

## Article

# School–University Partnerships for Place-Based Educational Administration Innovation: Fostering Innovative Co-Creator Learners

Suntaree Wannapairo <sup>1</sup>, Sinchai Suwanmanee <sup>1,\*</sup>, Natcha Mahapoonyanont <sup>1</sup> and Chanaporn Uetrakool <sup>2</sup>

<sup>1</sup> Faculty of Education, Thaksin University, Songkhla 90000, Thailand; suntaree@tsu.ac.th (S.W.)

<sup>2</sup> Songkhla Provincial Education Office, Songkhla 90000, Thailand

\* Correspondence: sinchai@tsu.ac.th

## Abstract

In a rapidly changing era, education systems must empower learners as community innovators through Place-Based Education (PBE). While School–University partnerships are global drivers of reform, the specific administrative mechanisms required to support and scale these innovations within decentralized policy frameworks, such as Thailand’s Education Sandbox, remain underexplored. This Research and Development (R&D) study, integrated with a Design Thinking framework, investigated school-led administrative innovations across four diverse jurisdictions in the Songkhla Education Sandbox over 12 months. The study synthesized a collaborative administrative framework structured around four core pillars: Strategic Mentoring and Thinking Partnership, Place-Based Educational Ecosystems, Adaptive Governance and Resource Autonomy, and Collective Synergy and Iterative Development. Empirical findings indicate that this framework supported the development of “Innovative Co-creator” characteristics among students, generating high-value outcomes such as “Songkhla Mini Mango Coffee” and social innovations from water hyacinth. The study concludes that educational transformation thrives when administrative structures shift from compliance-driven mandates to flexible, context-responsive partnerships. By integrating university-led coaching with community assets, the framework offers a promising, contextually adaptable model for enhancing student learning outcomes while preserving local socio-cultural identity. This systematic approach supports the continuity of educational reform across diverse regional contexts.

**Keywords:** School–University partnerships; place-based education; educational administration innovation; innovative co-creator



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## 1. Introduction

In an era of rapid societal, technological, and environmental change, education systems must both equip learners to adapt to change and empower them to become innovators within their communities. Place-Based Education (PBE) has emerged as a key strategy for cultivating student engagement, critical thinking, and problem-solving skills by connecting learning to local contexts, cultures, and resources (Sobel, 2004; Smith & Sobel, 2014; Gruenewald & Smith, 2014). PBE offers students meaningful, immersive learning experiences rooted in their community, promoting environmental literacy and stewardship while developing a sense of responsibility toward their surroundings (Bocko et al., 2023; Hamilton & Marckini-Polk, 2023). By addressing local challenges, PBE strengthens students’

ties to their environment, cultivates ownership, and encourages cross-disciplinary learning, making education more relevant and responsive to community needs (Pierce & Telford, 2023; Yemini et al., 2025). Ultimately, PBE prepares learners to thrive in a rapidly changing world while promoting meaningful contributions to local and global communities.

While place-based education and School–University partnerships are recognized globally, few empirical studies have examined the specific administrative mechanisms required to sustain and scale these innovations within decentralized policy frameworks. In the Thai context, the implementation of the Education sandbox act B.E. 2562 (2019) has granted pilot schools unprecedented autonomy. Nevertheless, the process of navigating this administrative flexibility through School–University collaboration remains underexplored. This study addresses this gap by investigating the mechanisms and outcomes of such partnerships in the Songkhla Education Sandbox—a region characterized by its unique cultural diversity and local economic potential.

School–University partnerships bridge theory and practice, leveraging university expertise and teacher experience to develop innovative, context-responsive practices (Goduto et al., 2009; Tanti et al., 2023). These collaborations support professional learning communities, sustainable networks, and comprehensive innovations tailored to student needs (Jenkins et al., 2023). In the present study, this alignment with student needs is evidenced by the diverse, site-specific pedagogical mechanisms—ranging from community-based vocational stations to IoT-scaffolding frameworks—developed for the distinct learner profiles in each pilot school. Through these partnerships, universities act as academic mentors, helping schools translate central policy expectations into concrete, context-sensitive practices without diminishing school autonomy.

Against this backdrop, this article employs a qualitative-dominant multiple-case study design to examine four diverse schools within the Songkhla Education Sandbox, Thailand. By collaborating with university faculty, these schools developed and evaluated collaborative administrative frameworks designed to bridge the gap between central policy and local reality. The study provides empirical insights into the processes and conditions that sustain innovation, offering a scalable approach to adaptive management and community-integrated educational transformation. These findings illustrate how systematic School–University engagement can effectively support learners in becoming “Innovative Co-creators” within their specific local contexts, as evidenced by both qualitative student innovation projects and the quantitative gains in entrepreneurial and creative competencies.

To address the aforementioned gaps and guide the Research and Development (R&D) process, this study pursued three primary objectives. First, it aimed to develop place-based educational administration innovations, facilitated by School–University partnerships, designed to promote learners’ “Innovative Co-creator” characteristics within the Songkhla Education Sandbox. Second, the study sought to implement and operationalize these localized administrative innovations across diverse school jurisdictions. Finally, it evaluated the success of the applied administrative frameworks in cultivating learners’ innovative characteristics and synthesized a scalable model for broader educational contexts.

In alignment with these objectives and to support methodological transparency, the study was guided by three primary research questions. First, what are the key components of a place-based educational administration innovation framework that promote “Innovative Co-creator” characteristics within the Songkhla Education Sandbox? Second, how can these localized administrative innovations be effectively implemented across diverse school jurisdictions through School–University partnerships? Finally, to what extent do these collaborative administrative frameworks succeed in cultivating the desired innovative characteristics in learners, and what are the critical success factors for their scalability?

## 2. Literature Review

This section provides a comprehensive synthesis of the theoretical foundations and empirical research underpinning place-based educational administration innovation. It examines the synergy among School–University partnerships, mentoring systems, and place-based pedagogy within Thailand’s Education Sandbox regulatory framework. By exploring these dimensions, the section establishes a conceptual framework for administrative innovations designed to cultivate “Innovative Co-creator” learners as a primary outcome of decentralized educational reform.

### 2.1. School–University Partnerships

School–University partnerships have emerged as a critical driver of sustainable educational improvement, particularly in contexts seeking to bridge theory and practice through collaborative innovation. Universities contribute academic expertise and research capacity and play a pivotal role in designing, piloting, and evaluating new teaching practices in authentic school settings (Sarmiento-Márquez et al., 2023). Effective partnerships are built on mutual reciprocity, robust communication, and collaborative learning, all of which are essential for cultivating resilient relationships and adapting to emerging challenges (Hamilton & Margot, 2024).

Recent studies emphasize that successful partnerships extend beyond knowledge transfer, highlighting the importance of co-creation, participatory curriculum development, and shared decision-making between universities and schools (Fitzgerald et al., 2025). Universities also act as catalysts for professional development by facilitating mentoring systems, organizing training programs, and nurturing communities of practice that support continuous teacher growth (Reichenberg et al., 2024). These functions enable schools to contextualize research findings, integrate technological and pedagogical innovations, and respond more effectively to local needs.

Despite these benefits, the impact of such partnerships varies based on stakeholder engagement and policy alignment. While traditional models often position universities as external experts imparting top-down directives, emerging frameworks necessitate a paradigm shift. There is a critical need to conceptualize partnerships where universities function collaboratively as “Thinking Partners” rather than mere inspectors, co-creating context-responsive administrative innovations. Empirical research on how these more reciprocal collaborations drive scalable administrative innovation within Thailand’s Education Sandbox remains limited. This study addresses this gap by investigating the mechanisms and outcomes of School–University collaboration for place-based administrative reform.

### 2.2. Coaching and Mentoring

Coaching and mentoring are essential strategies for teacher development and school improvement, particularly in primary education. According to the International Coaching Federation (ICF, 2024), coaching is fundamentally a collaborative and creative partnership designed to stimulate thinking and motivate individuals to unlock their full personal and professional capabilities. In educational contexts, coaching transcends basic skill transmission; it functions as a mechanism for profound organizational change (Bennett & Bush, 2013) and creates conditions for positive experiences for both learners and educators (van Nieuwerburgh & Barr, 2017). Systematic mentoring enhances pedagogical knowledge, classroom management, and self-assessment, contributing to individual teacher growth and collective efficacy (Geletu, 2024; Preechawong et al., 2024). Specifically, leadership coaching serves as a vehicle for building school leaders’ capacity, particularly in rural and diverse settings (Klar & Huggins, 2020). Through these interactions, leadership coaches

themselves learn and develop, a dynamic that directly underpins the “Thinking Partner” conceptualization of the university’s role (Huggins et al., 2021).

Effective practices prioritize trust-based relationships over mere skill transmission (Hobson & van Nieuwerburgh, 2022). These relationships create “safe spaces” for professional dialogue and reflection, which are vital for developing expertise in dynamic environments and supporting school leadership development within professional communities (Klar et al., 2024). Furthermore, given the multicultural landscape of regions such as Songkhla, culturally responsive coaching is paramount. The Cultural Competence in Coaching (CCiC) model challenges the assumption of coaching neutrality, positioning cultural competence as central to effective coaching relationships (Lundgren et al., 2025). This culturally and relationally sensitive lens is crucial for empowering diverse leaders in educational settings (Carter et al., 2023). Moreover, coaching catalyzes the formation of professional learning communities and networks for sharing best practices (Dockett et al., 2024; Kapoutzis et al., 2024).

While the effectiveness depends on organizational culture and leadership support, university-facilitated mentoring within partnerships bridges the theory–practice gap. However, research on how such collaborations scale administrative innovation in Thai policy environments remains sparse. This study addresses this gap by investigating the role of culturally responsive coaching and mentoring in the implementation and continuity of place-based educational innovations.

### 2.3. Place-Based Education

Place-Based Education (PBE) is an innovative approach that connects learning with real-life experiences and local communities, promoting active engagement of students and teachers in addressing local issues. Foundational scholars emphasize that PBE is not merely a pedagogical tool, but a transformative philosophy that situates the local environment—both natural and human-built—as the primary context for learning. According to Sobel (2004), PBE bridges the gap between the school and the community, allowing students to create authentic connections with their surroundings. Smith and Sobel (2014) further argue that this approach is vital because it counteracts the disconnection often caused by standardized curricula, empowering students to become active citizens who can identify and solve local problems.

It cultivates the development of critical skills, such as problem-solving, collaboration, and analytical thinking, while enhancing environmental awareness and sustainability. By aligning learning with real-world contexts, PBE encourages students to engage deeply with their surroundings, nurturing a sense of responsibility toward their communities and the environment (Fu & Komatsu, 2024; Yemini et al., 2025). This approach is particularly valuable in an era of constant change, as it prepares students for future challenges by strengthening their connection to the local context and cultivating the skills needed for modern, adaptable societies.

Furthermore, PBE is crucial in establishing durable connections between educational institutions and local communities, encouraging enduring collaboration that benefits both parties. It supports community engagement and enables students to gain practical skills through active participation in local development (Soucy et al., 2024). PBE’s comprehensive methodology promotes multifaceted learning, equipping students for advanced education and life in a dynamic, interconnected environment. By incorporating local knowledge and practical issues into the curriculum, PBE offers transformative learning experiences that equip learners for academic achievement and responsible citizenship (Hernandez Gonzalez, 2023; Göttlicher, 2025). These theoretical foundations of PBE serve as the bedrock for

developing place-based educational administration innovation, where school governance itself becomes highly responsive to the specific socio-cultural dynamics of the community.

#### 2.4. Educational Administration Innovation

Educational Administration Innovation is essential for steering educational institutions toward excellence in an era of rapid change. Globally, educational administration innovation represents a paradigm shift from traditional, hierarchical management toward distributed leadership, agile governance structures, and cross-sector partnerships (Fullan, 2020; Harris & Jones, 2019). Recent comprehensive reviews emphasize that the leadership of educational innovation extends beyond mere administrative efficiency; it requires continuous systemic adaptation to complex, dynamic environments (Friesen et al., 2025; Mukhtar et al., 2025). Crucially, effective educational management is now recognized as a primary driver in enhancing students' problem-solving skills and innovation competencies to prepare them for global competitiveness (Berkat et al., 2025). At its core, it entails applying new ideas, methods, processes, or technologies to enhance the effectiveness and efficiency of educational management. A clear conceptual framework and set of standards serve as guiding principles for improving educational organizations to meet the complex demands of the 21st century (Siririn, 2023). This type of innovation prioritizes organizational transformation and adaptation to enhance educational quality and address changing societal demands (Antypas, 2021).

Within the Thai context, educational administration innovation can be categorized into four types: process-based innovations (such as strategic planning), function-based innovations (such as academic and personnel management), mechanism-based innovations (such as quality assurance systems), and model-based innovations (such as autonomous school models). These approaches collectively strengthen educational governance and support the ongoing development of schools (Niyamabha & Wichitpacharaporn, 2018).

By synthesizing these international and local perspectives, this study conceptualizes an administrative innovation that uniquely integrates place-based resources with university mentorship. Conceptually, this framework differentiates itself from traditional administrative models by moving beyond basic operational management; it is intentionally designed with the specific outcome of cultivating "Innovative Co-creator" characteristics in learners through localized, cross-sector collaboration.

#### 2.5. Education Sandbox in Thailand

The Education Sandbox, established under the [Education sandbox act B.E. 2562 \(2019\)](#), represents a shift toward decentralized governance by creating a regulatory "safe zone" that promotes innovation and supports stability. Conceptually analogous to autonomous school models globally—such as Charter Schools in the United States and Multi-Academy Trusts (MATs) in the United Kingdom (West & Yaghi, 2025)—this framework empowers pilot schools with administrative and instructional autonomy to develop scalable educational models. It operates through collaborative governance involving government agencies, the private sector, and civil society ([Office of Educational Innovation Area, 2025](#)). Since its 2019 inception with eight provinces, the initiative expanded to 19 provinces by 2022, now encompassing 1708 basic education schools—approximately 4.61% nationwide ([Office of Educational Innovation Area, 2025](#)).

Beyond structural reform, the sandbox facilitates pedagogical transformation by encouraging schools to design teaching and assessment methodologies tailored to their specific socio-cultural contexts. This includes integrating advanced technology and curriculum content aligned with 21st-century learner requirements (Srisuk, 2024). Research indicates that incorporating local identity and community-based issues into the learning



process promotes a responsive innovation ecosystem where educational practices are both relevant and context-sensitive (Damrongpanit et al., 2023; Suwanmanee et al., 2023). By empowering schools to integrate local resources and community participation, the initiative enables educational innovation to effectively address the evolving needs of learners and their communities.

## 2.6. Innovative Co-Creator

Under Thailand's National Education Standards 2018, the Desired Outcomes of Education (DOE) aim to cultivate "Thai People 4.0" through three core characteristics: Learner Person, Innovative Co-creator, and Active Citizen. Specifically, an "Innovative Co-creator" must possess seven key competencies: cognitive skills, 21st-century skills, digital intelligence, creative thinking, cross-cultural competence, interdisciplinary integration, and entrepreneurial characteristics. These attributes empower learners to collaboratively develop innovations that add value to themselves and society, with expected proficiencies progressively scaling from foundational teamwork in primary education to advanced interdisciplinary problem-solving in higher education (Office of the Education Council, 2023).

To translate this comprehensive national policy into measurable outcomes within the Songkhla Education Sandbox, this study operationalizes the "Innovative Co-creator" construct through specific empirical indicators tailored to the participating schools. Drawing upon the DOE competencies, student outcomes are evaluated across two primary dimensions: (1) Entrepreneurial Characteristics (evaluating value creation, risk management, organizational management, and determination), (2) Creative and Innovative Skills (assessing critical thinking, collaborative problem-solving, and a tolerance for mistakes) (Chongcharoen, 2024; Samyong et al., 2024). By bridging conceptual standards with these tangible indicators, this research provides a clear analytical baseline for evaluating educational administration innovation.

Ultimately, cultivating these learners requires the strategic alignment of decentralized policy, adaptive administration, and place-based pedagogy. The Education Sandbox, coupled with university-led coaching, provides the essential flexibility for this integration, effectively transforming schools into dynamic learning ecosystems.

## 3. Methodology

### 3.1. Research Design

This study employed a Research and Development (R&D) methodology integrated with a convergent parallel mixed-methods design (Creswell & Plano Clark, 2018) to develop and evaluate place-based educational administration innovations. The research process was structured into three operational phases over a period of 12 months (one academic year), wherein qualitative and quantitative data were collected concurrently and integrated during the analysis stage to formulate meta-inferences (Tashakkori & Teddlie, 2010):

- **Phase 1: Innovation Development and Strategic Framework Formulation:** This phase involved situational analysis and the collaborative design of administrative models. A baseline study was conducted through focus group discussions involving 10 multi-sectoral representatives, grounded in the Quadruple Helix model (Carayannis & Campbell, 2009). Four pilot schools from distinct jurisdictions (Primary, Secondary, Local Administrative, and Private) were purposively selected and awarded research grants of 80,000 THB (approx. 2200 USD). Each school conducted school-level focus groups to design their specific innovations and manuals, with the university research team serving as "Thinking Partners". The resulting drafts were refined through expert validation by a panel of specialists.

- Phase 2: Innovation Implementation and Empowerment: The refined innovations were operationalized over one academic semester (five months). To maintain rigor, a specialized Mentoring Team (3 members per school) provided continuous on-site coaching and empowerment. Concurrently, a series of inter-school knowledge exchange seminars functioned as a Professional Learning Community (PLC), enabling cross-jurisdictional reflection and the iterative refinement of the administrative models.
- Phase 3: Evaluation, Synthesis, and Dissemination: The final phase assessed the impact of the innovations and synthesized findings into a framework for long-term continuity. Multi-stakeholder perceptions from teachers, students, and parents were captured via questionnaires to evaluate learner growth and overall satisfaction. The study culminated in a large-scale innovation symposium featuring a “Student-Led Innovation Showcase,” where students presented creative products emerging from the new frameworks to regional education directors and academics.

The specific research activities, collaborative mentoring processes, and resulting administrative outputs for each phase of the 12-month study are synthesized in Table 1.

**Table 1.** The 12-Month R&D Framework for Collaborative Administrative Innovation.

| Phase/Duration                                       | Research Activities & Stakeholder Involvement                                                                                                                                                                                                                                       | Collaborative Mentoring & Strategic Co-Creation                                                                                                                           | Operational Research Outputs                                                                         |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Phase 1:<br>Design & Prototyping<br>(Months 1–6)     | Baseline Assessment:<br>Multi-sectoral Focus Group Discussion using the Quadruple Helix model to diagnose local administrative needs.<br>Strategic Selection:<br>Purposive sampling of 4 schools across diverse jurisdictions; awarding 80,000 THB grants for localized innovation. | Thinking Partnership:<br>Collaborative drafting of site-specific administrative models (e.g., T-FIVE, CILEP); Content validation by an expert panel to refine prototypes. | Validated Models and Comprehensive Administrative Manuals for 4 pilot schools.                       |
| Phase 2:<br>Action & Implementation<br>(Months 7–11) | Field Operationalization:<br>5-month trial of the developed models facilitating student-led projects. (e.g., Learning Stations).                                                                                                                                                    | Dual-layered Mentoring:<br>Integration of strategic university guidance with on-site pedagogical coaching from a 3-member Mentoring Team per school.                      | Refined Administrative Practices and evidence-based PLC logs illustrating iterative improvement.     |
| Phase 3:<br>Evaluation & Validation<br>(Month 12)    | Success Assessment:<br>Measuring the framework’s effectiveness through 360-degree feedback from teachers, students, and parents.<br>Final Synthesis:<br>Qualitative reflection sessions to consolidate success factors and long-term continuity strategies.                         | Public Dissemination:<br>Large-scale Innovation Symposium featuring a Student-led Showcase for regional directors, practitioners, and academics.                          | Evaluated Framework, Impact Assessment Reports, and a Scalable Administrative Model for the Sandbox. |

3.2. Scope and Participants

Situated within the Songkhla Education Sandbox (April 2024–March 2025), this study purposively selected four schools representing primary, secondary, local administrative, and private governance. The primary informants included school administrators and teachers involved in the innovation process. A dual-layered mentoring framework facilitated the partnership: the University Research Team provided strategic guidance. At the same time, three school-based mentors—appointed by the research team in direct response to the schools’ specific requests—managed daily pedagogical coaching. To observe the impact on learners, 289 students participated in diverse place-based learning initiatives, including

project-based and station-based models. Their engagement and learning outputs served as critical contextual evidence for developing “Innovative Co-creator” qualities within this collaborative administrative framework. Ethical standards were strictly maintained; participation was entirely voluntary, with informed consent obtained from all participants and their legal guardians prior to data collection. The right to withdraw from the study at any time without penalty was guaranteed throughout the research process.

### *3.3. Research Instruments and Validation*

All research instruments were subjected to rigorous content validation by a panel of independent experts prior to implementation. Qualitative protocols, including focus group guides and innovation rubrics, were reviewed by both academics and practitioners to verify theoretical alignment and practical feasibility. For quantitative instruments, including questionnaires and satisfaction surveys, validity was established using the Index of Item-Objective Congruence (IOC). Items were refined based on expert consensus to meet professional standards and accurately capture the intended constructs.

### *3.4. Data Collection and Analysis*

Methodological triangulation was employed to enhance data credibility by cross-referencing field observations, informal dialogues, and documentary evidence. For qualitative data, transcripts from focus groups, PLC seminars, and field notes underwent a rigorous, hybrid thematic analysis (incorporating both deductive and inductive coding). Deductively, initial codes were generated based on the core pillars of the collaborative administrative framework and the Desired Outcomes of Education (DOE) competencies. Inductively, open coding was applied to capture emerging themes related to localized challenges and contextual adaptations. To enhance analytical rigor and reliability, the coding process was conducted independently by two members of the research team. Inter-rater consensus was established through collaborative review meetings, where discrepancies were resolved through discussion until full agreement was reached. Member-checking was subsequently utilized to safeguard interpretative accuracy. Concurrently, quantitative data from evaluation rubrics and questionnaires were processed using descriptive statistics (Mean and S.D.) to assess the feasibility and impact of the innovations within the sandbox environment. The integration of these datasets occurred during the interpretation phase, where quantitative trends were corroborated and explained by the qualitative thematic findings.

### *3.5. Positionality of the Researchers*

Given the participatory nature of this Research and Development (R&D) study, acknowledging researcher positionality is essential for methodological transparency. In this study, the university team assumed a dual role: acting as both objective researchers and active facilitators (“Thinking Partners”) who coached the participating schools. While this dual role was instrumental in building relational trust and driving contextualized innovation, it also introduced potential risks of researcher bias during data collection and interpretation. To mitigate these risks, administrative models and evaluation rubrics were validated by an independent panel of external experts. Furthermore, quantitative assessments of learner outcomes were conducted primarily by school-level educators. The use of methodological triangulation and member-checking helped verify that the synthesized framework reflected the authentic realities of the pilot schools rather than the preconceived expectations of the university researchers.



## 4. Results and Findings

The study results are structured according to the three phases of the Research and Development (R&D) cycle, illustrating the transition from framework formulation to empirical validation.

### 4.1. Phase 1: Development and Validation of School-Led Innovations

The four pilot schools independently developed their administrative innovations and implementation manuals under the guidance of the university research team, which functioned as academic coaches and “Thinking Partners.” A panel of experts in educational administration and innovation subsequently evaluated the quality of these drafted innovations. The evaluation results indicated a very high level of appropriateness and feasibility, with an overall mean score of  $\bar{X} = 4.68$  (S.D. = 0.21) on a 5-point Likert scale. This strong expert validation indicates that the school-led administrative models were not only theoretically sound but also closely aligned with the localized needs and contextual conditions of the Songkhla Education Sandbox.

### 4.2. Phase 2: Implementation Outcomes Across Four Jurisdictions

The five-month implementation phase across the four pilot schools demonstrated that the collaborative administrative approach effectively catalyzed significant qualitative changes in learner characteristics. Table 2 summarizes the strategic alignment between the administrative innovations and their primary student-level outcomes.

**Table 2.** Summary of Administrative Innovations and Outcomes in Pilot Schools.

| School Case & Detailed Context                                                                                   | Administrative Innovation                                                  | Pedagogical Mechanism                                                                                                                                          | Target Student Outcome                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wat Khanun School<br>Small public primary.<br>Suburban: agricultural & micro-enterprise focus.                   | CILEP Model<br>Management of<br>Community-Based<br>Vocational Stations     | Six-step active learning<br>Survey, knowledge seeking,<br>direct experience, synthesis,<br>presentation, and exchange<br>across 5 vocational stations.         | Entrepreneurial<br>Characteristics<br>Creative thinking, innovation<br>creation, risk management,<br>organizational management,<br>and determination for success.  |
| Sathingprawittaya School<br>Large public secondary.<br>Rural: “Nod–Na–Le” (Toddy<br>Palm, Rice, Lake) ecosystem. | Nod–Na–Le<br>Synergy<br>Local Wisdom Integration<br>Framework              | Six-stage project cycle<br>Basic knowledge, stimulation,<br>collaboration, inquiry,<br>synthesis, presentation based<br>on the “Nod–Na–Le”<br>local ecosystem. | Entrepreneurial<br>Characteristics<br>Creative thinking, elaboration<br>and originality, creative<br>collaboration, and achieving<br>successful innovation.        |
| Tedsaban 5<br>(Wat Hat Yai) School<br>Medium municipality primary.<br>Urban: environmental<br>& circular focus.  | T-FIVE Model<br>Cross-Disciplinary<br>Team-Based Governance                | Four-station progression<br>Discovery (6 h), design (9 h),<br>production lab (15 h), and<br>public relations (9 h) utilizing<br>AI tools for branding.         | Creative and<br>Innovative Skills<br>Creative thinking, critical and<br>analytical thinking,<br>collaborative creative<br>thinking, and tolerance<br>for mistakes. |
| Klabpetsuksa School<br>Medium private primary.<br>Urban: regional<br>academic hub.                               | IoT-Scaffolding<br>Framework<br>Technology-Enhanced<br>Resource Management | Five-stage technical<br>development cycle<br>Discover, define, design,<br>develop, and deliver through<br>structured technical<br>mentoring.                   | Innovative Thinking Skills<br>(Creative thinking, critical and<br>analytical thinking,<br>collaborative creative<br>thinking, and tolerance<br>for mistakes).      |

### Analytic Evidence of the “Innovative Co-creator” Development

Rather than simply participating in activities, empirical evidence reveals that students across the four contexts actively developed the core characteristics of an “Innovative

Co-creator.” This development is supported by qualitative achievements—manifested in tangible student-led innovations such as the Songkhla Mini Mango Coffee and water hyacinth products (see Table 2)—and corroborated by measurable gains in entrepreneurial and creative competencies evaluated by stakeholders (see Table 3). Specifically, the evidence highlights the following dimensions:

“Innovative Co-creator”:

- **Entrepreneurial Transformation (Wat Khanun School):** This small rural school successfully converted social capital into human capital. Through the “Khanun Café” initiative and the community career market, 34 primary students actively designed and commercialized five distinct product lines, including Songkhla Mini Mango Coffee and jackfruit-based pastries. Analytically, the students’ ability to conceptualize products, calculate production costs, and execute real-world marketing strategies serves as direct empirical evidence of their entrepreneurial competencies. By moving beyond basic vocational training to actual community sales and responding to expert feedback, students demonstrated the capacity for creative value addition, financial literacy, and collaborative risk management—core dimensions of the Innovative Co-creator framework.
- **Synergy of Local Wisdom (Sathingprawittaya School):** Utilizing the “Nod–Na–Le” agricultural ecosystem, 113 secondary students moved from passive learners to active producers of localized innovations (e.g., palm-sugar shampoo, toddy palm charcoal). Supported by a dual-coaching system of teachers and community sages, these students not only developed physical products but also launched digital marketing campaigns via platforms such as TikTok. This active digital engagement and product commercialization provided empirical evidence of their digital intelligence and creative collaboration. The initiative illustrates a clear progression from theoretical learning to achieving successful, original innovations, demonstrating strong local identity pride and collaborative problem-solving.
- **Social Innovation (Tedsaban 5 (Wat Hat Yai) School):** By implementing the T-FIVE model across 39 h of intensive learning stations, 78 Grade 5 students successfully repurposed an invasive environmental weed (water hyacinth) into 19 distinct functional prototypes, ranging from eco-friendly bowls to handcrafted bags and modern lamps. This process yielded critical empirical evidence of their competency development. According to behavioral assessments, students transitioned from passive learners to active problem-solvers who could identify economic opportunities within ecological crises. Furthermore, their ability to leverage AI-driven applications (e.g., Canva) for digital branding, coupled with their fluent public pitching at the provincial exhibition, reflected a high degree of “student ownership,” tolerance for mistakes, and resilience in collaborative problem-solving.
- **Technological Agency (Klabpetsuksa School):** The IoT-scaffolding framework empowered 64 students to design and develop smart-technology prototypes, such as automated irrigation systems, rain-detecting clothes retrievers, and smart home alarms. The hands-on coding and hardware development cycle generated robust empirical evidence of innovative thinking and critical evaluation. Analytically, students demonstrated a high tolerance for mistakes; for instance, when initial designs proved too complex or physically flawed, they actively debugged codes, reconsidered mechanical constraints, and pivoted their projects (e.g., adapting a failed burglar alarm into a functional automated water dispenser). This iterative testing and refinement cultivated psychological ownership and resilience, suggesting that the students had internalized the cross-disciplinary integration required of modern Innovative Co-creators.

**Table 3.** Multi-Stakeholder Evaluation of “Innovative Co-creator” Outcomes.

| Innovative Co-Creator Dimensions & Pilot Schools | Evaluator Group | Pre-Implementation $\bar{X}$ (S.D.) | Post-Implementation $\bar{X}$ (S.D.) |
|--------------------------------------------------|-----------------|-------------------------------------|--------------------------------------|
| 1. Entrepreneurial Characteristics               |                 |                                     |                                      |
| Wat Khanun School                                | Teachers        | 2.73 (0.20)                         | 4.33 (0.07)                          |
|                                                  | Students        | 2.89 (0.15)                         | 4.19 (0.15)                          |
|                                                  | Parents         | 2.85 (0.22)                         | 4.00 (0.24)                          |
| Sathingprawittaya School                         | Teachers        | 3.04 (0.64)                         | 3.94 (0.07)                          |
|                                                  | Students        | 3.15 (0.70)                         | 4.22 (0.78)                          |
|                                                  | Parents         | 3.11 (0.74)                         | 3.98 (0.86)                          |
| 2. Creative and Innovative Skills                |                 |                                     |                                      |
| Tedsaban 5 (Wat Hat Yai) School                  | Teachers        | 2.45 (0.27)                         | 4.49 (0.26)                          |
|                                                  | Students        | 2.57 (0.50)                         | 4.51 (0.76)                          |
|                                                  | Parents         | 2.82 (0.41)                         | 4.47 (0.24)                          |
| Klabpetsuksa School                              | Teachers        | 3.32 (0.96)                         | 3.66 (0.57)                          |
|                                                  | Students        | 3.39 (0.76)                         | 3.62 (0.89)                          |
|                                                  | Parents         | 3.35 (0.82)                         | 3.68 (0.75)                          |

#### 4.3. Phase 3: Evaluation, Public Validation, and the Synthesis of the Collaborative Administrative Framework

The final phase focused on evaluating the outcomes of the implementation through a mixed-methods approach and synthesizing the empirical findings into an integrated administrative framework. By bridging quantitative assessments with qualitative reflections, this phase was designed for long-term continuity and contextual adaptability across diverse educational settings.

##### 4.3.1. Quantitative Impact on Learner Outcomes and Public Validation

To rigorously evaluate the efficacy of the localized administrative innovations, quantitative data were collected from key stakeholders (teachers, students, and parents) across the four pilot schools using a 5-point Likert scale. The assessment measured pre- and post-implementation development across the two core dimensions of the “Innovative Co-creator” construct: (1) Entrepreneurial Characteristics, (2) Creative and Innovative Skills.

As synthesized in Table 3, the results demonstrate a profound positive shift in student learning and development. Prior to the intervention, overall student capacities were rated at a “Moderate” level across all jurisdictions. Following the five-month implementation, mean scores significantly increased to “High” or “Highest” levels across all stakeholder evaluations.

These quantitative findings directly corroborate the qualitative field observations, demonstrating a cohesive analytical integration of the mixed-methods design. For instance, the marked statistical improvement in entrepreneurial characteristics at Wat Khanun and Sathingprawittaya schools directly aligns with their successful product launches and digital marketing campaigns. Similarly, the surge in creative skills at Tedsaban 5 and Klabpetsuksa substantiates the observational evidence of students effectively transforming local resources and utilizing IoT frameworks.

This empirical evidence was further validated through an Innovation Symposium attracting over 300 multi-sectoral stakeholders. A focal point was the “Student-Led Innovation Showcase,” where students transitioned from passive recipients of knowledge to active creators, fluently presenting complex problem-solving processes and tangible community innovations. Ultimately, the convergence of quantitative survey results and

qualitative public validation reflects the high satisfaction and contextual adaptability of the collaborative administrative framework.

#### 4.3.2. Synthesis of Critical Success Factors

A qualitative reflective session involving school administrators, teachers, and university mentors was conducted at the conclusion of Phase 3 to distill the core components that drove the intervention's success. The thematic analysis of these reflections revealed three critical dimensions of administrative growth essential for cultivating "Innovative Co-creators":

- **Strategic Vision Shift:** A strong consensus emerged that effective educational administration must transcend traditional classroom boundaries. By actively integrating local identity—such as the Nod–Na–Le ecosystem—with 21st-century professional agency, schools successfully transformed localized contexts into active learning laboratories. This shift allowed students to recognize the immediate relevance of their education to their communities.
- **Pedagogical Empowerment:** A pivotal factor was the transition of teachers from traditional knowledge transmitters to innovation coaches. This pedagogical reorientation cultivated significant self-efficacy and psychological ownership among learners. Notably, this coaching model proved highly effective in unlocking the potential of all student groups, including those who were not traditionally recognized as high-achieving in academic settings, by valuing their practical and creative problem-solving capabilities.
- **The Collaborative Innovation Ecosystem:** The establishment of a robust, multi-sectoral support network was identified as an essential scaffold. The university research team's role as a continuous "Thinking Partner," combined with the active engagement of community sages, provided schools with the necessary academic and cultural resources. This synergistic ecosystem effectively mitigated the risks associated with implementing new innovations and supported the long-term continuity of the collaborative administrative framework.

#### 4.3.3. Synthesis of the Collaborative Administrative Framework

The convergence of validation and reflective insights led to the synthesis of a collaborative administrative framework, structured around four core pillars designed to cultivate "Innovative Co-creator" characteristics:

- **Strategic Mentoring and Thinking Partnership:** Shifting from compliance-driven supervision to sustained academic mentoring where the university serves as a "Thinking Partner". This pillar reduces professional isolation by cultivating interconnected networks for reflective practice and collective problem-solving.
- **Place-Based Educational Ecosystems:** Grounding instruction in local issues and "Quadruple Helix" synergy. By aligning learning with students' lived experiences and local resources, schools provide diverse success pathways that are relevant to the community's needs.
- **Adaptive Governance and Resource Autonomy:** Leveraging the autonomy of the Education Sandbox to promote open, flexible management. This includes the strategic mobilization of resources and providing "safe spaces" for grassroots experimentation and school-led innovation.
- **Collective Synergy and Iterative Development:** Encouraging internal teamwork and a shared sense of purpose among school staff. This pillar utilizes multi-stakeholder feedback and public demonstrations of student learning and development for continuous, evidence-based improvement.

The synthesized framework indicates how place-based innovation can be contextually adapted and transferred to enhance educational quality across diverse educational jurisdictions. Following the conclusion of the research, all pilot schools have committed to integrating these practices into their long-term operations to support the continued transformation of the educational landscape.

## 5. Discussion

The findings of this study demonstrate that the collaborative administrative framework, driven by robust School–University partnerships, functions as a high-leverage mechanism for advancing place-based educational administration innovation. The successful implementation across four diverse jurisdictions within the Songkhla Education Sandbox highlights several critical dimensions of educational change facilitated by the [Education sandbox act B.E. 2562 \(2019\)](#). Specifically, the study indicates that leveraging decentralized autonomy allows schools to cultivate “Innovative Co-creator” characteristics among students, as reflected in the measurable improvements in entrepreneurial and creative competencies reported in Table 3.

Consequently, the synthesized four-pillar framework offers a novel theoretical contribution to the field. It adds to the existing literature by demonstrating how place-based pedagogy can be systematically integrated into school governance structures. It revises conventional top-down partnership models by establishing localized resource autonomy as a non-negotiable prerequisite for innovation. Ultimately, it reframes educational innovation from a standardized, replicable product into a contextually negotiated process, indicating that sustained school–community synergy is the critical mechanism for cultivating innovative co-creators.

### 5.1. The University as a “Thinking Partner” in School–University Partnerships

A pivotal discovery of this research is the transformation of the university’s role into a “Thinking Partner” within the localized context of the Education Sandbox. This role moves beyond traditional supervision and diverges from dominant Western school improvement models, where universities or external agencies often function as “inspectors” focused on compliance with predefined standards. Instead, the findings highlight a partnership grounded in sustained academic mentoring, shared decision-making, and co-design.

Crucially, this study explicitly differentiates the “Thinking Partner” construct from traditional models of support, marking its unique theoretical contribution. While traditional mentoring often relies on a hierarchical transfer of experience, and conventional technical assistance focuses primarily on localized problem-solving, the “Thinking Partner” model functions as a lateral, risk-sharing alliance. Drawing on recent conceptualizations in educational leadership—where effective coaching necessitates a shift toward a “co-constructor” and “thinking partner” role ([Farver & Holt, 2015](#))—alongside emerging frameworks in research–practice partnerships that emphasize reciprocal decision-making ([Peterman et al., 2021](#)), this study demonstrates a new administrative dynamic. A Thinking Partner does not merely observe or direct; rather, university mentors actively co-navigate policy ambiguities and co-design administrative structures alongside school leaders. This process moves beyond the provision of external advice by embedding academic expertise directly into localized problem-solving, thereby redefining the theoretical dynamics of School–University partnerships in decentralized educational settings. In essence, while traditional models treat universities as external advisors to the system, the Thinking Partner model positions them as integral collaborators in the co-construction of systemic reform.

Consistent with [Eady and Green \(2024\)](#) and [Halász and Thant Sin \(2023\)](#), effective School–University partnerships transcend one-directional knowledge transfer and empha-



size mutual reciprocity. In this study, university mentors provided both methodological clarity and “professional reassurance,” enabling school leaders to navigate the uncertainties and risks inherent in contextualizing educational innovation. This form of relational mentoring strengthens institutional confidence and enhances professional development practices within schools. In line with [Suwanmanee et al. \(2023\)](#) and [Geletu \(2024\)](#), such trust-based partnerships ultimately cascade down to classroom practice, contributing directly to enhanced student learning and development. Overall, positioning the university as a “Thinking Partner” reframes its role from an external evaluator to a collaborative co-creator, offering a more context-responsive and development-oriented model of School–University partnership.

### 5.2. Place-Based Innovation: Bridging Urban and Rural Contexts

This study provides empirical evidence that “place” functions as an active driver of innovation rather than a passive setting. The contrasting emphases of urban schools on IoT and city-based challenges, and rural schools on the “Nod–Na–Le” agricultural ecosystem, demonstrate that administrative innovation must be context-responsive to be effective. These findings highlight how innovation emerges differently across contexts and cannot be assumed to follow a uniform developmental trajectory.

This divergence challenges standardized, one-size-fits-all approaches prevalent in centralized education systems, where externally imposed models often lead to superficial adoption rather than meaningful transformation. As foundational scholars ([Smith & Sobel, 2014](#); [Sobel, 2004](#)) and contemporary researchers ([Bocko et al., 2023](#)) argue, place-based education fundamentally seeks to connect learning to the local ecology and community to cultivate active, engaged citizens. This study meaningfully extends their pedagogical proposition into the realm of educational administration. It demonstrates that effective innovation requires grounding both administrative and curricular practices in local realities rather than abstract global benchmarks.

By connecting the curriculum to local resources—such as Songkhla Mini Mango Coffee and water hyacinth social innovations—schools cultivated environmental literacy and a sense of stewardship among learners. Grounding innovation in local wisdom enabled learning to remain authentic and relevant to students’ future pathways. Crucially, as evidenced by the quantitative improvements in students’ creative and entrepreneurial competencies, this localized approach directly operationalizes the “Innovative Co-creator” framework. It reinforces the value of place-based approaches over standardized reform models by indicating that contextual relevance is a critical prerequisite for developing high-value student learning outcomes ([Conlon et al., 2024](#); [Hamilton & Marckini-Polk, 2023](#); [Yemini et al., 2025](#)).

### 5.3. Flexible Management and Distributed Leadership

The effectiveness of the collaborative administrative framework was fundamentally supported by open and flexible management, which enabled school leaders to create “safe spaces” for experimentation. Drawing on the recent conceptualization by [Klar et al. \(2024\)](#), the creation of such safe spaces within professional communities is essential for building relational trust and supporting school leadership development. By utilizing the autonomy afforded by the Education Sandbox, administrators reduced rigid procedural constraints and allowed innovation to emerge from school-level initiatives. This finding underscores the importance of flexibility as a structural condition for innovation rather than a discretionary administrative practice.

This shift stands in contrast to compliance-driven hierarchies commonly found in centralized education systems, where uniform mandates often suppress grassroots inno-

vation. Consistent with [Watterston and Zhao \(2024\)](#), flexibility is essential for addressing individual differences and facilitating innovation within complex school environments. Rather than reinforcing top-down control, flexible management in this study facilitated adaptive decision-making and responsiveness to contextual needs. Crucially, this finding addresses the transferability of the proposed administrative framework. For this collaborative model to be effectively transferred to other educational settings, decentralized policy conditions—similar to the autonomy granted by the Education Sandbox—must be present. In highly centralized, compliance-heavy bureaucracies, such grassroots administrative innovations may prove untransferable without foundational policy reform.

Moreover, flexibility enabled the emergence of distributed and relational leadership through collaborative teamwork and shared responsibility among staff. In line with [Goduto et al. \(2009\)](#) and [Hsieh et al. \(2024\)](#), leadership structured around professional networks rather than formal hierarchy enhanced instructional quality and supported teachers' transition into effective innovation coaches ([Niemi et al., 2024](#)). This leadership configuration contributed to a more resilient and innovation-oriented school culture, driven by continuous improvement within a research–practice partnership ([Paufler et al., 2026](#)).

#### *5.4. Sustainability Through Community Ownership and Resource Empowerment*

Finally, this study suggests that the long-term continuity of innovation is deeply rooted in community ownership and Quadruple Helix synergy. Community engagement did not emerge through formal mandates but evolved organically as stakeholders recognized the tangible value of school- and student-led projects. This finding is consistent with [Myende and Nhlumayo \(2020\)](#) and [Santoso et al. \(2022\)](#), who argue that authentic school–community collaboration strengthens both educational outcomes and social engagement when communities are positioned as co-owners rather than external supporters.

In contrast to centralized, top-down funding models, the collaborative administrative framework emphasizes empowering resource allocation based on localized needs. Initial research grants functioned as catalytic resources, enabling schools to respond flexibly to contextual challenges and to design inclusive learning pathways. As noted by [Ma et al. \(2022\)](#), such context-sensitive resource empowerment enhances self-efficacy among diverse learners and helps mitigate structural educational inequities without relying on standardized metrics.

Moreover, the integration of transformative evaluation enabled innovation to remain adaptive and responsive over time. Rather than serving as a summative accountability mechanism, evaluation functioned as a developmental process driven by multi-stakeholder feedback. In line with [Lomba et al. \(2022\)](#) and [Hassans \(2025\)](#), this approach supported iterative improvement and reinforced the resilience of the school innovation ecosystem, sustaining momentum through shared responsibility and collective learning.

## **6. Limitations and Future Research**

While this study provides robust empirical evidence for the efficacy of the collaborative administrative framework, certain limitations must be acknowledged. Primarily, the qualitative data collection processes (e.g., focus groups and PLC reflections) relied heavily on the perspectives of school administrators, teachers, and university mentors. Although 289 students actively participated in the place-based innovations, direct qualitative data capturing their personal voices and lived experiences were not explicitly isolated in the thematic analysis. Given the framework's core objective of cultivating "Innovative Co-creator" characteristics, the absence of explicit student narratives represents a methodological constraint. Future studies should prioritize participatory research designs that actively center

student voices, ensuring that their perspectives directly inform the continuous refinement of educational administration innovations.

## 7. Conclusions

This research provides empirical evidence that place-based educational administration innovation is most effectively realized through a sustained School–University partnership grounded in relational mentoring and collaborative governance. By positioning the university as a “Thinking Partner” rather than a traditional evaluator, the synthesized collaborative administrative framework represents a significant shift in how academic expertise is embedded within local school ecosystems to cultivate the essential characteristics of “innovative co-creators.”

The findings highlight that educational transformation within Thailand’s Education Sandbox environment thrives when administrative structures move beyond rigid, compliance-driven mandates toward flexible, context-responsive frameworks that prioritize local identity and community engagement. This shift allows for the successful integration of university-led coaching with community-based assets, as evidenced by student-led social and economic innovations ranging from specialty coffee to eco-friendly products derived from local resources.

Ultimately, the framework developed in this study offers a promising, contextually adaptable model for enhancing student learning and development across diverse educational jurisdictions. It facilitates reform to remain deeply connected to the evolving needs of the region while preserving its unique socio-cultural identity. By nurturing an ecosystem of trust and distributed leadership, this approach supports the long-term continuity of innovation, providing a robust pathway for the meaningful transformation of school administration in a decentralized policy landscape.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/educsci16030440/s1>, Document S1: Representative Case Study and Implementation Manual: The T-FIVE Model at Tessaban 5 (Wat Hat Yai) School.

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