BUILDING DIGITAL LITERACY CAPACITY TO SUPPORT LIFELONG LEARNING IN MARGINALIZED AREAS

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Abstract

The rapid advancement of information and communication technology (ICT) has transformed various sectors, including education, by emphasizing the importance of digital literacy as a fundamental skill. However, despite widespread technology adoption, significant digital divides persist, particularly in marginalized and rural areas where access to infrastructure, education, and resources remains limited. This study explores the development of digital literacy capacity as a foundation for lifelong learning in these underserved communities. Using a qualitative library research method, the study analyzes existing literature to identify challenges such as infrastructure gaps, socio-cultural barriers, and resource scarcity, as well as strategies to overcome them. Findings highlight the necessity of comprehensive, context-sensitive approaches involving infrastructure improvement, tailored training, stakeholder collaboration, and inclusive community engagement. Enhancing digital literacy capacity not only fosters independent learning and adaptability but also promotes social inclusion and economic opportunities, making it a critical pillar for inclusive and sustainable lifelong learning.

Keyword: Digital literacy, lifelong learning, digital divide, marginalized communities.

1. INTRODUCTION

The development of information and communication technology (ICT) has facilitated and improved efficiency in various fields, including education. In an age of advancing technology, the effective acquisition and use of digital information has become a skill known as digital literacy. These developments have had a major impact on various aspects of human life (Kusmayadi, 2015). In this era of digital technology, with the widespread ownership and use of technology, the digital divide remains a problem, especially for people in remote and rural areas. Because of this, people in these areas have difficulty utilizing technology, in this case, for learning and continuous self-development.

Disadvantaged and marginalized areas often face various limitations, such as inadequate communication and information networks, difficult access to telecommunications and the internet, and very low levels of education and knowledge about digital technology. This, in turn, leads to low levels of development and traps these areas in a cycle of technological backwardness, unable to keep up with developments in knowledge and skills.

Lifelong learning is an educational concept that emphasizes the process of learning throughout life and is not limited to formal education. This concept is particularly relevant for marginalized communities in rural areas that do not have access to formal education. With adequate digital literacy, they can learn independently through the internet, take online training courses, or join digital learning communities that can broaden their knowledge and skills. Therefore, the development of digital literacy in these areas requires not only access to technology, but also increased community effort and motivation to make optimal use of it. Various digital literacy programs and initiatives have been and are being carried out by the government, non-governmental organizations, and the business world to overcome the digital divide in marginalized areas. Behind these many layers, the remaining challenges are quite significant: a shortage of experienced instructors in the field of digital literacy, socio-cultural barriers to new digital technologies, and a general scarcity of resources. Therefore, a more flexible and comprehensive strategy that involves various stakeholders and supports the development of an adaptive, supportive, and learning-friendly community environment is essential (Liriwati et al., 2024).

In this context, this article aims to examine the development of digital literacy capacity, which is the basis for lifelong learning in marginalized areas. This discussion is to identify the issues faced, problems, and strategies for optimal digital literacy development. It is hoped that this will provide a comprehensive overview and input in efforts to accelerate digital inclusion and learning in underserved areas. Through efforts to improve digital literacy capacity, community members in marginalized areas

will not only be able to obtain and learn about a wider range of information, but also increase their learning independence, competitiveness, and open up various opportunities in many aspects. This is for the purpose of democratic access to education and human resource development, which are key to the social economy. Therefore, it is important to recognize and understand that digital literacy is one of the essential pillars of inclusive lifelong learning for all levels of society.

2. METHOD

This research uses a library research method with aqualitative approach. This method was chosen because the focus of the research is to examine and analyze the development of digital literacy capacity as the basis for lifelong learning in marginalized areas based on theoretical studies, previous research results, and relevant documents and literature.

The data used in this study was sourced from various secondary literature, such as books, scientific journals, articles, and other reliable sources discussing digital literacy, lifelong learning, and the digital divide in marginalized areas. Data collection was carried out through systematic documentation and literature review to obtain comprehensive and in-depth information

Data analysis was conducted using descriptive qualitative methods by organizing, interpreting, and synthesizing information from various sources. This approach enabled researchers to identify key issues, challenges, and effective digital literacy development strategies in the context of lifelong learning in rural and marginalized communities.

By using the literature review method, this study is expected to provide a strong theoretical foundation and a comprehensive overview of the importance of digital literacy capacity building as a key pillar in supporting inclusive and sustainable lifelong learning.

3. DISCUSSION

The development of digital literacy skills is crucial in supporting lifelong learning, especially in marginalized areas that have limited access and resources. Safitri et al. (2020) define digital literacy as an individual's ability to understand digital content. This is a form of progress in literacy that has emerged alongside technological developments. Meanwhile, according to Hidayat and Khotimah (2019), an important skill for shaping critical, creative, and adaptive individuals is the ability to filter, evaluate, and use digital information wisely (Cynthia & Sihotang, 2023).

Digital literacy not only includes skills in using technological devices, but also includes the ability to search for, assess, utilize, and create digital information in an effective and responsible manner. In the framework of lifelong learning, digital literacy serves as a connector that enables individuals to continue learning independently, adapt to change, and improve their quality of life.

3.1 Digital Literacy Challenges in Marginalized Areas

Marginalized areas, especially in rural and remote areas, often experience significant digital divides. Infrastructure limitations such as unstable or even unavailable internet networks, a lack of adequate technological devices, and low levels of formal education are major obstacles to the development of digital literacy.

The increasing number of internet users does not automatically solve the problem of access inequality. Data shows that internet penetration in urban areas reaches 69.5%, while in rural areas it is only around 30.5%. This difference shows that not all community groups have equal access to digital technology, which in turn can hinder their involvement in various aspects of life. This access inequality is influenced by a number of factors, including the availability of infrastructure, the economic capacity of the community, and government policies that do not fully support 3T (underdeveloped, frontier, and outermost) regions. These conditions make it difficult for people in these areas to access digital learning resources, which are increasingly abundant in today's information technology era (Widiasanti et al., 2025).

In addition, social and cultural factors also influence digital literacy levels. For example, a lack of understanding about the benefits of technology, fear of change, and social norms that do not support the use of new technology can hinder the adoption of digital literacy. These obstacles reinforce the cycle

of technological backwardness that makes it difficult for communities to catch up in terms of mastering new knowledge and skills.

3.2 The Role of Digital Literacy in Lifelong Learning

Lifelong learning emphasizes learning that knows no age limits and is not only focused on school and higher education (Hizbullah & Haidir, 2024). At this stage, digital literacy can help individuals access self-paced learning resources, participate in online training, and engage in digital learning communities. With good digital literacy, even underprivileged members of society can broaden their horizons, improve their human resources, and gain opportunities in education, employment, and business.

The achievement of digital literacy also helps to provide broader social and economic opportunities. For example, access to health information, public services, and activities in the digital economy can improve the welfare of the community. In other words, digital literacy contributes not only to personal development but also to community development and the reduction of social inequality.

Digital literacy equips individuals with the skills necessary to use various digital tools and technologies effectively. This proficiency is the foundation for innovation, as it allows people to explore and experiment with new technologies without fear.

One of the key elements of digital literacy is a commitment to continuous learning. With the rapid advancement of technology, digitally literate individuals tend to constantly update their knowledge in line with the latest developments and trends. This culture of continuous learning creates an environment that supports innovation, as employees are consistently exposed to new ideas and methods (Redhana, 2024).

3.3 Digital Literacy Capacity Building Strategy

In overcoming these challenges, a comprehensive and contextual digital literacy capacity building strategy is needed (Umar, 2022).

First, improving access to technological infrastructure is a crucial first step. The government and stakeholders need to expand internet networks and provide affordable technological facilities in marginalized areas. Programs to provide digital devices such as computers, tablets, or smartphones can also help reduce access barriers.

Second, human resource development through digital literacy training and education is very important. This training must be tailored to the needs and characteristics of the local community, using language and methods that are easy to understand. In addition, training should not only be aimed at end users, but also at local facilitators or instructors who can become agents of change in their communities.

Third, building a supportive learning ecosystem is key to success. This includes strengthening networks between stakeholders, such as the government, educational institutions, civil society organizations, and the private sector. This collaboration can create an adaptive, supportive, and conducive environment for digital learning. For example, developing local learning platforms that are relevant to the cultural context and community needs can increase interest and participation in learning.

Fourth, overcoming social and cultural barriers through a participatory and inclusive approach. Involving community leaders, traditional leaders, and women's groups in the process of developing digital literacy can help reduce resistance and increase acceptance of new technologies. Education about the benefits of digital literacy also needs to be delivered on an ongoing basis to maintain people's motivation to learn.

4. CONCLUSION

4.1 Conclusion

The development of digital literacy capacity is a crucial aspect in supporting lifelong learning, especially in marginalized areas that face various limitations in access and resources. Digital literacy not only includes technical skills in using technological devices, but also the ability to search for, assess, utilize, and create digital information effectively and responsibly. The main challenges faced include infrastructure access inequality, low education levels, and social and cultural barriers.

Therefore, digital literacy development strategies must be comprehensive and contextual, involving increased technology access, human resource training, the development of a supportive learning

ecosystem, and a participatory approach to overcoming socio-cultural barriers. In this way, digital literacy can become a key pillar in realizing inclusive and sustainable lifelong learning, opening up opportunities for people in marginalized areas to improve their quality of life and socio-economic welfare.

4.2 Recommendations

The government and stakeholders need to accelerate the development of technological infrastructure in marginalized areas to reduce the digital divide.

Digital literacy training programs must be tailored to local needs and involve facilitators from the local community to be more effective and sustainable.

Close collaboration between the government, educational institutions, community organizations, and the private sector is needed to create an adaptive and supportive digital learning ecosystem.

A participatory approach involving community leaders and vulnerable groups should be prioritized to overcome social and cultural barriers to digital technology adoption.

Ongoing education about the benefits of digital literacy is necessary to maintain high levels of community motivation and participation in digital learning.

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