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# Developing a Program to Enhance Innovative Leadership among School Administrators in Buriram's Education Sandbox, Thailand

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This study investigated (1) the current and desirable conditions and priority needs for enhancing innovative leadership among school administrators in Buriram's Education Sandbox, and (2) the development and evaluation of a program to strengthen such leadership. A mixed-methods design was implemented in two phases. In Phase 1, quantitative data were collected from 282 school administrators and teachers using stratified random sampling. A five-point rating scale questionnaire was employed, and data were analyzed using mean, standard deviation, and the modified Priority Needs Index (PNI<sub>modified</sub>). In Phase 2, the needs assessment results informed the development of a leadership enhancement program, which was subsequently evaluated by five experts for appropriateness and feasibility. The results indicated that the current level of innovative leadership was moderate, while the desirable level was highest. Among the four components, innovative vision demonstrated the greatest priority need, followed by creativity, organizational innovation climate, and teamwork. The developed program consisted of six components: principles, objectives, content, development methods, media, and evaluation. Its content was structured into four modules aligned with the identified needs. Expert evaluation confirmed that the program was highly appropriate and feasible for implementation. This study offers a context-specific leadership development program that can support educational reform and foster innovation in decentralized school systems.

**Keywords:** Innovative Leadership, School Administrators, Leadership Development Program, Education Sandbox, Mixed Methods

## 1. Introduction

The rapid transformations of the 21st century, driven by technological advancement and innovation, have profoundly reshaped economic, social, and educational systems. In response, Thailand has adopted the *Thailand 4.0* policy to promote a value-based economy through technology, creativity, and innovation (Cascio, 2020). In the education sector, the Education Sandbox Act B.E. 2562 (2019) was enacted to enhance basic education, reduce inequality, decentralize administrative authority, and encourage the development of educational innovations through cross-sector collaboration (Office of the Council of State, 2019).

School administrators play a vital role in leading organizations through these challenges and transformations. Therefore, they must possess innovative leadership (Şen & Eren, 2012). This enables them to creatively initiate and develop school operations, possess a clear innovative vision for management, and create an innovative organizational climate that motivates teachers and personnel to think creatively. Furthermore, they must empower teamwork and delegate decision-making authority to staff, which ultimately leads to the successful creation of innovations within educational institutions (Thammathatsananon, 2021).

Buriram province has been designated as an Education Sandbox due to its readiness in raising educational achievement, reducing inequality, and fostering collaboration among network partners. The goal is to serve as a pilot area for decentralization and to increase agility in educational administration (Office of the Prime Minister, 2024). However, previous literature reveals a lack of research specifically focused on enhancing the innovative leadership of school administrators in this area. For this reason, the researcher is interested in studying the current conditions, desirable conditions, and priority needs to develop "A Program to Enhance the Innovative Leadership of School Administrators under Buriram's Education Sandbox." This program aims to equip school administrators with the knowledge, skills, and abilities required to transform their schools into innovative organizations and cultivate students into innovators ready to navigate the changes of the 21st century.

## 2. Research Methodology

This research used a mixed-methods approach, conducted in two phases as follows:

### 2.1. Phase One

This phase studies the current conditions, desired conditions, and priority needs for enhancing the innovative leadership of school administrators under Buriram's education sandbox.

#### 2.1.1. Population and Sample

The population consisted of 958 participants, including school administrators and teachers from Buriram's education sandbox.

The sample consisted of 282 participants, including school administrators (school directors and deputy directors) and teachers from Buriram's education sandbox. It was determined using the Krejcie & Morgan formula (Krejcie & Morgan, 1970) Stratified random sampling was applied, categorized by school size: small, medium, large, and extra-large. Within each stratum, simple random sampling was conducted based on school size to select the sample as specified.

#### 2.1.2. Research Instruments

The questionnaire consisted of two sections. Part 1 consisted of general information about position and school size, presented as a checklist. Part 2 was a questionnaire concerning the current and desired conditions of innovative leadership of school administrators under Buriram's education sandbox by using a 5-point rating scale based on Likert's concept.

#### 2.1.3. Instrument Quality Assessment and Data Collection

The criteria and procedures for constructing a rating scale questionnaire was thoroughly examined. Based on this understanding. The research conceptual framework was used as a foundation for drafting the questionnaire items. The drafted questionnaire was submitted to the thesis advisor for a thorough review to identify and rectify any flaws or ambiguities in the question items.

The revised questionnaire was submitted to 5 experts to assess the content validity using the Item-Objective Congruence (IOC) method. The IOC values ranged between 0.60 to 1.00 were acceptable.

The question then was pilot tested to 30 school administrators and teachers, who were a non-sample group. The discrimination values for the current condition ranged from 0.31 to 0.83, And for the desired condition from 0.39 to 0.82. All items met the quality criteria.

The overall reliability coefficients (Cronbach's Alpha) were 0.96 for the current condition questionnaire and 0.97 for the desired condition questionnaire, both statistically significant at the .05 level.

Data were collected from 282 sample participants using both in-person distribution and Google forms. The necessary needs assessment was performed by comparing the current and desired conditions. The Priority Needs Index modified (PNI<sub>modified</sub>) was calculated to identify and rank the priority elements for improvement.

#### 2.1.4. Data Analysis and Statical Methods Used in the Study

A statistical software package was used to evaluate the quality of the research instruments and to perform data analysis. This included the calculation of the index of item-objective congruence, Cronbach's alpha coefficients, and the priority needs index modified.

### 2.2. Phase Two

The findings from Phase One were used as empirical input for the design of the innovative leadership development program in Phase Two. To develop a program to enhance the innovative leadership of school administrators under Buriram's education sandbox.

#### 2.2.1. Population and Sample

The interview participants were chosen from three school administrators and one deputy director of education service area office recognized as the best practice examples in innovative leadership using a purposive sampling technique.

The suitability and feasibility of the program were assessed by 5 experts. These experts were selected using purposive sampling based on specific qualifications.

#### 2.2.2 research Instruments

The semi-structured interview was designed to gather information on the enhancement of innovative leadership of school administrators

The interview questions were reviewed for accuracy and appropriateness with an advisor before being used in interviews with administrators. It consisted of 2 sections. Section 1 consisted of general information about the interviewees. Section 2 consisted of opinions about Enhancing innovative leadership for school administrators.

The assessment form consisted of 2 sections. Section 1 Was general information about the assessor. Section 2 was the assessment of the suitability and feasibility of the program.

#### 2.2.3 Instrument Quality Assessment and Data Collection

The interviewees recognized as the best practices were selected using the criteria as follows:

1) School administrator or deputy director of education service area office with demonstrated achievements in school management, whose school or personnel has received of the OBEC Awards from the office of the basic education commission (OBEC) and was awarded the Gold Medal level.

2) School administrator or deputy director of education service area office who demonstrated achievements at the educational service area level in innovative leadership, whose school have been recognized by their affiliated agencies or external organizations as small schools or schools with outstanding best practices.

#### 2.2.4. Data Analysis and Statistical Methods used in the Study

The data analysis in Phase Two consisted of both qualitative and quantitative methods. For the qualitative data obtained from the semi-structured interviews, content analysis was employed. The interview responses were transcribed and categorized into key themes to synthesize empirical input for designing the program. Conversely, the quantitative data regarding the assessment of the program's suitability and feasibility were analyzed using descriptive statistics, which included mean, and standard deviation.

### 3. Ethical Approval

This study was reviewed and approved by the Research Ethics Committee for Human Subjects at Mahasarakham University, Thailand (Approval No. 857-847/2025). All participants provided informed consent prior to participation. Participation was voluntary, and participants were informed of their right to withdraw at any time without penalty. Confidentiality and anonymity were ensured throughout the study, and all data were handled in accordance with ethical research standards. Data supporting the findings of this study are available from the corresponding author upon reasonable request.

### 4. Research Findings

The researcher conducted the data analysis in two phases.

#### 4.1. Phase One

The results of the study on the current conditions, desired conditions, and necessary needs for enhancing innovative leadership of school administrators under Buriram's education sandbox.

Research findings revealed the current conditions, desired conditions, and the necessary needs for enhancing innovative leadership of school administrators under Buriram's education sandbox. The results are presented in Table 1 as follows.

**Table 1. Mean, Standard Deviation, Priority Needs Index Modified (PNI<sub>modified</sub>), and Rank of Priority Needs for Enhancing Innovative Leadership of School Administrators under Buriram's Education Sandbox.**

Components of Innovative Leadership	Current Conditions			Desired Conditions			PNI modified	Priority Ranking
	$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level		
<b>1. Innovative vision</b>	<b>3.22</b>	<b>0.75</b>	<b>Moderate</b>	<b>4.79</b>	<b>0.41</b>	<b>Highest</b>	<b>0.49</b>	<b>1</b>
1.1 Formulating	3.34	0.73	Moderate	4.82	0.39	Highest	0.44	3
1.2 Articulating	3.32	0.73	Moderate	4.80	0.40	Highest	0.44	2
1.3 Implementing	3.02	0.74	Moderate	4.75	0.44	Highest	0.57	1
<b>2. Creativity</b>	<b>3.40</b>	<b>0.98</b>	<b>Moderate</b>	<b>4.77</b>	<b>0.46</b>	<b>Highest</b>	<b>0.40</b>	<b>2</b>
2.1 Originality	3.86	1.00	High	4.77	0.45	Highest	0.24	4
2.2 Fluency	3.08	0.89	Moderate	4.75	0.46	Highest	0.54	2
2.3 Flexibility	3.07	0.92	Moderate	4.80	0.44	Highest	0.56	1
2.4 Elaboration	3.60	0.85	High	4.75	0.48	Highest	0.32	3
<b>3. Climate of Innovative Organization</b>	<b>3.37</b>	<b>0.97</b>	<b>Moderate</b>	<b>4.52</b>	<b>0.63</b>	<b>Highest</b>	<b>0.34</b>	<b>3</b>
3.1 Organizational Culture	3.45	0.97	Moderate	4.54	0.54	Highest	0.31	2
3.2 Networking	3.60	0.95	High	4.65	0.52	Highest	0.29	3
3.3 Using Technology	3.04	0.88	Moderate	4.35	0.78	High	0.43	1
<b>4. Teamwork</b>	<b>3.64</b>	<b>0.97</b>	<b>High</b>	<b>4.70</b>	<b>0.53</b>	<b>Highest</b>	<b>0.28</b>	<b>4</b>
4.1 Coordination	3.12	0.77	Moderate	4.80	0.41	Highest	0.54	1

Components of Innovative Leadership	Current Conditions			Desired Conditions			PNI modified	Priority Ranking
	$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level		
4.2 Communication	4.02	0.96	High	4.85	0.36	Highest	0.21	4
4.3 Team Orientation	3.34	0.93	Moderate	4.77	0.42	Highest	0.43	2
4.4 Team Leadership	4.17	0.77	High	4.67	0.51	Highest	0.12	5
4.5 Monitoring team performance	3.91	0.83	High	4.66	0.60	Highest	0.11	6
4.6 Backup Behavior	3.27	1.01	Moderate	4.43	0.71	High	0.35	3
<b>Total</b>	<b>3.44</b>	<b>0.94</b>	<b>Moderate</b>	<b>4.70</b>	<b>0.52</b>	<b>Highest</b>		

According to Table 1, the overall current conditions of innovative leadership among school administrators under Buriram’s education sandbox were found to be at a moderate level ( $\bar{x}$  = 3.44). while the overall desired conditions were rated at the highest level ( $\bar{x}$  = 4.70). This substantial gap between current and desired conditions across all components signals a systemic need for structured leadership development, particularly in areas where practice has not kept pace with expectations.

When considering each component individually, Teamwork had the highest current mean score ( $\bar{x}$  = 3.64, High level), suggesting that collaborative structures already exist to some degree within schools. However, despite this relative strength, Teamwork still recorded a notable gap from its desired level ( $\bar{x}$  = 4.70), indicating that existing collaborative practices remain insufficient and require further development. In contrast, Innovative Vision recorded the lowest current mean ( $\bar{x}$  = 3.22, Moderate level) yet the highest desired mean ( $\bar{x}$  = 4.79), producing the widest gap among all components. This pattern reflects a critical disconnect: administrators are expected to lead with a clear, future-oriented vision, yet the practical behaviors associated with visionary leadership remain underdeveloped. Creativity ( $\bar{x}$  = 3.40) and Climate of Innovative Organization ( $\bar{x}$  = 3.37) similarly remained at moderate levels, pointing to specific behavioral areas that demand targeted intervention.

The Priority Needs Index modified confirmed these patterns quantitatively. Innovative Vision ranked highest ( $PNI_{modified}$  = 0.49), representing the most urgent gap between current practice and desired behavior. Creativity followed ( $PNI_{modified}$  = 0.40), indicating that administrators' capacity to generate and apply novel ideas requires considerable strengthening. Climate of Innovative Organization ranked third ( $PNI_{modified}$  = 0.34), reflecting limited organizational conditions that support innovation within schools. Teamwork, while rated highest in current conditions, still ranked fourth in priority need ( $PNI_{modified}$  = 0.28), confirming that even relatively stronger areas fall short of the desired standard and warrant continued development.

These findings are consistent with the theoretical frameworks of innovative leadership. According to Vanichwasin (2017) and Horth and Buchner (2014), innovative leadership is fundamentally anchored in the ability to articulate and implement a transformative vision that guides organizational change. The high  $PNI_{modified}$  score for Innovative Vision aligns with Sloane (2007) and Owen (2015) assertion that visionary capacity is the foundational competency distinguishing innovative leaders from conventional administrators. Furthermore, the comparatively low current scores in Creativity reflect what Hender (2003) and Couros (2014) described as the absence of a supportive climate for innovation, wherein administrators have not yet cultivated the cognitive and behavioral flexibility required to generate and sustain novel ideas. The priority need identified in Climate of Innovative Organization further supports Tidd and Bessant (2021) view that structural and organizational enablers are essential prerequisites for sustaining innovation within schools. Taken together, the  $PNI_{modified}$  rankings provide a clear, empirically grounded basis for prioritizing Innovative Vision as the most urgent focus of the development program, with Creativity and Climate of Innovative Organization as closely related priorities.

4.2. Phase Two

To develop and evaluate the program to enhance the Innovative Leadership of school administrators under Buriram’s education sandbox.

The priority needs index was analyzed from the current and desired conditions of innovative leadership. Key components with significant needs identified across full dimensions. These issues were used to construct an interview protocol, findings of which were employed in developing the program to enhance the innovative leadership of school administrators under Buriram’s education sandbox.

The interview was conducted with four key informants, comprising school administrators and deputy director of education service area office recognized for the best practice in innovative leadership. The results were synthesized and represented in Table 2 as follows:

**Table 2. The Summary of Key Issues Identified for the Program.**

Interview Topics	Summary of findings
1. Program Components	1. Principle 2. Objective 3. Contents 4. Development methods 5. Media 6. Measurement and Evaluation
2. Development concept	Learning Based on the 70:20:10 model 1. 70% of learning from practice and experience.

Interview Topics	Summary of findings
	2. 20% of learning through study visits, allowing participants to learn from the practices and experience of others. 3. 10% of learning and development through courses and programs, such as participating in seminars and specialized training courses.
3. Development Methods	1. Action Learning 2. Case Study 3. Training
4. Duration	70 hours
5. Measurement and Evaluation	1. Pre-, during-, and post-development evaluation. 2. Evaluation of Participant Satisfaction with the Program.

Both theoretical foundations in innovative leadership and qualitative data gathered via interviews, the program presents a comprehensive approach grounded in established model and best practices. This program serves as a key approach to enhance the innovative leadership of school administrators under Buriram's education sandbox. It aims to develop administrators within this office to possess knowledge, understanding, and the ability to foster innovative vision, creativity, climate of innovative organization, and teamwork. The goal is to ensure that operations achieve the set objectives while allowing administrators to fully harness each staff member's potential, which is a crucial factor contributing to organization's success.

The 70:20:10 framework outlines a model for learning and development, emphasizing that 70% of learning is from practice and experience, 20% from interactions with others, and 10% from learning and development through courses and programs. This model suggests that effective learning and development programs should consider a mix of informal and formal learning opportunities (Arets & Jennings, 2017; Jennings & Wargnier, 2015). This model is designed for effective leadership cultivation by emphasizing experiential learning within a real-world work context rather than traditional classroom settings. A key characteristic of the 70:20:10 framework is the strategic integration of activities in these specific proportions to systematically enhance the learning process across various channels.

The duration of this innovative leadership program was decided during the interviews based on best practices. The duration of training programs varies depending on the training objectives, content complexity, audience needs, and delivery methods. Time allocation must be appropriate according to the components with the highest priority needs. Since each module requires different amounts of time, the researcher allocated a total of 70 hours for this program, specifically divided into: Module 1 – Innovative Vision (25 hours), Module 2 – Creativity (18 hours), Module 3 – Climate of Innovative Organization (15 hours), and Module 4 – Teamwork (12 hours).

**Table 3. Mean and Standard Deviation of the Suitability and Feasibility Level of the Program to Enhance Innovative Leadership of School Administrator under Buriram's education sandbox**

Program Components	Suitability			Feasibility		
	$\bar{x}$	S.D.	Level	$\bar{x}$	S.D.	Level
<b>1. Principles</b>	<b>4.3</b>	<b>0.46</b>	<b>High</b>	<b>4.7</b>	<b>0.46</b>	<b>Highest</b>
1.1 Clarity of principles	4.2	0.4	High	4.8	0.4	Highest
1.2 Importance of principles	4.4	0.49	High	4.6	0.49	Highest
<b>2. Objectives</b>	<b>4.8</b>	<b>0.4</b>	<b>Highest</b>	<b>4.7</b>	<b>0.46</b>	<b>Highest</b>
2.1 Enhancing innovative leadership for school administrators	4.8	0.4	Highest	4.6	0.49	Highest
2.2 Covers components of innovative leadership	4.8	0.4	Highest	4.8	0.4	Highest
<b>3. Contents</b>	<b>4.51</b>	<b>0.5</b>	<b>Highest</b>	<b>4.51</b>	<b>0.5</b>	<b>Highest</b>
3.1 Consistent with the program objectives	4.8	0.4	Highest	4.8	0.4	Highest
3.2 Content arrangement is consistent with components	4.6	0.49	Highest	4.8	0.4	Highest
3.3 Duration of enhancement	4.4	0.49	High	4.4	0.49	High
3.4 Module 1 Innovative vision	4.4	0.49	High	4.4	0.49	High
3.5 Module 2 Creativity	4.8	0.4	Highest	4.4	0.49	High
3.6 Module 3 Climate of Innovative Organization	4.4	0.49	High	4.4	0.49	High
3.7 Module 4 Teamwork	4.2	0.4	High	4.4	0.49	High
<b>4. Enhancing methods</b>	<b>4.57</b>	<b>0.5</b>	<b>Highest</b>	<b>4.77</b>	<b>0.42</b>	<b>Highest</b>

4.1 Interesting and suitable for administrators	4.4	0.49	High	5	0	Highest
4.2 Applicability to practice	4.4	0.49	High	4.8	0.4	Highest
4.3 Duration of each activity	4.6	0.49	Highest	4.6	0.49	Highest
4.4 Training	4.2	0.4	High	4.8	0.4	Highest
4.5 Case Study	5	0	Highest	4.6	0.49	Highest
4.6 Action Learning	4.8	0.4	Highest	4.8	0.4	Highest
<b>5. Media</b>	<b>4.5</b>	<b>0.5</b>	<b>High</b>	<b>4.2</b>	<b>0.4</b>	<b>High</b>
5.1 Suitable for the enhancing methods	4.4	0.49	High	4.2	0.4	High
5.2 Helps participants understand the content better	4.6	0.49	Highest	4.2	0.4	High
<b>6. Measurement and Evaluation</b>	<b>4.7</b>	<b>0.46</b>	<b>Highest</b>	<b>4.4</b>	<b>0.49</b>	<b>High</b>
6.1 Pre-, during-, and post-development evaluation	4.6	0.49	Highest	4.6	0.49	Highest
6.2 Evaluation of participant satisfaction with the program	4.8	0.4	Highest	4.2	0.4	High
<b>Total</b>	<b>4.55</b>	<b>0.5</b>	<b>Highest</b>	<b>4.58</b>	<b>0.49</b>	<b>Highest</b>

According to Table 3, five experts assessed the innovative leadership development program for school administrators on an item-by-item basis. The results showed that the suitability of the program received mean scores ranging from 4.20 to 5.00, with an overall average of 4.55, indicating the highest level of appropriateness. The feasibility of the program was similarly rated, with mean scores between 4.20 and 5.00 and an overall average of 4.58, demonstrating the highest level of practical implementability.

Examining the results in greater detail reveals important patterns across program components. Among the suitability ratings, Objectives ( $\bar{x} = 4.80$ ) and Enhancing Methods ( $\bar{x} = 4.57$ ) received the highest component-level ratings, reflecting expert consensus that the program's goals are clearly defined and that the chosen instructional approaches, namely Action Learning, Case Study, and Training, are well-suited to developing the targeted leadership competencies. Notably, Case Study received a perfect suitability score ( $\bar{x} = 5.00$ ), underscoring expert confidence in its capacity to expose administrators to authentic leadership challenges in context. Contents ( $\bar{x} = 4.51$ ) and Measurement and Evaluation ( $\bar{x} = 4.70$ ) also achieved highest-level ratings, indicating that both the module structure and the pre-, during-, and post-evaluation framework were perceived as rigorous and coherent. The relatively lower, though still high, rating for Media ( $\bar{x} = 4.50$ ) suggests a potential area for refinement in future iterations of the program.

Regarding feasibility, Enhancing Methods again scored highest ( $\bar{x} = 4.77$ ), with Interesting and Suitable for Administrators receiving the maximum score ( $\bar{x} = 5.00$ ), confirming that experts regarded the delivery approach as not only theoretically sound but also practically executable within the target context. The slightly lower feasibility ratings for Media ( $\bar{x} = 4.20$ ) and Evaluation of Participant Satisfaction ( $\bar{x} = 4.20$ ) indicate that while these components are viable, logistical considerations such as resource availability and evaluation administration may require additional planning during implementation.

These results carry significant theoretical and practical implications. The high ratings across suitability and feasibility dimensions validate the program's design, which was grounded in both the 70:20:10 learning framework and the empirical priority needs identified in Phase One. The alignment of the program's time allocation, with Module 1 on Innovative Vision (25 hours), Module 2 on Creativity (18 hours), Module 3 on Climate of Innovative Organization (15 hours), and Module 4 on Teamwork (12 hours), with the PNI<sub>modified</sub> rankings demonstrate a systematic, needs-driven approach to leadership development. This is consistent with Arets and Jennings (2017) and Jennings and Wargnier (2015), who emphasized that the 70:20:10 model's effectiveness lies in its deliberate integration of experiential, social, and formal learning pathways, ensuring that leadership behaviors are developed through real-world application rather than passive instruction alone. The expert validation further aligns with the findings of Paxton and Stralen (2015) and Holtzhausen and Botha (2021), who concluded that leadership development programs emphasizing practical, hands-on experience and collaborative inquiry significantly enhance administrators' capacity for innovation and institutional sustainability.

## 5. Conclusion

This study found that the current condition of innovative leadership among school administrators in Buriram's Education Sandbox was at a moderate level, whereas the desirable condition was at the highest level. Among the four components, innovative vision emerged as the highest priority need, followed by creativity, climate of innovative organization, and teamwork. Based on these findings, a leadership development program was designed with six major components: principles, objectives, content, development methods, media, and measurement and evaluation. The program included four modules corresponding to the identified needs.

The expert evaluation confirmed that the program was highly appropriate and highly feasible for implementation. These findings suggest that leadership development for school administrators should prioritize strategic vision, creativity, and organizational conditions that support innovation. The study contributes a context-specific model for enhancing innovative

leadership in educational settings characterized by reform, decentralization, and innovation-driven policy. Future research may examine the long-term effects of program implementation on school effectiveness, teacher practices, and student outcomes.

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