Tutor Empowerment in the Non-Formal Education Ecosystem: A Digital Multimodal Based Entrepreneurship Development Model for Economic Independence

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Abstract

Background – Amid Indonesia's structural employment challenges and rapid digital disruption, Pendidikan Nonformal (PNF) holds a crucial role in strengthening community skills, particularly in digital readiness and entrepreneurship. However, the effectiveness of PNF programs depends heavily on the capacity of tutors to design learning that is technologically adaptive and multimodally engaging. This study is motivated by the increasing urgency to enhance tutor competence so that PNF remains relevant in the evolving digital economy.

Research Urgency – Many PNF tutors still face limitations in digital literacy, instructional design, and multimodal pedagogy. These shortcomings can hinder entrepreneurship learning outcomes, widen skill gaps, and reduce program relevance. Therefore, empowering tutors is a strategic necessity for ensuring the sustainability and effectiveness of PNF services.

Research Objectives – Describe the implementation of a tutor empowerment model aimed at improving digital and multimodal pedagogical skills; analyze the impact of empowerment on tutor roles, learning practices, and student engagement in entrepreneurship education.

Research Method – This study employed a qualitative case study approach. Data was collected through in-depth interviews, participatory observations, and documentation, and analyzed using the Miles and Huberman interactive model.

Research Findings – The empowerment program successfully upgraded tutors' digital and pedagogical capabilities, shifting their roles from traditional instructors to digital learning architects who design interactive, multimodal learning experiences. This transformation enhanced student motivation, participation, and foundational digital entrepreneurship skills.

Conclusion – Tutor empowerment emerges as a core determinant of PNF effectiveness in the digital era. Strengthened tutor competence promotes deeper learning interactions, improves the relevance of entrepreneurship tasks, and enhances learner readiness for digital economic participation. Yet, sustaining these innovations requires systemic institutional support, stable employment frameworks, and affirmative policies addressing the longstanding precarity of PNF educators.

Research Contribution – This study offers a novel empirical contribution by linking empowerment processes, multimodal pedagogy, and entrepreneurship learning within PNF, providing actionable insights for policymakers and institutions.

Keywords: Problems, Strengthening Strategy, Skills Listening, Learning Indonesian

INTRODUCTION

Human resource development in Indonesia faces two interrelated challenges: a fragile workforce structure and a persistent skills gap amid the flow of digital transformation. Data from the Central Statistics Agency (BPS) shows the reality of the job market dominated by the informal sector. By February 2025, as many as 86.58 million people, or more than half of the workforce of 153.05 million, worked in the informal sector (Gayatri et al., 2023). This dominance indicates the limited capacity of the formal sector to absorb labor, as well as reflecting the economic vulnerability faced by most Indonesian workers who lack social protection and security.

Ironically, graduates from formal education systems, including vocational education designed to produce a ready-made workforce, face great hardship. The Open Unemployment Rate (TPT) for Vocational High School (SMK) graduates is the highest, reaching 8.62% in February 2024 (Rahmadhani et al., 2022). This figure indicates a significant mismatch between the competencies produced by formal education institutions and the dynamic needs of the industrial world. On the other hand, the problem of poverty remains a crucial agenda, where in March 2025, there are still 23.85 million people living below the poverty line (Lyons et al., 2022).

This condition is complicated by technological disruptions that fundamentally change the economic landscape. The demand for digital skills continues to increase, while many existing workforces do not have adequate competencies to adapt (Huynh et al, 2024). The systemic failure of formal education to respond to this pace of change creates a crucial empty space. It is in this context that Non-Formal Education (PNF) can no longer be seen as a secondary alternative, but rather as an urgent strategic response to bridge the skills gap and empower society. Table 1 summarizes the socio-economic and educational landscape that is the background for the urgency of this research.

Table 1. Socio-Economic and Educational Landscape in Indonesia

Indicators	Data	Source
Total Labor Force (Feb 2025)	153.05 million people	1
Workers in the Informal Sector (Feb 2025)	86.58 million people (56.57%)	1
TPT Vocational School Graduates (Feb 2024)	8,62%	2
Poor Population (Mar 2025)	23.85 million people (8.47%)	3
Number of PNF Boards (PKBM & SKB, 2024)	10,896 institutions	5

Non-Formal Education (PNF), as mandated in Law Number 20 of 2003 concerning the National Education System, is organized as a substitute, supplement, and/or complement to formal education to support lifelong education (Marzuki, 2022). In contrast to formal education which is rigidly structured, PNF has the characteristics of flexibility and high adaptability. PNF programs, which are often organized by Community Learning Activity Centers (PKBM) and Learning Activity Centers (SKB), are designed to respond to the specific and contextual needs of the target community.

These characteristics make PNF a strategic instrument to overcome the problem of unemployment and poverty (Jayaram, 2023). PNF can quickly develop programs that are oriented towards acquiring functional skills and life skills needed by the job market or to start an independent business (Ayres et al., 2021). Thus, PNF serves as a bridge for individuals who have dropped out of school, never received formal education, or formal education graduates whose skills are no longer relevant, to improve their quality of life and economic competitiveness. PNF is not just a "second class" education system, but an ecosystem of "second chances" and "right skills" that are essential for the development of the nation.

Within the framework of PNF, entrepreneurship education emerged as one of the most effective economic empowerment paradigms. Instead of just printing job seekers, entrepreneurship education aims to grow job creators. This approach fundamentally changes the mindset of students from dependence to independence. The goal is to instill entrepreneurial values, knowledge, and attitudes such as innovation, creativity, courage to take risks, and independence (Arta et al., 2023).

Entrepreneurship education in the context of PNF directly addresses the root of the unemployment problem by equipping individuals to create their own sources of income. This is in line with the theory of community empowerment, which emphasizes the process of strengthening the community's internal capacity to solve their own problems. Empowerment through entrepreneurship is not just the transfer of technical skills, but also the process of building agency and economic resilience at the individual and community level (Hermawan, 2025).

The digital era presents a wave of disruption that demands an evolution in the approach to entrepreneurship education. Conventional business models are increasingly being displaced by the dynamic digital ecosystem. Therefore, modern entrepreneurship cannot be separated from digital literacy and competence. Concepts such as digital marketing, e-commerce, and the use of social media are no longer an option, but a must to survive and grow.

This demand has direct implications for the pedagogical aspect. Traditional teaching methods that tend to be monologue and text-based are no longer adequate to equip learners with complex and applicable digital skills. This is where the urgency of implementing multimodal pedagogy becomes very relevant. Multimodal learning is an approach that consciously integrates various modes of communication—such as text, images, audio, video, gestures, and interactive elements—to convey meaning (Haddox et al., 2023). Research shows that the multimodal approach significantly improves learners' motivation, engagement, and understanding because it reflects the way humans communicate naturally in the media-rich contemporary world. Thus, effective entrepreneurship education in this era must be based on digital multimodal, namely teaching business concepts through direct practice using various digital platforms and media.

The key factors that determine the success of any pedagogical innovation in PNF are the educators, who are known by various designations such as tutors, learning teachers, or facilitators (Badau, 2023). They are the ones who are at the forefront, interacting directly with learners and translating the curriculum into meaningful learning experiences. However, ironically, these PNF educators are actually the most vulnerable and often overlooked component of the national education system.

A great paradox looms over the PNF in Indonesia: high demands are placed on the shoulders of educators who have the least support. In contrast to teachers in the formal pathway, PNF tutors often face unclear employment status, lack of career paths, low levels of well-being, and limited access to recognized professional development programs and certifications (Shield, 2022). They are required to be innovative, adaptive, and able to handle students with very diverse backgrounds, but without adequate institutional support.

This gap creates a fundamental challenge. Efforts to introduce advanced technologies and learning methods will be in vain if the educators themselves are not empowered first. The real digital divide is not just about the availability of hardware or internet access, but the pedagogical gap. That is, the gap between the demand to teach in new ways and the capacity of educators to design and implement effective and meaningful digital learning. Therefore, tutor empowerment—through training, mentoring, and recognition—is an absolute prerequisite for student empowerment. The intervention carried out in Ungaran Regency, which is the focus of this study, is a micro effort to answer these macro challenges.

Based on the background that has been described, it can be seen that there is an urgent need for an entrepreneurial education model that is relevant to the digital era, but its implementation is hampered by the condition of PNF educators who are not yet empowered. Thus, the formulation of the problem in this study is: How can a tutor-focused empowerment program, using a digital multimodal-based entrepreneurship approach, effectively improve tutor competencies and ultimately foster relevant entrepreneurial skills among PNF students?

In line with the formulation of the problem, this study has the following objectives: To describe the implementation and process of a digital multimodal entrepreneurship training program specifically designed for PNF tutors in Ungaran Regency. Analyze the impact of the training program on pedagogical

practice, self-confidence, and the role of tutors in facilitating learning. Evaluate the initial effects of these pedagogical changes on learning engagement and mastery of digital entrepreneurship skills among learners.

METHODS

Research Design

This study uses a qualitative approach with a case study design (Fitriana, 2020). This design was chosen because of its ability to produce a deep, rich, and holistic understanding of a complex phenomenon in a real-life context (Ilhami, 2024). Case studies allow researchers to intensively explore the dynamics, processes, and outcomes of a specific intervention. The focus of this research is on an institution that organizes Non-Formal Education (PNF) in Ungaran Regency, which is a single case to be analyzed in depth (Yin, 2003). The choice of this approach is based on the research objective of understanding the "how" and "why" of the program producing change, something that cannot be adequately revealed through quantitative methods alone.

Participants and Research Locations

The location of the research is one of the PNF institutions, most likely a Community Learning Activity Center (PKBM) or Learning Activity Studio (SKB), which actively organizes equality and life skills education programs in the Ungaran Regency area, Central Java. Participants in this study consisted of two main groups: (1) PNF Tutors (Pamong Teachers): Educators who are directly responsible for the implementation of the teaching and learning process in the institution. They became the main subjects of the training intervention. (2) Students (Learning Citizens): The participants of the PNF program, most likely from the Package C program (high school equivalent) or the Entrepreneurial Skills Education (PKW) program, are the beneficiaries of the change in teaching methods applied by post-training tutors. The specific numbers and demographic characteristics (such as age range, educational background, and teaching/learning experience) of the participants were recorded to provide richer context for the analysis.

Intervention Procedure: Digital Multimodal Based Entrepreneurship Training

The main intervention in this study was a structured training program designed to empower tutors. The program focuses on two main competency pillars: (1) mastery of digital technology for learning, and (2) the application of innovative entrepreneurial pedagogy. The training includes several core modules delivered through workshops, hands-on practice, and mentoring: (1) Digital Literacy and Multimodal Content Creation: Tutors are trained to use a variety of easily accessible digital apps and platforms (such as Canva, a simple video editing app on mobile) to create engaging and multimodal learning content. This includes the creation of infographics, digital posters, interactive presentations, and short educational videos to explain entrepreneurial concepts. (2) Digital Marketing Strategy: This module introduces basic concepts of online marketing that are relevant to micro-scale businesses. The material includes marketing strategies through social media, for example, creating a business account on Instagram, designing promotional content), as well as an introduction to the basics of e-commerce through platforms such as Shopee or Tokopedia to expand market reach. Pedagogical Integration and Project-Based Learning: The most important part of this training is to guide the tutor on how to integrate these digital tools and concepts into a coherent learning framework. Tutors are encouraged to apply a project-based learning model or experiential learning, where students learn entrepreneurship by directly designing, creating, marketing, and selling products in real life in a simulated or real project.

Data Collection Techniques

To ensure the validity and depth of the data, the study applied triangulation of data collection methods, which combine several different techniques to obtain a comprehensive picture.[8] The techniques used include:

In-Depth Interviews: Semi-structured interviews are conducted with tutors before and after the training program. The pre-training interview aims to dig into their initial understanding, skills, and

challenges. Post-training interviews focused on their perceptions of changing competencies, confidence, and experience in applying new methods. Interviews were also conducted with a sample of students to find out their perspectives on the new learning experience, their level of engagement, and their understanding of entrepreneurship materials.

Participatory Observation: Researchers conducted hands-on observation during training sessions to observe the dynamics, interactions, and level of tutor participation. Furthermore, observations are also carried out in the classroom (or PNF learning environment) after training to see first-hand how the tutors implement their new knowledge and skills in teaching practice, as well as how the learners respond and interact in the learning process.

Document Analysis

Various artifacts and relevant documents are collected and analyzed. This includes training materials, Learning Implementation Plans (RPPs) developed by tutors before and after training, as well as digital artifacts generated by learners as part of their project (e.g., product designs, social media posts, or simple online store pages).

Data Analysis

Data collected from interviews, observation notes, and documents were analyzed using a qualitative-descriptive approach.8 The data analysis process is carried out thematically, which involves several stages. First, all qualitative data (interview transcripts, field notes) is transcribed and organized. Second, researchers conduct an open coding process to identify key concepts and ideas that emerge from the data. Third, the codes are grouped into broader categories and further developed into the main themes. These themes reflect recurring patterns related to changes in tutor competencies, transformation of pedagogical practices, the level of student involvement, and the acquisition of entrepreneurial skills. The results of the analysis are then presented in the form of a rich descriptive narrative, supported by direct quotes from the participants to illustrate the findings authentically.

RESULTS AND DISCUSSION

The analysis of qualitative data from the case study in Ungaran Regency revealed a series of significant results that can be grouped into four main themes. The discussion of each theme will integrate the findings of the field with a broader theoretical framework and relevant research to provide an in-depth interpretation.

Transforming the Role of Tutors: From Conventional Facilitators to Digital Learning Architects

The results of the study show that training interventions fundamentally change the pedagogical role and practice of PNF tutors (Arco-Tirado et al., 2025). Prior to training, interviews and initial observations indicated that teaching practices tended to be conventional, tutor-centered, and relied on lecture methods and text-based materials. The tutors revealed their limitations in utilizing technology beyond basic functions. However, post-training, there was a clear transformation. Not only did the tutors show improved technical skills in using digital apps, but more importantly, they began to adopt new roles as "architects" or "designers" of the learning experience.

They become more confident in facilitating learner-centered learning, where they are no longer the only source of knowledge, but rather as mentors who guide learners in digital entrepreneurship projects (Hasbullah & Kurniawan, 2024). They are able to create a more interactive and engaging learning atmosphere by integrating the multimodal content they create.

The discussion of these findings is in line with the extensive literature on the importance of teacher professional development for the success of educational innovation (Garcés et al., 2023). Effective training, especially those that are practical and directly applicable as in this study, has been shown to be able to improve competence and change the mindset of educators. The transformation from "teacher" to "facilitator" is at the heart of modern pedagogy that emphasizes active and independent learning, a principle that is particularly relevant in the context of PNF aimed at fostering independence.

However, success at the individual level must be placed in the context of larger systemic challenges. Although this training was successful in providing competence, it did not in itself address the problems of professional recognition, well-being, and career paths that haunted PNF tutors. There is a risk that the new enthusiasm and skills acquired by these tutors may be eroded by precarious working conditions and a lack of long-term institutional support (Leo & Purwati, 2021). Innovation in PKBM institutional management, including in terms of tutor welfare, is just as crucial as pedagogical innovation itself to ensure sustainability. Without changes at the system level, true tutor empowerment will be difficult to achieve.

The Effectiveness of Multimodal Pedagogy in Increasing Engagement and Understanding

The implementation of multimodal pedagogy by trained tutors has a direct and positive impact on learning dynamics. A key finding in the field is a significant increase in learner motivation and engagement. The use of audio-visual media, such as video tutorials or case studies of successful entrepreneurs, has been shown to foster a higher interest in learning than conventional lecture methods, a finding that is consistent with previous research (Haddox, 2023; Huzooree & Doargajudhur, 2023).

Students are reported to be more enthusiastic and actively participate in learning activities that involve the creation of digital content (Kovačević, 2023). Entrepreneurial projects that require them to combine different modes—for example, taking product photos (visual), writing persuasive (textual) promotional descriptions, and interacting with potential customers on social media (interactive)—make the learning process more relevant and meaningful (Majid et al., 2022). This combination not only makes the material easier to understand but also implicitly trains "multiliteracy", which is the ability to understand and create meaning through various media formats (Toruan et al., 2024).

Theoretically, these results provide strong empirical evidence for multimodal learning theory. This approach recognizes that communication and learning are inherently multimodal processes and limiting learning to only linguistic modes (text and speech) mean reducing its effectiveness (Lu, 2023). By presenting information through multiple channels, multimodal pedagogy can accommodate diverse learning styles and reinforce the understanding of complex concepts. This study shows that the application of multimodality is not only relevant for language teaching in formal settings, but also very effective for the training of practical and vocational skills such as entrepreneurship in the context of PNF. This approach bridges the gap between learning practices in educational institutions and the real-world communication landscape rich in digital media (Li, 2024).

Digital Entrepreneurship Development and Early Impact on Economic Independence

One of the most concrete results of this program is the acquisition of digital entrepreneurship skills that are practical and directly applicable by students. Guided by their tutors, the learners successfully apply the knowledge they have gained to design business ideas, prototype products, and most importantly, practice digital marketing strategies. They learn to create promotional content for social media and some even try to create accounts on e-commerce platforms to reach a wider market. This is in line with the findings of Fuadi et al., (2024) who show the effectiveness of digital marketing introduction for students at PNF institutions.

Although the duration of this study may not be sufficient to measure long-term economic impacts such as sustained income increases, these findings demonstrate the program's success in achieving PNF's main goal, which is to equip learners with functional skills for independent ventures (Desriani & Wahyudi, 2024). This "learning on the go" process has proven to be very effective in building confidence and an entrepreneurial mentality.

The success of this micro-scale reflects the potential impact of national-scale digital skills improvement programs such as the Pre-Employment Card Program, which has been proven to be able to increase entrepreneurial tendencies among its participants (Adio-Adet, 2024). This study underlines that interventions carried out at the community level, such as through PKBM, can be a very effective spearhead in growing local economic ecosystems (Kumar, 2024). However, to ensure the sustainability of this start-up, a broader supporting ecosystem is needed. The skills acquired must be supported by access to ongoing mentoring, business networks, and capital potential, which can often be facilitated through strategic partnerships between PKBM, industry, and the government. Table 2 below compares

the model applied in this study with other entrepreneurial education models, highlighting its strengths and challenges.

Table 2. Comparative Framework of Entrepreneurship Education Models in Non-Formal Education

Learning Model	Core Principles	Key Activities	Strength	Challenge
Experiential Learning	Learning through hands-on experience	Internships, industry visits, business simulations, mentorship from mentors.	High acquisition of practical skills, in-depth understanding of business realities.	Requires a strong, resource-intensive industry network and partnership.
Project-Based Learning	Solve real-world problems or challenges through a project.	Business plan development, product prototyping, market analysis.	Develop critical thinking, project management, and teamwork.	It can be complex to manage, requiring intensive guidance from a tutor.
Social Entrepreneurship Model	Creating social value and income simultaneously.	Running a productive business unit, whose proceeds are used to fund educational or social programs.	Financial sustainability of the institution, instilling social responsibility in participants.	Requires advanced business expertise from managers, risk of business failure.
Model Multimodal Digital	Integrate diverse media and digital platforms into learning.	Create digital marketing content, manage business social media, e-commerce practices.	Highly relevant to the digital economy, increasing learning engagement, wide market reach.	Relying on digital infrastructure, it requires digital literacy from tutors and participants.

Navigating the Challenges: The Digital Divide and the Need for Systemic Support

The implementation of this program, although successful, is not without challenges. The most prominent challenge, although not explicitly stated in the initial draft, is the reality of the digital divide (Suharyono et al., 2024). Limited access to adequate devices and stable internet connections among some students are real obstacles (Wiguna et al., 2024). These challenges reflect a broader problem in Indonesia, where digital access is not evenly distributed, especially outside urban centers and among low-income groups.

These findings confirm that digital curriculum and pedagogical innovation cannot stand alone (Manzar & Srivastava, 2022). To be replicated and scaled, this empowerment model requires a robust

supporting ecosystem. First, the success of the program at the micro level gave rise to a "positive cycle": empowered tutors using an engaging multimodal pedagogy, which then increased the motivation and skills of learners, which in turn had the potential to grow new entrepreneurs and boost the local economy.

However, this positive cycle is very fragile and risks turning into a "vicious cycle". In the absence of systemic support, the precarious working conditions of PNF tutors (low salary, no career path) 5 can lead to demoralization or high numbers of tutors (Tello Ayala, 2025). As a result, pedagogical innovations that have been painstakingly built become unsustainable, students' learning outcomes are stagnant again, and PNF continues to be perceived as low-quality education, which ultimately justifies the lack of resource allocation and policy support. Therefore, the sustainability of this model depends on three pillars of systemic support (Oppliger et al., 2020). First, infrastructure, where governments and the private sector need to collaborate to expand affordable internet access. Second, multi-stakeholder partnerships, where PNF institutions must proactively build collaboration with local industries and local governments to create a conducive ecosystem, as demonstrated in the successful model at PKBM Attarbiyah. Third, an adaptive curriculum, which continues to be developed in a participatory manner with the community to ensure its relevance to local needs. Thus, the most important contribution of this study is not only to prove that this model of tutor empowerment works, but to uncover the critical dependence of pedagogical innovation on professional stability and recognition of its educators.

CONCLUSION

This study shows that the empowerment of PNF tutors through digital multimodal-based entrepreneurship training is a very effective and relevant intervention model to answer economic and educational challenges in the era of disruption. Case studies in Ungaran Regency convincingly show that when tutors are equipped with adequate pedagogical and digital competencies, they are able to transform their role from conventional teachers to innovative learning architects. The implementation of multimodal pedagogy directly increases learning engagement and motivation, while the focus on digital entrepreneurship successfully instills the practical skills students need to achieve economic independence. However, success at the micro level has proven to be fragile and highly dependent on broader systemic support, particularly in terms of professional recognition and tutor wellbeing, as well as the availability of digital infrastructure and partnership ecosystems.

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