

Community Education Roadmap to Support Society 5.0

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Submitted: June 9, 2025. July 11, 2025. Accepted: January 10, 20266.

Abstract

Background - The rapid development of technology in the Society 5.0 era demands transformative changes in community education to create a digitally inclusive and sustainable society.

Research Urgency - Existing community education systems still face gaps in preparing individuals to adapt to technological transformation. Therefore, structured strategies are needed to empower communities through digital literacy, entrepreneurial skills, and adaptive competencies.

Research Objectives - This article explores the design and implementation of a roadmap for community education aimed at equipping individuals with digital literacy, entrepreneurial skills, and adaptive competencies.

Research Method - The research employs a mixed-method approach, including surveys, focus group discussions, and case studies, to assess the needs and potential of communities.

Research Findings - The findings highlight the critical role of digital infrastructure, capacity building for educators, and innovative learning models in fostering inclusive and effective education. The roadmap is structured into five phases: assessment, infrastructure development, capacity building, innovative learning implementation, and evaluation. This structured approach addresses existing gaps and provides actionable strategies to empower communities in embracing technological advancements.

Research Conclusion - The results underline the importance of collaboration among stakeholders, including governments, private sectors, and local organizations, in ensuring the roadmap's success.

Research Novelty/Contribution - Ultimately, the roadmap offers a strategic framework to prepare communities for the challenges and opportunities of Society 5.0, contributing to a more equitable and resilient society.

Keywords: community education; digital literacy; entrepreneurial skills; society 5.0.

How to Cite:

Ansori, A., Estherlita, T., & Rukanda, N. (2026). Developing a Community Education Roadmap for Society 5.0: A Mixed-Methods Study on Digital Literacy and Entrepreneurial Skills. *Journal of Nonformal Education*, 12(1), 181-193. <https://doi.org/10.15294/jone.v12i1.27009>

INTRODUCTION

Society 5.0, a concept first introduced by Japan, represents a progressive step in social evolution that integrates advanced technology with human life to create a more inclusive and sustainable society (Deguchi et al., 2020; Narvaez Rojas et al., 2021; Yatimah et al., 2024). This concept aims to address global challenges such as social inequality, rapid urbanization, and digital transformation by leveraging technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data. In this context, community education plays a strategic role in ensuring that all individuals, including vulnerable groups, have access to the necessary skills to participate in this new era. Therefore, a structured and relevant roadmap for community education is essential to prepare communities for the challenges and opportunities presented by Society 5.0.

Community education is a lifelong learning process designed to enhance individuals' capacities to understand, adapt to, and contribute to their environment (Ansori et al., 2024; Merriam & Baumgartner, 2020; Mitchell & Sickney, 2019). This form of education is often community-based and primarily focuses on groups that are underserved by formal education systems (Blossfeld & Von Maurice, 2019; Burns, 2020). In the context of Society 5.0, community education must evolve to integrate digital literacy, innovation skills, and social awareness in order to respond to rapid technological and social changes. Such transformation requires learning models that are more inclusive, participatory, and technology-based. Digital literacy refers to the ability to understand, use, and critically evaluate information obtained through digital technologies, which has become a fundamental competency in the Society 5.0 era where many aspects of human life are interconnected with technology. In community education, digital literacy encompasses not only technical skills but also ethical considerations, security awareness, and the social impact of technology (Darmawan et al., 2025; Nugroho et al., 2024). However, many existing community education programs still lack structured strategies that integrate these competencies within a comprehensive framework to support community empowerment in the digital era. Therefore, it is important to develop a systematic roadmap that can guide the transformation of community education to better address the challenges and opportunities of Society 5.0.

Social entrepreneurship is an innovative approach to addressing social problems by applying entrepreneurial principles to create social value and sustainable community development (Bozhikin et al., 2019; Kickul & Lyons, 2020; Ansori et al., 2023). In the era of Society 5.0, technology-based social entrepreneurship has become an important strategy for improving community well-being by utilizing digital innovation to address social and economic challenges. Community education can play a catalytic role in fostering a social entrepreneurship ecosystem through skills development, access to resources, and collaboration among multiple stakeholders. At the same time, digital transformation has fundamentally changed how individuals learn, work, and interact through the increasing use of digital technologies. Within community education, this transformation involves the adoption of online learning platforms, the use of digital data to understand community needs, and the integration of technology to enhance participation and inclusion (Sari et al., 2024). Through these efforts, community education can become more responsive, efficient, and relevant to contemporary societal needs.

Despite the opportunities offered by the concept of Society 5.0, several challenges remain in its implementation, particularly in the field of community education. One of the major issues is the digital divide between urban and rural communities, which limits equitable access to technology and digital learning resources. In addition, limited digital literacy among many community members reduces their ability to utilize technological opportunities effectively. Existing community education programs also often lack innovation and entrepreneurship components that align with current socio-economic demands. Furthermore, constraints related to infrastructure, funding, and human resource capacity continue to hinder the implementation of technology-based education initiatives.

Previous studies have emphasized the important role of community education in improving the social and economic well-being of communities. For example, Statti & Torres, (2020) found that technology-based

education programs can significantly enhance digital literacy and economic participation in rural communities. Similarly, Donnison (2022) highlighted that community-based social entrepreneurship can contribute to addressing unemployment and reducing social inequality. However, existing studies tend to examine these aspects separately, and there remains limited research that integrates community education, digital literacy, social entrepreneurship, and digital transformation within a comprehensive framework for responding to the challenges of Society 5.0. Therefore, this study seeks to address this research gap by developing a comprehensive roadmap for community education in the digital era. Based on this background, the objectives of this study are: (1) to identify the needs and challenges of community education in the Society 5.0 era; (2) to design a community education roadmap that integrates digital literacy, social entrepreneurship, and digital transformation; (3) to develop an inclusive and participatory learning model to support community empowerment; and (4) to evaluate the potential impact of the proposed roadmap on community participation and well-being.

The significance of this research lies in its contribution to developing relevant strategies for empowering communities in an increasingly digitally connected era. Through the development of a structured roadmap, community education can serve as an effective instrument to address the digital divide, strengthen innovation skills, and promote inclusive participation in the Society 5.0 era. Furthermore, the findings of this study are expected to provide practical guidance for policymakers, educators, and community leaders in designing community education programs that respond to technological and socio-economic transformations. To develop the proposed roadmap, this study employed a mixed-methods approach combining quantitative and qualitative techniques. Quantitative data were collected through a structured survey designed to measure community readiness in terms of digital literacy, entrepreneurial skills, and adaptive competencies. The survey involved 150 participants representing educators, entrepreneurs, and local community leaders from several regions in Indonesia. Participants were selected using purposive sampling to ensure that respondents possessed relevant experience related to community education and local development initiatives.

In addition to the survey, qualitative data were gathered through focus group discussions (FGDs) and case studies to explore community perspectives, challenges, and opportunities related to community education in the Society 5.0 era. The FGDs involved representatives of educators, local leaders, and community members, allowing the researchers to capture diverse insights regarding digital learning needs and community empowerment strategies. Case studies were also conducted to analyze existing community education initiatives that integrate digital technology and entrepreneurship-based learning. The collected quantitative data were analyzed using descriptive statistical techniques to identify patterns related to digital literacy levels, entrepreneurial capacity, and adaptive competencies among respondents. Meanwhile, qualitative data obtained from focus group discussions and case studies were analyzed using thematic analysis to identify key themes related to challenges, opportunities, and strategic priorities in community education development. To ensure the validity and reliability of the findings, methodological triangulation was applied by comparing results from surveys, FGDs, and case studies.

Figure 1 illustrates the conceptual roadmap developed in this study to support the transformation of community education in the Society 5.0 era.

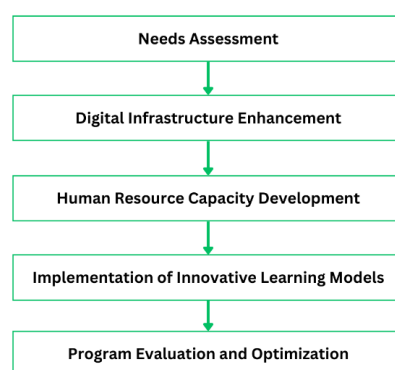


Figure 1. Diagram Flow (Roadmap of Community Education to Support Society 5.0)

The roadmap consists of several sequential stages. The first stage, needs assessment, aims to identify the specific challenges and educational requirements of communities in preparing for the Society 5.0 era. This stage was conducted through surveys and focus group discussions to capture community perspectives and readiness levels. The second stage focuses on strengthening digital infrastructure to support inclusive access to technology-based learning resources. The third stage emphasizes human resource capacity development by providing training for educators and community leaders in the use of digital tools and innovative teaching methods. The fourth stage involves the implementation of innovative learning models that integrate interactive, participatory, and technology-based learning strategies to enhance community engagement. Finally, the program evaluation and optimization stage is conducted through periodic assessments using survey feedback and qualitative reflections to measure program effectiveness and identify areas for improvement. Through this systematic methodological approach, the study aims to ensure that the proposed roadmap is empirically grounded, contextually relevant, and applicable for strengthening community education systems in the Society 5.0 era.

METHODS

This study applied a mixed-methods approach to explore the needs and potential of community education in supporting the transition to the Society 5.0 era. The integration of quantitative and qualitative methods enables researchers to capture both measurable trends and contextual insights related to digital literacy, entrepreneurship, and community empowerment (Creswell & Plano Clark, 2023; Fetters et al., 2013; Johnson et al., 2007).

Research design

This study employed an exploratory mixed-methods design to investigate community readiness and challenges in the Society 5.0 era. Mixed-methods research allows the integration of quantitative measurement with qualitative exploration to better understand complex educational and social issues (Ivankova & Wingo, 2018). Participants consisted of 150 individuals representing educators, entrepreneurs, and community leaders from several regions in Indonesia. Respondents were selected using random sampling to ensure adequate representation of stakeholders involved in community education initiatives (Etikan et al., 2016; Sharma, 2017; Taherdoost, 2016).

Data collection techniques and Validation

Data were collected through surveys, focus group discussions (FGDs), and case studies to ensure methodological triangulation. Quantitative data were obtained through an online survey measuring digital literacy, entrepreneurial skills, and adaptive competencies using a five-point Likert scale (Boone Jr & Boone, 2012; Joshi et al., 2015; Taherdoost, 2019).

Qualitative data were collected through FGDs involving educators, entrepreneurs, and community leaders to explore challenges and expectations regarding community education in the Society 5.0 era. FGDs are effective for generating shared perspectives and in-depth insights in community-based research (Krueger & Casey, 2015; Morgan, 2018; O. Nyumba et al., 2018). Case studies were also conducted to examine existing educational initiatives that could inform the development of the proposed roadmap. To ensure credibility and reliability, methodological triangulation was applied by comparing data obtained from surveys, FGDs, and case studies (Patton, 2014). Ethical considerations were addressed by informing participants about the research purpose, ensuring voluntary participation, and maintaining confidentiality through informed consent.

Data Analysis

Quantitative survey data were analyzed using descriptive statistics to summarize respondents’ digital literacy, entrepreneurial skills, and adaptive competencies (Hair Jr et al., 2019; Pallant, 2020). Qualitative data from FGDs and case studies were analyzed using thematic analysis involving coding, categorization, and identification of key themes related to digital infrastructure, educator capacity, and innovative learning models (Braun & Clarke, 2006; Nowell et al., 2017; Vaismoradi et al., 2016). The integration of quantitative and qualitative findings provided a comprehensive basis for formulating recommendations and developing a community education roadmap to support the Society 5.0 transition.

RESULTS AND DISCUSSION

Community Readiness for Society 5.0: Digital Literacy, Entrepreneurial Skills, and Adaptive Competence

To examine community readiness in facing the challenges of the Society 5.0 era, a survey was conducted involving 150 respondents representing educators, entrepreneurs, and local community leaders from various regions in Indonesia. The distribution of participants and the quantitative assessment of key competencies including digital literacy, entrepreneurial skills, and adaptive competence are presented in Table 1 to Table 4. The composition of research participants is presented in Table 1.

Table 1. Participant Composition

Community Segment	Number of Participants	Percentage (%)
Educators	50	33.3%
Entrepreneurs	50	33.3%
Local Leaders	50	33.3%
Total	150	100%

The level of respondents’ digital literacy is summarized in Table 2.

Table 2. Digital Literacy

Score	Number of Respondents	Percentage (%)
Very Low	15	10%
Low	35	23.3%
Moderate	45	30%
High	50	33.3%
Very High	5	3.4%
Total	150	100%

The distribution of entrepreneurial skills among respondents is shown in Table 3.

Table 3. Entrepreneurial Skills

Score	Number of Respondents	Percentage (%)
Very Low	25	16.7%
Low	45	30%
Moderate	50	33.3%
High	30	20%
Very High	0	0%
Total	150	100%

Table 4 presents respondents' adaptive competence in responding to rapid technological and social changes.

Table 4. Adaptive Competence

Score	Number of Respondents	Percentage (%)
Very Low	20	13.3%
Low	45	30%
Moderate	35	23.3%
High	40	26.7%
Very High	10	6.7%
Total	150	100%

The survey results involving 150 respondents representing educators, entrepreneurs, and local community leaders (Table 1) provide an overview of community readiness to respond to the challenges of the Society 5.0 era. The distribution of respondents across three community segments indicates balanced representation, allowing the findings to reflect diverse perspectives related to community education and local development. The results in Table 2, Table 3, and Table 4 show that most respondents demonstrate moderate to high levels of digital literacy, entrepreneurial skills, and adaptive competence. These findings suggest that communities already possess a basic foundation for participating in the digital transformation associated with Society 5.0. However, the presence of respondents with low competency levels in these three aspects indicates that significant gaps still exist and require targeted interventions.

From a theoretical perspective, these findings support the concept of human-centered digital transformation proposed in the Society 5.0 framework, which emphasizes the importance of developing human capabilities alongside technological advancement (Carayannis & Morawska-Jancelewicz, 2022; Fukuda, 2020). Digital literacy, entrepreneurial skills, and adaptive competence are considered key competencies enabling individuals to participate productively in a digital economy (Hanna, 2020; Zhang et al., 2023). In the context of community education, strengthening these competencies allows communities not only to access digital technologies but also to utilize them to create social and economic value. The survey findings also correspond with the objectives of this research, which aim to identify the needs and challenges of community education in the Society 5.0 era. The presence of competency gaps highlights the importance of developing structured community education programs that integrate digital literacy, entrepreneurship, and adaptive learning approaches.

Digital Infrastructure as a Foundation for Community Education Transformation

To obtain deeper insights into community perspectives regarding digital infrastructure and learning needs in the Society 5.0 era, focus group discussions were conducted involving 30 participants representing educators, entrepreneurs, and local community leaders. The analysis of FGD transcripts revealed several key

themes related to digital infrastructure accessibility, digital literacy training, and the need for collaborative learning platforms. These themes are summarized in table 5.

Table 5. Key Themes from Focus Group Discussion on Digital Infrastructure Needs

Theme	Key Findings	Illustrative Insights from FGD	Implications for Community Education
Limited internet access	Many communities, especially in rural areas, experience unstable or slow internet connections	Participants reported difficulties accessing online learning resources due to poor connectivity	Expansion of internet infrastructure is necessary to support digital learning
Digital literacy training needs	Community members expressed the need for training in digital skills	Participants emphasized that digital literacy training would help them utilize technology more effectively	Community education programs should integrate digital literacy training modules
Affordability of digital devices	Many participants indicated that digital devices remain expensive for low-income communities	Several participants suggested subsidized devices or community digital learning centers	Policy support is needed to provide affordable technology access
Importance of community learning platforms	Participants highlighted the need for accessible digital learning platforms	Community members recommended blended learning platforms that combine online and offline learning	Development of community-based e-learning platforms
Multi-stakeholder collaboration	Participants emphasized collaboration between government, private sector, and local organizations	Respondents suggested partnerships to improve infrastructure and training programs	Strengthening partnerships for sustainable community education programs

Qualitative findings from focus group discussions involving 30 participants highlight the critical role of digital infrastructure in supporting community education development. Many participants emphasized that limited access to high-speed internet and affordable digital devices remains a major barrier to participating in digital learning initiatives. Approximately 70% of participants reported difficulties accessing stable internet connections, particularly in rural areas.

These findings are consistent with previous studies emphasizing that digital infrastructure is a prerequisite for inclusive digital transformation. The concept of open access highlights that equitable access to digital technology is essential for enabling participation in education, innovation, and economic development (Alamoudi et al., 2020; Suber, 2012). Without adequate infrastructure, digital learning initiatives cannot be implemented effectively, particularly in community-based education settings (Darmawan et al., 2023; Rahma et al., 2019).

Furthermore, research on the digital economy indicates that communities with better technological infrastructure are more capable of adapting to technological change and participating in knowledge-based economies (Hanna, 2020; Zhang et al., 2023). In the context of Society 5.0, improving digital infrastructure therefore becomes a strategic step toward ensuring that technological innovation contributes to inclusive social development rather than widening existing inequalities (Carayannis & Morawska-Jancelewicz, 2022). The qualitative evidence obtained from FGD transcripts reinforces this perspective, as participants repeatedly emphasized that infrastructure improvement must accompany educational programs to ensure that digital literacy initiatives can be implemented effectively.

Strengthening Educator Capacity in Community-Based Learning

Another key finding emerging from both the survey and focus group discussions is the importance of strengthening educator capacity in community education institutions. Approximately 80% of participants highlighted the need for training programs that improve educators' digital literacy and their ability to integrate technology into learning processes. This finding aligns with the professional development theory, which emphasizes that continuous training and capacity building are necessary for educators to adapt to changing educational environments (MacPhail et al., 2019; Smith & Gillespie, 2023). In the context of digital learning environments, educators must not only understand technological tools but also be able to design interactive learning experiences that encourage active participation.

Research on digital pedagogy also highlights the importance of integrating technology into curriculum design to enhance learning engagement and knowledge creation (Falloon, 2020; Mielikäinen, 2022). Communities require educators who can act as facilitators of digital learning rather than merely transmitters of knowledge. The case study findings further confirm that community education programs that invest in educator training tend to demonstrate higher levels of participant engagement and learning effectiveness. These findings suggest that educator capacity development should become a central component of community education strategies in the Society 5.0 era.

Innovative Learning Models for Inclusive Community Education

To explore effective learning strategies for community education in the Society 5.0 era, focus group discussions were conducted involving educators, entrepreneurs, and community leaders. The discussions revealed several learning approaches considered effective in strengthening digital literacy and community participation. These community preferences for innovative learning models are summarized in table 6.

Learning Model	Key Findings from FGD	Percentage of Participant Support	Implications for Community Education
Blended learning	Participants suggested combining face-to-face learning with digital platforms to increase flexibility and accessibility	90%	Supports flexible and inclusive learning environments in community education
Digital literacy integrated curriculum	Participants recommended integrating digital literacy and entrepreneurship into learning modules	70%	Encourages development of digital and entrepreneurial competencies
Project-based learning	Participants highlighted the importance of learning through real community projects	65%	Strengthens problem-solving skills and practical knowledge
Community-based collaborative learning	Participants emphasized collaborative learning among community members and stakeholders	80%	Promotes participatory and socially relevant learning processes
Technology-supported learning platforms	Participants recommended the use of online platforms for training and mentoring programs	75%	Expands access to educational resources and supports lifelong learning

The focus group discussions also revealed strong support for the adoption of innovative learning models. Approximately 90% of participants supported the use of blended learning approaches, while 70% recommended integrating digital literacy and entrepreneurship into community education curricula. From a theoretical perspective, these findings correspond with innovative learning theory, which emphasizes

flexible, technology-supported learning environments that promote collaboration and active learner engagement (Benade, 2019; Castro, 2019). Blended learning models combine face-to-face interaction with digital learning platforms, allowing learners to access educational resources more flexibly (Arbarini et al., 2022; Siswati et al., 2020).

Studies on digital learning environments also show that technology-integrated learning models can significantly improve learner participation and knowledge construction (Kim & Maloney, 2020; Mourtzis et al., 2022). In community education settings, these approaches are particularly relevant because participants often come from diverse educational backgrounds and require flexible learning opportunities. The qualitative findings from this study further indicate that innovative learning models can strengthen community empowerment by encouraging collaborative problem solving and digital creativity. By integrating entrepreneurship training into digital learning programs, communities can develop practical skills that support both economic development and social innovation.

Developing a Community Education Roadmap for Society 5.0

Based on the integration of quantitative survey results and qualitative findings from focus group discussions, this study proposes a conceptual framework for community education development in the Society 5.0 era. The framework illustrates how empirical findings are translated into strategic educational interventions that ultimately contribute to community empowerment and inclusive digital transformation.

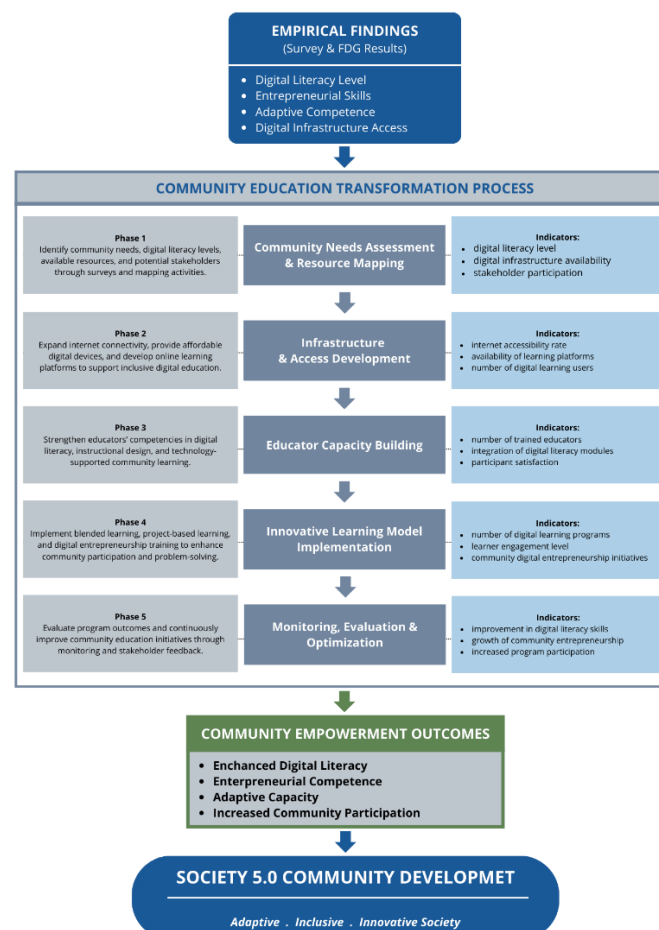


Figure 2. Society 5.0 Community Education Framework

Based on the integration of quantitative survey results, focus group discussions, and case study analysis, this study proposes a structured roadmap for community education development in the Society 5.0

era (Figure 2). The roadmap consists of five interconnected phases. The first phase, initial assessment and mapping of community potential, focuses on identifying digital literacy levels, community needs, and potential collaboration partners. This stage is essential for ensuring that educational programs are designed according to local contexts.

The second phase emphasizes digital infrastructure development, including the expansion of internet access, provision of digital devices, and development of community-based digital learning platforms. The third phase focuses on human resource capacity strengthening, particularly through training programs for community educators and development of learning modules integrating digital literacy and entrepreneurship. The fourth phase involves the implementation of innovative learning models, including blended learning approaches, technology-based simulations, and community entrepreneurship projects. These learning activities aim to foster creativity, collaboration, and digital problem-solving skills.

Finally, the fifth phase emphasizes program evaluation and optimization. At this stage, program effectiveness is assessed using measurable indicators such as improvements in digital literacy competencies, participation rates in community education programs, and the development of local digital entrepreneurship initiatives. This roadmap reflects the integration of empirical findings from the study and theoretical perspectives on digital transformation, community empowerment, and innovative education. By combining infrastructure development, educator capacity building, and innovative learning models, the roadmap provides a strategic framework for strengthening community education systems in the Society 5.0 era.

CONCLUSION

The findings of this study indicate that the development of digital infrastructure is a fundamental foundation for strengthening community participation in the Society 5.0 era, particularly through equitable internet access and improved digital learning facilities. In addition, enhancing educators' capacity in digital literacy and information technology is crucial for creating effective and relevant learning environments in community education. The results also highlight the importance of implementing innovative learning models, such as blended learning and technology-supported learning approaches, which can increase community engagement and improve learning outcomes. These findings support theoretical perspectives related to open access, professional development, and adaptive learning as essential components of educational transformation in the digital era. Based on these findings, this study proposes a community education roadmap that integrates digital infrastructure development, educator capacity building, and innovative learning implementation to support inclusive and adaptive learning systems in the Society 5.0 era. However, this study has several limitations, including the limited number of participants and the focus on descriptive analysis within specific community contexts, which may limit the generalizability of the findings. Therefore, future research is recommended to involve larger and more diverse samples and to apply more comprehensive analytical approaches to examine the long-term impact of community education programs. Furthermore, the findings of this study provide practical implications for policymakers and educational institutions to design strategies that strengthen digital inclusion, educator training programs, and community-based learning initiatives to support sustainable development in the Society 5.0 era.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the Master's Program in Community Education, IKIP Siliwangi, for the academic support provided during this research. The authors also thank the editorial team of the Journal of Nonformal Education, Universitas Negeri Semarang, as well as all educators, entrepreneurs, and community leaders who contributed valuable insights to this study.

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