichment of community-based digital literacy research by emphasizing that digital literacy is a social practice shaped by cultural context, social structures, and individual subjective experiences. These findings reinforce the perspective of literacy as a social practice and the theory of educational empowerment, which positions digital literacy as a contextual and reflective learning process, rather than merely the mastery of technical skills. Using a qualitative approach, this study fills a gap in the literature that previously tended to emphasize quantitative aspects and skill outcomes, by highlighting the dimensions of meaning, identity, and everyday practices in community educational empowerment.

Practically, the results of this study imply the importance of designing digital literacy programs in PKBM that not only focus on technical training but also on strengthening motivation, self-confidence, and contextual relevance for learners. Approaches based on local culture and intergenerational interaction need to be developed to overcome cultural and generational barriers to technology adoption. In addition, sustainable digital infrastructure support and adaptive tutor guidance are essential prerequisites for the success of digital literacy-based empowerment in non-formal education settings.

From a policy perspective, the findings of this study underscore the need for synergy between local governments, PKBM administrators, and local stakeholders in strengthening community-based digital literacy ecosystems. Inclusive and contextual digital literacy policies, especially for marginalized communities and areas with limited access to technology, are crucial to ensure equitable quality of non-formal education. Digital literacy programs also need to be systematically integrated into community education policies as part of human resource development strategies in the digital era.

As a reflection of its limitations, this study focuses on a single local context, so the generalization of its findings should be done cautiously. Therefore, further research is recommended to explore digital literacy practices in other PKBMs or different communities to gain a broader comparative understanding. Longitudinal studies are also needed to examine the long-term impact of digital literacy on educational empowerment and the socio-economic well-being of the community. In this way, this study is expected to serve as an initial foundation for the development of more sustainable and equitable community-based digital literacy research and practice.

## REFERENCES

- Ahmed, S. K. (2024). The Pillars of Trustworthiness in Qualitative Research. *Journal of Research Methodology*, 18(2), 85–98.
- Arslan, E. (2023). Validity and Reliability in Qualitative Research. *Educational Research Review*, 38, 100493.
- Braun, V., & Clarke, V. (2021). Conceptual and Design Thinking for Thematic Analysis. *Qualitative Research in Psychology*, 18(1), 3–26.
- Demirci, J. R. (2024). Conducting Better Qualitative Interviews. *Qualitative Research Journal*, 24(1), 15–27.
- Greenhalgh, T. (2021). *Case Studies: A Guide for Researchers, Educators, and Policy Makers* (2nd ed.). SAGE.
- Hanifah, H. T., Zahra, R. A., & Rachman, I. F. (2024). Model Pendidikan Literasi Digital pada Masyarakat Desa. *Jurnal Ilmiah Pendidikan Kebudayaan Dan Agama*, 4(2), 101–115.
- Hussain, N. (2024). Digital Literacy: Empowering Individuals in the Digital Age. *Journal of Assyfa*, 6(2), 45–58.
- Lim, W. M. (2023). What Is Qualitative Research? An Overview and Guidelines. *Journal of Business Research*, 162, 113845.
- Lloyd, N. (2024). To Member Check or Not to Member Check? An Evaluation of Trustworthiness Strategies. *Qualitative Research in Psychology*, 21(1), 1–15.
- Malterud, K., Siersma, V. D., & Guassora, A. D. (2020). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, 26(13), 1753–1760.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative Data Analysis: A Methods Sourcebook*. SAGE Publications.
- Ruslin. (2022). Semi-Structured Interview: A Methodological Reflection on Qualitative Data Collection. *IOSR Journal of Research & Method in Education*, 12(1), 22–29.
- Setiadi, D. (2023). Youth's Digital Literacy in the Context of Community Empowerment in an Emerging Society. *Society*, 11(1), 77–91.