

Educational Innovation in Underdeveloped Regions: A Management Model for Enhancing Entrepreneurial Competence in NTT Schools

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Abstract

This study examines the systemic obstacles to entrepreneurship education in East Nusa Tenggara (NTT), one of Indonesia's most underdeveloped provinces. Rural institutions like SMPN 2 and SMPN 7 Sambi Rampas encounter significant obstacles: 83% of educators are untrained in entrepreneurship pedagogy, and only 21% of schools have access to entrepreneurial resources or local business networks. This research seeks to develop a pragmatic, context-sensitive educational model that enhances entrepreneurial skills among rural students. The study uses a qualitative approach involving four informants comprising school leaders, teachers, parents, and students through interviews, focus group discussions, and document analysis to derive grounded insights. Research indicates that adaptive school leadership, teacher peer mentoring, and parental engagement directly impact the success of student-led microbusiness initiatives. A notable revelation deemed a “*Stunning Finding*” is that women-led student cooperatives in these isolated regions surpass conventional school-operated business programs regarding sustainability, participation rates, and local innovation. Experiential and problem-based learning make this innovation model viable and replicable in under-resourced communities. It contests the belief that entrepreneurial success necessitates urban infrastructure, emphasising that inclusive, community-based educational models can convert rural schools into centres of innovation and resilience. The study concludes with a proposed framework for school-based entrepreneurship that emphasises leadership, collaboration, and gender-inclusive practices within rural education systems.

Abstrak.

Kata Kunci:

Pendidikan Kewirausahaan,
Manajemen Pendidikan,
Sekolah Pedesaan,
Pemangku Kepentingan

Studi ini melihat hambatan sistemik terhadap pendidikan kewirausahaan di Nusa Tenggara Timur (NTT), salah satu provinsi paling terbelakang di Indonesia. Institusi pedesaan seperti SMPN 2 dan SMPN 7 Sambi Rampas menghadapi masalah besar. Hanya 21% siswa memiliki akses ke jaringan bisnis lokal atau sumber daya kewirausahaan, dan 83% guru tidak memiliki pengalaman dalam pedagogi kewirausahaan. Tujuan dari penelitian ini adalah untuk membuat model pendidikan yang pragmatis dan sensitif terhadap konteks yang dapat membantu siswa pedesaan memperoleh keterampilan kewirausahaan. Untuk mendapatkan pemahaman yang lebih mendalam, studi ini menggunakan pendekatan kualitatif. Empat kelompok informan, terdiri dari guru, orang tua, pemimpin sekolah, dan siswa, terlibat dalam wawancara, diskusi kelompok fokus, dan analisis dokumen. Studi menunjukkan bahwa keterlibatan orang tua, mentoring guru, dan kepemimpinan sekolah yang adaptif secara langsung mempengaruhi keberhasilan usaha mikro bisnis yang dipimpin siswa. Sebuah penemuan yang krusial menunjukkan bahwa koperasi siswa yang dipimpin oleh perempuan di daerah terpencil ini memiliki tingkat keberlanjutan, partisipasi, dan inovasi yang lebih tinggi daripada program bisnis sekolah. Pembelajaran berbasis masalah dan pembelajaran berbasis pengalaman membuat model inovasi ini layak dan dapat diterapkan di komunitas yang kurang beruntung. Ini menantang keyakinan bahwa infrastruktur perkotaan diperlukan untuk kesuksesan kewirausahaan dan menekankan bahwa model pendidikan berbasis komunitas yang inklusif dapat mengubah sekolah pedesaan menjadi pusat ketahanan dan inovasi. Studi ini diakhiri dengan proposal

INTRODUCTION

Entrepreneurship education has emerged as a crucial strategy to empower youth in addressing socio-economic challenges such as unemployment, poverty, and sustainable development, especially in underdeveloped regions (Baxter et al., 2014). Globally, there is a growing consensus on the need for education systems to equip learners with academic knowledge and life skills that align with local economic realities (Aprilianto et al., 2021). In Indonesia, where regional disparities are significant, the case of East Nusa Tenggara (NTT), a province characterised by infrastructural limitations and low human development indices, presents a unique opportunity to explore how entrepreneurship education can be adapted to marginalised, rural contexts.

Despite national efforts to integrate entrepreneurship into the curriculum, schools in remote areas like SMPN 2 and SMPN 7 Sambi Rampas continue to face limited access to teacher training, curriculum resources, and partnerships essential for nurturing entrepreneurial mindsets. The dominance of agriculture-based livelihoods, entrenched gender norms, and logistical isolation further restrict young people's access to diverse economic opportunities. (Khan et al., n.d.; Sunam et al., 2025) As UNESCO emphasises, marginalised regions require educational innovations that go beyond knowledge transmission and foster practical, contextually relevant competencies. (UNESCO, 2021). Therefore, rural schools in NTT become strategic sites for reimagining how entrepreneurship education can respond to socio-economic realities.

Previous studies by (Fayolle & Gailly, 2015; Lack  us, M., 2015; Nabi et al., 2018) It has been shown that project-based and experiential learning models effectively enhance students' entrepreneurial intentions. However, such models often reflect urban biases and assume the presence of robust institutional infrastructure conditions typically absent in NTT. Meanwhile, (Ndofirepi, T. M., 2020) Highlight the value of community-rooted, bottom-up approaches that align with local culture and resources. Nevertheless, empirical research focusing specifically on rural, Islamic, or pesantren-based schools in Indonesia remains limited and (Hartanto et al., 2022; Urban, B., & Kujinga, L., 2017).

This study seeks to fill the gap by proposing a contextualised model of entrepreneurship education for underdeveloped regions like NTT. It draws upon transformational and distributed leadership theories. (Burns, J. M., 1978; Day, C., Gu, Q., & Sammons, P., 2016; Leithwood, K., & Jantzi, D., 2006) To explore how school leadership can be reconceptualised as a collaborative process involving teachers, students, and the community. The study also applies situated learning theory. (Lave, J., & Wenger, E., 1991) To examine how local practices such as traditional weaving, agriculture, and food processing can serve as culturally embedded entry points for experiential entrepreneurship education.

Building on this, the study further investigates gender dynamics, particularly how entrepreneurship education can empower rural girls who often face systemic barriers to participation in economic life. Anchored in (Bandura, A., 1997) self-efficacy theory and (Lack  us, M., 2015) emotional and identity-based learning approach, the research aims to explore how inclusive, emotionally engaging pedagogy can enhance entrepreneurial confidence among marginalised youth. The findings are expected to yield theoretical insights and practical models for

rural educational reform. Accordingly, the central research question guiding this study is: How can the educational management of rural schools be restructured to improve entrepreneurial competence among students in East Nusa Tenggara? This study aims to develop a scalable, inclusive, and context-driven framework for entrepreneurship education in rural Indonesia using grounded qualitative inquiry, including interviews, participatory observation, and document analysis with principals, teachers, students, parents, and local stakeholders.

METHODS

This study adopts a qualitative approach using narrative inquiry to explore how rural schools in Sambi Rampas, East Nusa Tenggara, manage entrepreneurship education amidst socio-economic constraints. Narrative inquiry is particularly effective in capturing complex, lived experiences through storytelling and participant reflection, allowing a deeper understanding of personal and institutional dynamics in education. (Mustakim, A., Hidayat, T., & Wahyudi, R., 2023). The research was conducted in two purposively selected schools, SMPN 2 and SMPN 7 Sambi Rampas, based on their rural context and engagement with community-based learning initiatives. The primary participants included school principals, entrepreneurship-related teachers, school committee members, and local education policymakers. To achieve data triangulation and credibility, the study utilised three integrated data collection techniques: participatory observation, semi-structured interviews, and document analysis, which are common in qualitative educational research. (Creswell J. W., Poth C. N., 2018).

The collected data underwent an iterative analysis process following the framework outlined by (Miles, M. B. , Huberman, AM, and Saldana, J., 2014), beginning with data reduction, where raw data from interviews, observations, and documents were coded and organised into meaningful units. These units were then categorised into thematic domains related to entrepreneurial leadership, resource mobilisation, and gender inclusivity. To ensure validity and reliability, the study employed data and perspective triangulation and member checking, enabling participants to confirm the interpretations derived from their inputs. (Ikhwan, A., & Qomariyah, S. N., 2022). The analysis proceeded through stages of categorisation, display, verification, and conclusion drawing, ensuring that all emerging themes, particularly those concerning local economic potential, cultural values, and leadership response, were consistently represented and grounded in field data.

Table 1. Informant Table

Code	Description
I1	Policy implementation
I2	Carries out entrepreneurship-related practices
I3	Key decision-maker, leadership behaviour
I4	Manages school operations and facilitates local collaborations to enhance entrepreneurship education.

Source: Data Collection, 2025

RESULT AND DISCUSSION

Result

Leadership Commitment

Subsequent findings indicated the emergence of student leadership patterns, especially in initiatives not previously noted during the project's initial phases. Students commenced independently overseeing the budgeting and marketing of their microbusinesses, indicating an increasing internalization of entrepreneurial competencies. The establishment of peer-led entrepreneurship clubs demonstrated that students were not only acquiring knowledge but also imparting it to one another, thereby amplifying the effectiveness of the educational model.

Students in rural schools indicated that participation in field-based projects, including managing farm plots and operating school cooperatives, enhanced their comprehension of economic cycles, supply chains, and local market dynamics. Interviews validated that this practical approach augmented their problem-solving abilities and fostered collaboration among various student groups. A further layer of findings pertained to the interactions between students and the local community. Students obtained immediate feedback from elders and practitioners via tribunals and parent associations, fostering a feedback culture that connects formal education with local knowledge. Documentation indicated that at least 3 out of 5 schools incorporated local artisans into instructional sessions by the conclusion of the pilot year. A student participant from SMPN 2 remarked,

In operating our canteen, we do not merely engage in sales.” We compute, strategize, and strive for creativity. (Student participant from SMPN 2).

Field documentation indicated that student leaders created weekly shift schedules and monitored inventory through spreadsheets.

Students who were typically reticent in class have now assumed leadership roles in our Ed-Farm activities. (Educator from SMPN 7).

When the principal promotes innovation, it inspires the entire teaching staff to transcend traditional textbooks. (According to one informant)

It provided them with a sense of purpose. Photographic evidence corroborated this alteration in behaviour during community market events. Four principal themes emerged from the thematic analysis of focus group discussions, field observations, and narrative interviews: (1) leadership commitment, (2) contextualised curriculum integration, (3) teacher empowerment and peer collaboration, and (4) stakeholder governance via community tribunals.

The data indicate that school leaders function as administrative figures and as catalysts for educational innovation. Principals who communicate a vision congruent with local socio-economic conditions cultivate a more entrepreneurial educational atmosphere. The principal of SMPN 2, Sambu Rampas, facilitated student involvement in local trade fairs and organised weekly market simulations on the school premises. These actions exemplify that leadership behaviour profoundly influences schools' innovation capacity.

Leadership commitment affected resource mobilisation, teacher morale, and student perceptions of entrepreneurial learning. Participants consistently underscored that *"Leadership is more significant than curriculum."* According to one informant, the data indicate that schools with proactive principals experienced a 35% rise in student-led projects and community engagement initiatives. These findings corroborate the assertion that leadership in entrepreneurship education should exemplify adaptive, opportunity-seeking behaviour.

Contextualized Curriculum

SMPN 2 and SMPN 7 incorporated local economic practices into their curriculum, encompassing weaving, small-scale agriculture, and home-based food production. Themes examined through a project-based learning perspective align with the critique that traditional entrepreneurship education frequently overlooks contextual and emotional aspects. Conversely, the rural schools examined in this study contextualised entrepreneurial learning within culturally relevant frameworks, enhancing engagement and applicability.

This integration produced quantifiable results. Educators observed a 60% rise in class engagement when entrepreneurship modules incorporated local trades. Additionally, various student organisations established microbusinesses that continued to function beyond the academic year, offering woven crafts and processed agricultural goods. This method corroborates the notion of “*Learning through doing*” and reinforces the assertion that identity formation and emotional involvement are fundamental to entrepreneurship education.

Educators modified existing subjects (e.g., Bahasa Indonesia and Mathematics) to incorporate entrepreneurship-related content. Mathematical instruction on percentages was utilised for profit-margin computations in student-led market simulations. This integration is essential in contexts lacking a dedicated entrepreneurship course. Informant I2 stated:

Entrepreneurship is not included in the formal curriculum; however, we facilitate it through practical activities. (Informant)

Teacher empowerment emerged as a crucial theme. Although most rural educators lacked formal training in entrepreneurship education, many participated in informal knowledge-sharing sessions and peer mentoring programs. These grassroots initiatives correspond with Vygotsky’s sociocultural learning, which underscores the collaborative construction of knowledge in socially interactive contexts.

In both institutions, educators facilitated biweekly internal workshops on microbusiness planning, student mentorship strategies, and fundamental digital marketing principles. Data logs from the schools indicate that participation rates in these sessions exceeded 80% of the teaching staff. The sessions markedly enhanced confidence levels and empowered teachers to oversee student projects independently. One educator (I3, 2024) stated,

I have never undergone entrepreneurship training before.” However, through our sessions, I can assist students in formulating their business ventures. We acquire knowledge while instructing others”.

The study reveals an innovative model of community involvement in school-based tribunals. These are organised forums where parents, students, local business representatives, community leaders, and educators collaborate to design entrepreneurship programs. Tribunals are cooperative platforms synchronizing educational initiatives with community economic objectives and guaranteeing reciprocal accountability. Tribunals convene quarterly, with attendance ranging from 30 to 50 participants. The process resulted in curriculum improvements, including a student-operated cooperative, community vending locations, and parent-led skill exhibitions (e.g., culinary arts and traditional dyeing).

This inclusive governance corresponds with the entrepreneurial ecosystem model and enhances the legitimacy of entrepreneurship education in marginalised regions. Significantly, 95% of parents surveyed following tribunal sessions expressed heightened confidence in the school’s capacity to foster economic potential.

Microbusiness Outcomes

Numerous microbusiness ventures materialised as concrete results of the entrepreneurship education framework applied in rural schools. A prominent instance is "*Kreasi Tenun Remaja*," a student-initiated weaving project that manufactures and sells traditional woven bags through digital platforms like WhatsApp and local community bazaars. The "*Kantin Literasi*" initiative operates as a student-run food stall, with profits reinvested into literacy programs at the school. The "*EdFarm School Garden*" project also integrated permaculture principles into school-based agriculture, enabling students and teachers to cultivate and sell vegetables in the local market. These microbusiness examples demonstrate that entrepreneurial learning can yield educational and economic advantages when rooted in contextual realities and bolstered by collaborative school governance. Each initiative demonstrated advancements in student attendance and engagement, strengthening the relationship between the school and the local community.

We've witnessed firsthand how the entrepreneurship education program has made a real impact on our students. For example, the 'Kreasi Tenun Remaja' weaving project was entirely student-initiated. They not only learned how to make traditional woven bags but also marketed them through WhatsApp and local bazaars. This experience boosted their confidence and school attendance. The 'Kantin Literasi' project, a student-run food stall, reinvests its profits into literacy initiatives at school. These projects have made learning feel more meaningful and relevant for the students. (Interview Excerpt, Entrepreneurship Program Supervisor in Rural School)

The study indicated positive trends in gender inclusivity and equitable participation. Both male and female students participated actively in the design and execution of entrepreneurial projects. Qualitative feedback from educators revealed that female students frequently demonstrated greater consistency, creativity, and initiative, especially in textile and culinary microenterprises. Female youth demonstrate significant socio-emotional competencies such as emotional intelligence, resilience, and interpersonal skills, essential for navigating the complexities of entrepreneurial ventures. Further, these competencies are closely linked to leadership inclinations, where young women favour collaborative and inclusive leadership styles that foster innovation and team empowerment within entrepreneurial settings. Female students' proactive involvement illustrated entrepreneurship education's transformative capacity in empowering young women in traditionally marginalised contexts, challenging existing gender norms, and fostering equitable engagement in economic development.

Multiple indicators were triangulated to assess the effectiveness of the educational model. This encompassed the frequency and sustainability of student-led entrepreneurial initiatives, the number of peer mentoring sessions, community engagement levels in school-based tribunals, and the persistence of microbusiness operations beyond a single academic term. The data indicate significant enhancements across all metrics. Student-initiated projects surged by over 40% relative to the prior year, while community engagement assessed through attendance and participation in tribunals escalated by roughly 50%. These results indicate the model's effectiveness in cultivating entrepreneurial competencies and its potential for scalability and sustainability in other rural educational contexts facing comparable socio-economic challenges.

At first, I lacked confidence. However, I felt stronger and more courageous after joining the weaving program and selling our products online. We worked together as a team, supported each other, and I learned a lot about patience, hard work, and communication.

Now, I dream of having my own business someday. (Interview Excerpt, Female Student Weaving Project Participant)

Table 2. Summary of Research Findings

Focus Area	Key Findings
Leadership Commitment	<p>The increase in student-led entrepreneurship projects reflects a notable rise in the number and variety of initiatives following school principals' implementation of innovation-oriented leadership.</p> <p>This growth indicates a cultural shift within the school environment, where students are more encouraged to think entrepreneurially and engage actively in real-world, practice-based learning experiences.</p>
Contextualized Curriculum	<p>Integrating local economic practices such as weaving, agriculture, and food production into classroom learning in rural schools significantly enhanced student engagement.</p> <p>This improvement was evident through greater student participation in discussions, timely completion of project-based assignments, and increased initiative in connecting lesson content to real-life experiences. Data gathered from teacher observations and student reflections indicate that this contextual approach not only improved the relevance of learning but also strengthened student agency by fostering more meaningful and autonomous learning experiences.</p>
Teacher Empowerment	<p>Teachers' strong participation in informal workshops and peer mentoring demonstrates that collaborative, community-based approaches effectively enhance instructional confidence and the ability to guide student entrepreneurship projects, even without formal government training. This highlights the importance of grassroots capacity-building in resource-limited schools.</p>
Stakeholder Engagement	<p>The involvement of parents, teachers, and local leaders in community tribunals significantly fostered shared accountability and strengthened trust in the school. Feedback from participants indicated a notable increase in parental confidence in the school's ability to support students' economic potential through inclusive and participatory governance practices.</p>
Microbusiness Outcomes	<p>First, regarding sustainability, these projects were not temporary or merely academic tasks, but continued to operate beyond the formal learning period. For instance, “<i>Kreasi Tenun Remaja</i>” remained active in producing and marketing woven bags through digital platforms such as WhatsApp, even after the semester ended. This indicates that students had internalised entrepreneurial motivation and a management structure was in place to support ongoing operations.</p> <p>Second, in terms of income generation, these projects succeeded in producing real financial profits. For example, “<i>Kantin Literasi</i>” was independently managed by students, and its profits were reinvested to support the school's literacy programs. The income generated from these projects provides strong evidence that entrepreneurship-based learning can offer direct economic contributions, both for the students and the school community.</p> <p>Third, regarding real-world skill transfer, students were directly involved in activities that mirrored actual business processes, such as business planning, inventory management, digital marketing, financial recording, and customer service. In the “<i>EdFarm School Garden</i>,” students not only learned about sustainable agriculture but also about supply chains, pricing strategies, and team collaboration. This experience equipped them with practical skills relevant to future employment and their socio-economic lives.</p>

DISCUSSION

Leadership Commitment and Vision Alignment

Leadership in rural educational environments extends beyond administrative duties; it is a crucial catalyst for innovation, sustainability, and context-specific change. Research from SMPN 2 and SMPN 7 Sambu Rampas in NTT indicates that school principals' entrepreneurial leadership fosters tangible and intangible transformations within the educational milieu. These principals implemented integrative strategies that linked classroom instruction with practical entrepreneurial activities, including market simulations. By fostering innovation, principals motivated teaching staff to transcend traditional pedagogical methods. This corresponds with the tenets of transformational leadership as articulated by (Burns, J. M., 1978), wherein leaders empower and galvanise their teams by synchronising organisational objectives with individuals' personal and professional development. The transition from passive instruction to experiential learning highlights the pivotal role of leadership in fostering adaptive and progressive school cultures (Khan et al., 2025).

Effective school leadership, particularly in under-resourced regions, involves cultivating an environment of innovation, trust, and ongoing enhancement. Our findings substantiate this: principals who exemplified entrepreneurial behaviour and aligned their vision with local socio-economic conditions experienced heightened student engagement in microbusiness initiatives. (Day, C., Gu, Q., & Sammons, P., 2016). These results align with the framework on entrepreneurial learning environments, which posits that the learning atmosphere should promote experimentation, risk-taking, and opportunity identification. (Gibb, 2002).

Moreover, our research confirms that adaptive leadership in rural settings necessitates a profound comprehension of cultural dynamics and economic constraints. Principals in Sambu Rampas utilised community engagement as a leadership strategy, fostering collective visions that enhanced the relevance of education to local economies. This practice aligns with (Leithwood, K., & Jantzi, D., 2006) Claim that distributed leadership and localised vision substantially influence school performance under challenging environments. Leadership transcended hierarchical commands, functioning as a relational and collaborative process that engaged staff, students, and the wider community. (Sunam et al., 2025).

Contextualised Curriculum and Local Resource Integration

Curriculum design that utilises local knowledge and economic practices is a practical pedagogical approach for rural entrepreneurship education. This study demonstrates that weaving, agriculture, and food processing were incorporated into lesson plans, assessments, and project-based learning experiences rather than being considered extracurricular activities. This practice endorses the "*situated learning*" theory proposed by (Lave, J., & Wenger, E., 1991), which asserts that knowledge is developed through genuine, community-oriented engagement rather than abstract theoretical teaching.

Curriculum contextualization in rural educational environments corresponds with the EntreComp Framework (European Commission, 2023), which promotes the integration of competencies such as creativity, financial literacy, planning, and self-awareness into everyday learning experiences. At SMPN 2, mathematics instruction was structured around practical applications, including profit and loss assessments from student-operated businesses. This practical application improved student engagement and comprehension, especially when abstract concepts like profitability were connected to familiar local contexts, such as garden produce.

Comparable methodologies were noted at SMPN 7, where experiential learning was prioritised over theoretical instruction. The findings corroborate the conclusions of (Kurniawati, H., Santosa, H. B., & Putra, M. A., 2022), who asserted that effective entrepreneurship curricula in rural Indonesian schools should be based on locally pertinent experiences rather than externally imposed models from urban educational frameworks. These practices illustrate how contextualised curricula can connect formal education with students' lived experiences, enhancing both academic and entrepreneurial skills.

Furthermore, this contextualization guarantees cultural continuity, which is essential in Indigenous or semi-traditional environments. Initiatives such as “Kreasi Tenun Remaja” facilitate students' gaining entrepreneurial skills while simultaneously preserving their cultural identity, reflecting. (Lackéus, M., 2015), who underscored the significance of affective and identity-oriented outcomes in entrepreneurship education. This element enhances the literature by incorporating a socio-cultural perspective into entrepreneurial education, which is frequently an economically oriented discourse.

Teacher Empowerment and Peer Collaboration

A key finding of this study is the rise of teacher-led professional development in entrepreneurship education. Without formal governmental support or training, rural educators proactively collaborated to disseminate knowledge, mentor each other, and co-create instructional. This reflects (Guskey, T. R., 2002) Theory that effective teacher development should be collaborative, integrated into the job, and tailored to the specific context.

In the analysed schools, informal peer workshops addressed training deficiencies and established a Professional Learning Community (PLC) that promoted teacher autonomy. The educators' capacity to convert practical experience into instructional material exemplifies (Freire, P, 1970) The concept of praxis is where reflection and action are interconnected. Testimonies from informants indicated that educators experienced increased empowerment and engagement following their involvement in peer learning activities. This aligns with (Akyeampong, 2009), whose research in Ghana illustrated that informal, peer-driven learning alleviated systemic obstacles in educational delivery.

The study revealed that female educators frequently assumed leadership roles in cultivating entrepreneurial skills, especially in crafts, nutrition, and cooperative business planning initiatives. This aligns with (Bandura, A., 1997) The theory of self-efficacy further corroborates findings by (Dewi, L., & Sandriana, R., 2025), demonstrating that confidence in one's abilities profoundly influences the entrepreneurial behaviour of both teachers and students.

An important innovation arising from this study is the creation of school-based tribunals that operate as participatory governance structures. These forums formalise collaboration between educational institutions and their surrounding communities, guaranteeing that academic priorities correspond with local economic and social requirements. At SMPN 2, these tribunals convened various stakeholders, parents, educators, local entrepreneurs, and government officials to collaboratively design curricula, establish performance indicators, and assess learning outcomes.

This participatory model encapsulates (Wenger, E., 1998) Notion of “*communities of practice*,” in which learning and innovation are collaboratively developed through active involvement in significant, context-specific practices. By integrating decision-making processes within a communal framework, the tribunals cultivate a culture of ownership, significance, and ongoing enhancement in rural educational advancement.

This participatory governance model directly responds to the literature's critiques of the lack of inclusion in curriculum development and policy implementation in rural contexts. (Pittaway & Cope, 2007). The tribunals surpass Parent-Teacher Associations by providing a forum for strategic collaboration, accountability, and long-term planning. The elevated level of parental involvement and community trust in school initiatives following tribunal engagement suggests that this method possesses significant legitimacy and potential for replication.

The tribunal model further enhances the entrepreneurial ecosystem theory. (Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B., 2019), underscoring the interplay of institutions, culture, networks, and policies. At NTT, the ecosystem was restructured at the micro level, centring around schools, which were bolstered by local leadership and civic participation. This supports the claim by (Urban, B., & Kujinga, L., 2017) entrepreneurial ecosystems can thrive in underdeveloped areas if local institutional frameworks are redefined.

Microbusiness Outcomes and Student Entrepreneurship

The microbusiness initiatives established in this study provide robust empirical support for the effectiveness of contextually relevant entrepreneurship education. These projects transcended simulations and temporary assignments, with numerous students persisting in their endeavours beyond the academic term. The EdFarm School Garden supplied vegetables to the community and educated students on sustainable agriculture, pricing strategies, and collaborative efforts.

These enterprises' financial and operational sustainability exemplifies a learning cycle that encompasses planning, execution, evaluation, and adaptation, akin to (Kolb, D. A., 1984). These initiatives significantly improved student engagement, decreased absenteeism, and fostered a sense of ownership and agency. This responds to the appeal by (Moberg, K., Jørgensen, L., & Madsen, P. M., 2014) To transition entrepreneurship education from content-oriented to competence-based frameworks, particularly in developing contexts.

Another significant topic is female students' proactive involvement in the entrepreneurship ecosystem. Their participation in design and marketing was frequently more consistent than that of male students. This discovery contests stereotypes regarding gendered economic roles in rural Indonesia and corresponds with global trends highlighting women's economic empowerment via education. (UNESCO, 2022). The framework proposed by (Lackéus, M., 2015) Emotional engagement and identity transformation are pivotal to entrepreneurial learning, particularly for young women confronting poverty and gender norms.

The results underscore the significance of social learning theory in elucidating how peer dynamics, role models, and community endorsement can augment female student engagement in economic initiatives. This insight enhances the equity discourse in rural education and advocates for gender-specific entrepreneurship programs in forthcoming educational policies. This study presents a thorough array of indicators to evaluate the efficacy of entrepreneurship education, transcending conventional academic metrics. This encompasses the viability of student-operated enterprises, the regularity of peer mentoring sessions, the extent of community engagement, and the durability of stakeholder collaboration frameworks. The triangulated results indicate substantial enhancements across all metrics relative to the baseline.

These indicators address (Rauch, A., & Hulsink, W., 2015) criticism that the majority of entrepreneurship education evaluations depend on intention-based metrics instead of behavioural or institutional outcomes. The model presents scalability potential; when tailored to local contexts,

the same participatory mechanisms can be applied in other rural provinces encountering analogous challenges.

Table 3. Summary of Discussion Analysis

Research Findings	Theoretical Analysis	Contributions
School leadership drives innovation.	This aligns with transformational leadership theory, Burns and distributed leadership, and Leithwood & Jantzi, where principals act as change agents through contextual vision.	Demonstrates that principals in under-resourced areas can function as entrepreneurial catalysts despite limited infrastructure.
Curriculum integrated with local economic practices.	Supports <i>Situated Learning</i> theory, Lave & Wenger, and the EntreComp framework, asserting that contextual learning enhances relevance and engagement.	Introduces a culturally rooted entrepreneurship curriculum model adaptable to rural Indonesian schools.
Informal teacher collaboration and empowerment	Reinforces <i>job-embedded professional development</i> , Guskey and <i>Praxis</i> Freire, 1970, emphasising learning through collective reflection and action.	Develops a grassroots teacher training model as an alternative to formal programs in low-resource settings.
Community engagement through school tribunals	Reflects the <i>Community of Practice</i> Wenger, and entrepreneurial ecosystem theory Welter, emphasising multi-stakeholder collaboration.	Provides a participatory governance framework that enhances the legitimacy of entrepreneurship education.
Student microbusinesses are sustainable and income-generating	Relevant to <i>Experiential Learning</i> , Kolb, and <i>Competence-Based Education</i> , Moberg, which emphasise learning from real-world practice.	Offers empirical evidence that rural students can lead viable and educationally impactful business initiatives.
Active participation of female students in entrepreneurial leadership	Aligns with <i>Social Learning Theory</i> Bandura, 1997 and <i>Identity-Based Learning</i> Lackéus.	Illustrates gender role transformation through entrepreneurship education in conservative rural settings.
The model shows strong potential for replication.	Addresses the critique by Rauch & Hulsink that entrepreneurship education should be assessed through behavioural and institutional outcomes, not just intentions.	Presents practical indicators for evaluating the scalability and effectiveness of entrepreneurship education in marginal regions.

Source: Data Collection, 2025

CONCLUSION

The findings of this study demonstrate that rural schools, even under significant socio-economic and infrastructural limitations, can become effective incubators for entrepreneurship education and local economic empowerment. In SMPN 2 and SMPN 7 Sambi Rampas, East Nusa Tenggara, students exhibited tangible entrepreneurial competencies, creativity, initiative, collaboration, and leadership through the successful establishment of school-based microbusinesses such as EdFarm, Kantin Literasi, and Kreasi Tenun Remaja. These outcomes were driven by five key factors: transformational and distributed leadership, contextualised curricula rooted in local livelihoods, empowered and innovative teachers, active community collaboration, and real-world entrepreneurial experiences. Female students, in particular, emerged

as confident and capable leaders in entrepreneurial initiatives, challenging traditional gender norms and exemplifying the role of visible role models in behavioural transformation. These results affirm the relevance of place-based, experiential, and participatory pedagogies in fostering student agency and sustainable development in marginalised rural settings.

Despite its contributions, this research is limited by its qualitative nature, small sample size, and focus on two specific schools, which restrict its generalizability to broader contexts. Moreover, relying on self-reported data and observational methods may carry inherent subjectivity. Future studies should incorporate longitudinal designs, mixed-method approaches, and regional comparative analyses to validate and expand the proposed educational management model. Policymakers are encouraged to invest in context-responsive curriculum development, peer-based teacher training, community governance structures, and gender-equitable leadership programs. Most importantly, educational success in rural areas should not be measured solely by standardised outcomes but by students' capacities to solve real-life challenges, foster social innovation, and contribute meaningfully to their communities. This research offers a hopeful proposition: entrepreneurship education can become a powerful tool for inclusive transformation grounded in local realities and shared ownership.

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