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Research Paper

Educational Leadership Effectiveness and Academic Achievement in Kalasin Province: A Mixed-Methods Research and Development Study of Rural Schools[1]

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Abstract:

Background: Educational leadership plays a critical role in determining academic achievement outcomes, particularly in rural contexts where resource limitations and geographical isolation create unique challenges. Kalasin Province, located in northeast Thailand, represents a typical rural educational environment facing persistent achievement gaps and leadership development needs.

Purpose: This research and development study examines the relationship between educational leadership effectiveness and student academic achievement in Kalasin Province, aiming to develop evidence-based leadership interventions for improving educational outcomes in rural school contexts.

Methods: A mixed-methods research and development approach was employed with 356 quantitative participants (calculated using Krejcie & Morgan formula) including school principals, teachers, and students across 42 schools in Kalasin Province, and 24 qualitative participants through purposive sampling. Data collection utilized validated leadership effectiveness questionnaires, academic achievement measures, and semi-structured interviews. Statistical analysis included descriptive statistics, correlation analysis, hierarchical multiple regression, and path analysis using SPSS 29.0 and AMOS 26.0.

Results: Findings revealed significant positive correlations between leadership effectiveness dimensions and academic achievement indicators ($r = 0.687$, $p < 0.001$). Instructional leadership ($\beta = 0.412$, $p < 0.001$), transformational leadership behaviors ($\beta = 0.298$, $p < 0.001$), and distributed leadership practices ($\beta = 0.234$, $p < 0.001$) emerged as primary predictors explaining 72.3% of variance in student academic achievement. The developed leadership intervention program demonstrated significant improvements in pilot implementation (Cohen's $d = 1.47$).

Conclusions: Educational leadership effectiveness significantly influences student academic achievement in Kalasin Province's rural schools. The study's developed intervention framework, emphasizing instructional focus, transformational behaviors, and distributed

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practices, provides actionable strategies for educational leaders seeking to enhance academic outcomes in resource-constrained rural environments.

Keywords: educational leadership, academic achievement, rural schools, Kalasin Province, mixed-methods research

1. INTRODUCTION

Educational leadership effectiveness represents a critical determinant of student academic achievement across diverse educational contexts, with research consistently demonstrating strong relationships between quality leadership and improved learning outcomes (Hallinger, 2018; Leithwood et al., 2020). In rural educational settings, leadership effectiveness becomes particularly crucial due to unique challenges including resource constraints, geographical isolation, limited professional development opportunities, and difficulties in attracting and retaining qualified educational personnel (Azano & Stewart, 2015; Pashiardis & Johansson, 2016).

Kalasin Province, located in Thailand's northeast region, exemplifies the rural educational context where leadership effectiveness significantly impacts academic achievement outcomes. With a population of approximately 985,000 distributed across 18 districts, Kalasin faces typical rural challenges including economic disadvantages, infrastructure limitations, and educational resource constraints that compound leadership responsibilities and influence student learning opportunities (Kalasin Provincial Education Office, 2023). The province's 312 schools serve predominantly rural communities where educational leaders must navigate complex challenges while striving to improve academic outcomes for diverse student populations.

Thailand's educational system has undergone significant reforms since the National Education Act of 1999, emphasizing decentralized management and student-centered learning approaches. However, implementation challenges persist, particularly in rural provinces like Kalasin where leadership capacity and institutional support systems require strengthening to achieve intended educational improvements (Hallinger & Kantamara, 2021). Research indicates that rural schools in northeast Thailand consistently perform below national averages on standardized assessments, highlighting the need for targeted leadership development interventions (Office of the Education Council, 2022).

Educational leadership research has evolved to encompass multiple theoretical frameworks including instructional leadership, transformational leadership, and distributed leadership models (Day et al., 2021). Instructional leadership emphasizes leaders' direct involvement in curriculum, instruction, and assessment activities that directly impact student learning (Hallinger, 2019). Transformational leadership focuses on inspiring and motivating followers toward shared vision achievement and organizational improvement (Bass & Riggio, 2006). Distributed leadership recognizes leadership as a shared responsibility distributed across multiple organizational members rather than concentrated in single individuals (Spillane, 2006).

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The effectiveness of different leadership approaches varies across contexts, with rural schools requiring adapted strategies that address unique environmental factors and stakeholder needs (Lamkin, 2006; Preston et al., 2013). Rural educational leaders often serve multiple roles, engage directly with community stakeholders, and manage limited resources while maintaining focus on academic achievement improvement. Understanding how leadership effectiveness manifests in rural contexts and influences student outcomes becomes essential for developing targeted interventions and support systems.

Academic achievement in rural contexts reflects complex interactions between leadership quality, teacher effectiveness, student characteristics, family involvement, and community support systems (Byun et al., 2012; Monk, 2007). Research suggests that effective rural educational leaders significantly influence these factors through strategic decision-making, resource allocation, professional development facilitation, and stakeholder engagement activities (Stephens et al., 2019). However, limited empirical evidence exists specifically examining leadership-achievement relationships in Thai rural contexts, creating important knowledge gaps this study addresses.

This research and development study investigates the relationship between educational leadership effectiveness and student academic achievement in Kalasin Province's schools. The study employs a mixed-methods approach to comprehensively examine leadership practices, their impacts on academic outcomes, and potential intervention strategies for enhancing leadership effectiveness in rural educational contexts. By focusing specifically on Kalasin Province, the research provides contextually relevant insights while contributing to broader understanding of rural educational leadership dynamics.

The significance of this research extends beyond academic inquiry to practical implications for educational policy and practice in Thailand's rural regions. By identifying specific leadership practices that enhance academic achievement and developing evidence-based interventions, this study provides foundations for improving educational quality and reducing achievement gaps in underserved rural communities. The findings offer actionable strategies for educational leaders, policymakers, and professional development providers seeking to strengthen rural education systems.

2. LITERATURE REVIEW

2.1 Theoretical foundations of educational leadership

Educational leadership theory has evolved significantly over the past decades, incorporating insights from organizational behavior, psychology, and educational effectiveness research (Northouse, 2021). Contemporary leadership frameworks recognize the complex, multifaceted nature of educational leadership and emphasize the importance of contextual factors in determining leadership effectiveness (Yukl, 2020). Three primary theoretical frameworks provide foundations for understanding leadership effectiveness in educational contexts: instructional leadership, transformational leadership, and distributed leadership theories.

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Instructional leadership theory positions educational leaders as key agents in curriculum, instruction, and assessment processes that directly influence student learning outcomes (Hallinger, 2019). This framework emphasizes leaders' roles in setting educational goals, monitoring instruction quality, providing instructional support, and creating learning-focused organizational cultures. Research consistently demonstrates positive relationships between instructional leadership behaviors and student academic achievement across diverse educational contexts (Robinson et al., 2021).

Transformational leadership theory focuses on leaders' ability to inspire, motivate, and engage followers toward shared vision achievement and organizational improvement (Bass & Riggio, 2006). Transformational leaders demonstrate idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration that promote follower development and organizational effectiveness. Educational applications of transformational leadership emphasize creating positive school cultures, fostering teacher professional growth, and building stakeholder commitment to educational improvement (Leithwood & Jantzi, 2019).

Distributed leadership theory recognizes leadership as a shared organizational function rather than individual attribute, emphasizing collaborative leadership practices and shared responsibility for organizational outcomes (Spillane, 2006). This framework acknowledges multiple leadership sources within educational organizations and highlights the importance of leadership capacity development across organizational levels. Distributed leadership proves particularly relevant in rural contexts where limited personnel necessitate shared leadership responsibilities and collaborative decision-making processes (Harris, 2020).

2.2 Rural educational leadership contexts

Rural educational contexts present unique leadership challenges and opportunities that distinguish them from urban and suburban environments (Lamkin, 2006). Geographic isolation, limited resources, small school sizes, and close community connections characterize rural educational settings and influence leadership practices and effectiveness (Azano & Stewart, 2015). Rural educational leaders often serve multiple roles, engage directly with diverse stakeholders, and manage resource constraints while maintaining focus on educational quality and student achievement.

Research examining rural educational leadership identifies several contextual factors that influence leadership effectiveness. Geographic isolation limits access to professional development opportunities, collaboration networks, and external support systems that enhance leadership capacity (Preston et al., 2013). Resource constraints require rural leaders to demonstrate creativity and flexibility in addressing educational needs while managing limited budgets and personnel. Small school sizes create opportunities for closer relationships and personalized attention but may limit programmatic diversity and specialization opportunities.

Community connections represent both opportunities and challenges for rural educational leaders. Close-knit rural communities often demonstrate strong support for local schools and high expectations for educational leaders' community involvement (Budge, 2006). However, community politics, traditional perspectives, and resistance to change can

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complicate reform efforts and innovation initiatives. Effective rural leaders must navigate these dynamics while building stakeholder support for educational improvement efforts.

Economic factors significantly influence rural educational leadership contexts through funding limitations, employment opportunities, and socioeconomic characteristics of student populations (Monk, 2007). Rural areas often experience economic disadvantages that translate into reduced educational resources, infrastructure challenges, and student achievement gaps. Educational leaders must address these challenges while advocating for additional resources and creating supportive learning environments despite economic constraints.

2.3 Academic achievement in rural schools

Student academic achievement in rural schools reflects complex interactions between school factors, community characteristics, family involvement, and individual student attributes (Byun et al., 2012). Research consistently identifies rural-urban achievement gaps across multiple academic domains, with rural students often demonstrating lower performance on standardized assessments and experiencing reduced access to advanced coursework and extracurricular opportunities (Showalter et al., 2019).

Several factors contribute to rural academic achievement patterns. Teacher quality and retention challenges impact instructional effectiveness and continuity in rural schools (Monk, 2007). Limited course offerings and extracurricular opportunities reduce student engagement and college preparation opportunities. Geographic isolation restricts access to educational resources, cultural experiences, and advanced learning opportunities available in urban areas.

However, rural schools also demonstrate unique strengths that can support academic achievement. Smaller class sizes enable more personalized instruction and stronger teacher-student relationships (Howley et al., 2013). Close community connections provide opportunities for authentic learning experiences and community-based projects. Strong school-community partnerships can enhance resource availability and stakeholder support for educational initiatives.

Research examining factors that promote rural academic achievement emphasizes the critical role of educational leadership in creating conditions for student success (Stephens et al., 2019). Effective rural leaders focus on instructional improvement, teacher development, resource optimization, and stakeholder engagement to overcome contextual challenges and enhance learning opportunities for all students.

2.4 Leadership effectiveness and academic achievement relationships

Empirical research consistently demonstrates significant relationships between educational leadership effectiveness and student academic achievement outcomes (Day et al., 2021). Meta-analytical studies indicate that effective leadership can account for 5-20% of variance in student learning outcomes, representing substantial practical significance for educational improvement efforts (Robinson et al., 2021). These relationships operate through both direct and indirect pathways, with leadership influencing school climate, teacher effectiveness, and instructional practices that directly impact student learning.

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Direct leadership effects on academic achievement occur through leaders' involvement in curriculum development, instructional supervision, and assessment practices (Hallinger, 2019). Leaders who maintain clear focus on academic goals, monitor instruction quality, and provide instructional support create conditions that enhance teaching effectiveness and student learning outcomes. Research indicates that principals' instructional leadership behaviors demonstrate stronger relationships with academic achievement than general management activities.

Indirect leadership effects operate through leaders' influence on organizational factors that support teaching and learning processes (Leithwood et al., 2020). Effective leaders create positive school climates, develop teacher capacity, establish clear expectations, and build stakeholder support that collectively enhance educational effectiveness. These organizational improvements create systemic conditions that promote sustained academic achievement gains across student populations.

Contextual factors moderate leadership-achievement relationships, with rural settings presenting unique considerations for leadership effectiveness (Preston et al., 2013). Rural leaders' community engagement, resource management, and relationship-building activities may demonstrate stronger connections to academic outcomes than observed in urban contexts. Understanding these contextual variations becomes essential for developing effective rural leadership practices and interventions.

2.5 Thai educational context and Kalasin Province

Thailand's educational system reflects the country's cultural values, economic development priorities, and social structures while addressing diverse regional needs and characteristics (Fry & Bi, 2013). The National Education Act of 1999 established foundations for educational decentralization, learner-centered approaches, and quality improvement initiatives that continue to influence contemporary educational practices. However, implementation challenges persist, particularly in rural regions where capacity limitations and resource constraints complicate reform efforts.

Northeast Thailand, including Kalasin Province, faces unique educational challenges related to economic disadvantages, geographic isolation, and historical underinvestment in educational infrastructure (Arphattananon, 2018). The region's economy relies heavily on agriculture, with limited industrial development and employment diversification that constrains educational investment and opportunity creation. These economic factors translate into educational challenges including teacher recruitment difficulties, infrastructure limitations, and student achievement gaps.

Kalasin Province exemplifies northeast Thailand's educational context with 312 schools serving diverse rural communities across 18 districts (Kalasin Provincial Education Office, 2023). The province's educational system includes primary schools, secondary schools, and vocational institutions that collectively serve approximately 180,000 students. Educational leadership in Kalasin operates within this complex context, requiring adaptation to local conditions while pursuing national educational standards and improvement goals.

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Recent educational performance data indicate persistent challenges in Kalasin Province, with student achievement levels consistently below national averages on standardized assessments (Office of the Education Council, 2022). These achievement gaps highlight the need for targeted interventions and support systems that enhance educational effectiveness while addressing contextual factors that influence learning outcomes. Educational leadership development represents a critical component of improvement efforts, requiring evidence-based approaches that address rural contexts' unique needs and opportunities.

Cultural factors also influence educational leadership practices in Kalasin Province, with traditional hierarchical relationships, community expectations, and Buddhist values shaping leadership behaviors and stakeholder interactions (Hallinger & Kantamara, 2021). Effective leaders must navigate these cultural dimensions while promoting educational innovation and improvement initiatives that align with community values and expectations.

3. RESEARCH QUESTIONS

The study addresses the following primary and secondary research questions:

3.1 Primary research questions

1. What is the relationship between educational leadership effectiveness and student academic achievement in Kalasin Province schools?

2. Which specific leadership dimensions most significantly predict academic achievement outcomes in rural school contexts?

3. How can evidence-based leadership interventions enhance academic achievement in Kalasin Province schools?

3.2 Secondary research questions

1. How do leadership effectiveness patterns vary across different school contexts within Kalasin Province?

2. What are stakeholder perceptions regarding effective leadership practices and their impact on academic achievement?

3. Which leadership development strategies demonstrate the greatest potential for improving both leadership effectiveness and student outcomes?

4. OBJECTIVES

4.1 Primary objectives

1. To examine the relationship between educational leadership effectiveness dimensions and student academic achievement in Kalasin Province schools.

2. To identify and analyze specific leadership factors that significantly predict academic achievement outcomes in rural educational contexts.

3. To develop and validate evidence-based leadership intervention strategies for enhancing academic achievement in Kalasin Province.

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4.2 Secondary objectives

1. To investigate variations in leadership effectiveness across different school contexts within Kalasin Province.
2. To explore stakeholder perspectives on effective leadership practices and their academic impact.
3. To pilot-test developed leadership interventions and evaluate their effectiveness in improving educational outcomes.

5. METHODOLOGY

5.1 Research design

This study employed a mixed-methods research and development (R&D) approach, integrating quantitative and qualitative methodologies to comprehensively examine relationships between educational leadership effectiveness and academic achievement in Kalasin Province. The R&D framework facilitated systematic investigation, intervention development, and effectiveness evaluation through sequential phases of research, development, and testing (Gall et al., 2020).

The research design incorporated three distinct phases: (1) exploratory research examining current leadership practices and achievement relationships, (2) intervention development based on empirical findings and theoretical frameworks, and (3) pilot implementation and evaluation of developed interventions. This systematic approach ensured that leadership development strategies were grounded in empirical evidence and validated through rigorous testing procedures.

5.2 Study setting and population

The research was conducted across Kalasin Province, encompassing all 18 districts and representing diverse rural educational contexts. Kalasin Province was selected for its representative characteristics of northeast Thailand's rural educational environment, including economic indicators, demographic composition, geographic features, and educational infrastructure patterns.

The target population comprised educational stakeholders across primary and secondary schools within Kalasin Province, including school principals, assistant principals, teachers, students, and educational support personnel. Sampling frames were developed through collaboration with Kalasin Provincial Education Office to ensure representative coverage across urban centers, suburban areas, and rural communities within the province.

5.3 Sample size determination

Quantitative sample size was calculated using the Krejcie and Morgan (1970) formula for finite population sampling, considering the total population of educational personnel in Kalasin Province (N = 8,950):

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For population size of 8,950, the required sample size is 356 participants at 95% confidence level with 5% margin of error.

To ensure adequate representation across districts and school types, the sample was stratified proportionally across the 18 districts, resulting in approximately 20 participants per district distributed across different stakeholder categories (principals, teachers, students).

Qualitative sample size was determined through purposive sampling targeting 24 key informants identified through stakeholder mapping and theoretical sampling techniques. Qualitative participants included school principals (n=8), experienced teachers (n=8), district education officers (n=4), and student representatives (n=4) selected for their expertise and diverse perspectives on leadership effectiveness and academic achievement relationships.

5.4 Data collection instruments

5.4.1 Quantitative instruments

The study utilized validated questionnaires comprising four main components:

Demographic Information Scale: Collecting participant background data including position, experience, education level, school characteristics, and district location.

Educational Leadership Effectiveness Scale (ELES): A 42-item instrument measuring leadership effectiveness across five dimensions: instructional leadership (9 items), transformational leadership (9 items), distributed leadership (8 items), community engagement (8 items), and resource management (8 items). Items were rated on a 5-point Likert scale (1 = never, 5 = always).

Academic Achievement Indicator Scale (AAIS): A 32-item instrument assessing academic achievement outcomes across four dimensions: standardized test performance (8 items), classroom assessment results (8 items), student engagement indicators (8 items), and learning progression measures (8 items). Items utilized a 5-point Likert scale (1 = very poor, 5 = excellent).

School Context Variables Scale (SCVS): A 20-item instrument measuring contextual factors including school size, resources, community characteristics, and geographical factors that may influence leadership-achievement relationships.

All quantitative instruments underwent rigorous validation procedures including expert review, pilot testing with 50 participants, and reliability analysis. Cronbach's alpha coefficients ranged from 0.88 to 0.94 for all scales, indicating excellent internal consistency.

5.4.2 Qualitative instruments

Qualitative data collection employed semi-structured interview guides and focus group discussion protocols designed to explore stakeholder perceptions, experiences, and recommendations regarding leadership effectiveness and academic achievement relationships.

Interview guides comprised open-ended questions addressing:

- Leadership practices that enhance academic achievement
- Challenges and opportunities in rural educational leadership
- Stakeholder perspectives on effective leadership behaviors
- Recommendations for leadership development and improvement

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- Contextual factors influencing leadership effectiveness

5.5 Data collection procedures

Data collection occurred over a five-month period (February-June 2022) following ethical approval from relevant institutional review boards and informed consent procedures. Quantitative data were collected through face-to-face surveys administered during school visits across all 18 districts, while qualitative data were gathered through individual interviews and focus group discussions conducted at participant-convenient locations.

A team of trained research assistants supported data collection activities, receiving comprehensive training on data collection procedures, ethical considerations, and quality assurance protocols. Regular supervision and inter-rater reliability checks ensured consistency and accuracy throughout the data collection process.

5.6 Data analysis

5.6.1 Quantitative analysis

Quantitative data analysis utilized SPSS 29.0 and AMOS 26.0 software packages to conduct:

Descriptive Analysis: Calculating means, standard deviations, frequencies, percentages, and distributional characteristics for all variables.

Correlation Analysis: Examining relationships between leadership effectiveness dimensions and academic achievement indicators using Pearson correlation coefficients.

Hierarchical Multiple Regression: Identifying significant predictors of academic achievement through systematic entry of variable blocks controlling for contextual factors.

Path Analysis: Testing hypothesized causal relationships between leadership dimensions and achievement outcomes using structural equation modeling techniques.

Group Comparisons: Examining differences across districts, school types, and contextual categories using ANOVA and post-hoc analysis procedures.

5.6.2 Qualitative analysis

Qualitative data analysis followed systematic thematic analysis procedures outlined by Braun and Clarke (2019), including:

Data Familiarization: Immersive reading and preliminary noting of interesting features across all qualitative data.

Initial Coding: Systematic identification and coding of meaningful data segments across the entire dataset.

Theme Development: Organizing codes into potential themes and gathering supporting evidence.

Theme Review: Evaluating themes against coded extracts and entire dataset for coherence and distinctiveness.

Theme Definition: Ongoing refinement of theme specifics and relationships between themes.

Integration: Final synthesis connecting qualitative themes with quantitative findings.

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5.6.3 Mixed-methods integration

Integration of quantitative and qualitative findings occurred through convergent parallel design procedures, comparing and contrasting results across methodological approaches. Joint displays, meta-inferences, and triangulation techniques facilitated comprehensive understanding while enhancing validity and reliability of conclusions.

5.7 Ethical considerations

The study adhered to international ethical standards for educational research, including:

1. Institutional review board approval from Kalasin Provincial Education Office
2. Informed consent procedures for all participants
3. Voluntary participation with withdrawal rights
4. Confidentiality and anonymity protections
5. Secure data storage and handling protocols
6. Participant feedback and member checking procedures

5.8 Validity and reliability

Research validity was enhanced through multiple strategies including triangulation of data sources, methodological approaches, and analytical techniques. Construct validity of quantitative instruments was established through confirmatory factor analysis and expert validation. Qualitative validity was ensured through member checking, peer debriefing, prolonged engagement, and thick description.

Reliability measures included internal consistency analysis for quantitative scales ($\alpha > 0.88$), inter-rater reliability for qualitative coding ($\kappa > 0.85$), and test-retest procedures for key instruments. All reliability indicators exceeded acceptable thresholds, supporting the credibility and dependability of research findings.

6. RESULTS

6.1 Participant characteristics

The quantitative sample comprised 356 participants distributed across all 18 districts in Kalasin Province. Participant demographics revealed diverse representation including school principals (n=89, 25.0%), assistant principals (n=71, 19.9%), teachers (n=142, 39.9%), and students (n=54, 15.2%). Gender distribution was balanced (52.8% female, 47.2% male), with mean age of 41.3 years (SD = 10.2) and average educational experience of 14.7 years (SD = 8.9).

School contexts varied significantly across the sample, with 28.4% representing urban schools, 35.1% suburban schools, and 36.5% rural schools. School sizes ranged from small rural schools (< 120 students) to larger district centers (> 800 students), providing comprehensive representation of Kalasin Province's educational diversity.

Qualitative participants (n=24) included school principals (n=8), experienced teachers (n=8), district education officers (n=4), and student representatives (n=4) selected through

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purposive sampling across different districts and school contexts. This diverse representation ensured comprehensive perspectives on leadership effectiveness and academic achievement relationships.

6.2 Descriptive statistics

Table 1 presents descriptive statistics for main study variables across all participants.

Table 1: Descriptive Statistics for Leadership Effectiveness and Academic Achievement Variables

Variable	n	Min	Max	Mean	SD	Skewness	Kurtosis
Instructional Leadership	356	2.11	4.89	3.68	0.74	-0.31	-0.28
Transformational Leadership	356	2.33	4.78	3.59	0.69	-0.24	-0.35
Distributed Leadership	356	1.88	4.63	3.42	0.71	-0.18	-0.41
Community Engagement	356	2.25	4.75	3.51	0.66	-0.22	-0.33
Resource Management	356	1.75	4.50	3.28	0.73	-0.15	-0.45
Standardized Test Performance	356	1.50	4.75	3.12	0.68	0.26	-0.31
Classroom Assessment Results	356	1.88	4.63	3.24	0.64	0.18	-0.38
Student Engagement	356	2.13	4.88	3.47	0.71	-0.12	-0.29
Learning Progression	356	1.63	4.50	3.19	0.66	0.21	-0.42
Overall Academic Achievement	356	1.78	4.69	3.26	0.58	0.15	-0.35

Results indicate moderate to high levels of leadership effectiveness across all dimensions, with instructional leadership showing the highest mean score (M = 3.68, SD = 0.74). Academic achievement indicators demonstrated moderate levels, with student engagement showing the highest rating (M = 3.47, SD = 0.71). All variables exhibited acceptable normality for parametric analysis procedures.

6.3 Correlation analysis

Pearson correlation analysis revealed significant positive relationships between leadership effectiveness dimensions and academic achievement measures (Table 2).

Table 2: Correlation Matrix for Leadership Effectiveness and Academic Achievement Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Instructional Leadership	1									
2. Transformational Leadership	.74**	1								
3. Distributed Leadership	.63**	.68**	1							

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4. Community Engagement	.58**	.71**	.65**	1						
5. Resource Management	.61**	.64**	.59**	.62**	1					
6. Standardized Test Performance	.67**	.59**	.52**	.48**	.55**	1				
7. Classroom Assessment	.72**	.63**	.56**	.52**	.58**	.76**	1			
8. Student Engagement	.69**	.74**	.61**	.67**	.59**	.68**	.71**	1		
9. Learning Progression	.65**	.61**	.58**	.54**	.62**	.73**	.78**	.69**	1	
10. Overall Academic Achievement	.75**	.69**	.61**	.58**	.64**	.89**	.91**	.85**	.89**	1

Note: **p < .01

Strong positive correlations emerged between all leadership effectiveness dimensions and academic achievement measures, with the strongest relationship observed between instructional leadership and overall academic achievement ($r = .75$, $p < .01$). These findings support hypothesized positive relationships between leadership effectiveness and educational outcomes.

6.4 Hierarchical multiple regression analysis

Hierarchical multiple regression analysis identified significant predictors of academic achievement while controlling for contextual variables (Table 3).

Table 3: Hierarchical Multiple Regression Analysis Predicting Overall Academic Achievement

Model	Predictors	B	SE B	β	t	p	R^2	ΔR^2
1	Control Variables						.143	.143
	School Size	.089	.032	.156	2.78	.006		
	District Type	.124	.041	.171	3.02	.003		
	Resources Available	.167	.038	.245	4.39	<.001		
2	Instructional Leadership	.321	.043	.412	7.47	<.001	.568	.425
3	Instructional Leadership	.267	.041	.343	6.51	<.001	.653	.085
	Transformational Leadership	.251	.047	.298	5.34	<.001		
4	Instructional Leadership	.234	.039	.301	6.00	<.001	.723	.070
	Transformational Leadership	.219	.044	.260	4.98	<.001		
	Distributed Leadership	.189	.041	.234	4.61	<.001		

Note: Final Model: $F(6,349) = 152.38$, $p < .001$

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The final model explained 72.3% of variance in academic achievement ($R^2 = .723$), with instructional leadership ($\beta = .301$, $p < .001$), transformational leadership ($\beta = .260$, $p < .001$), and distributed leadership ($\beta = .234$, $p < .001$) emerging as significant predictors after controlling for contextual variables. Community engagement and resource management did not contribute significant unique variance in the final model.

6.5 Path analysis results

Path analysis examined hypothesized causal relationships between leadership dimensions and academic achievement outcomes (Figure 1 path coefficients shown below).

Path Analysis Model Fit Indices:

- χ^2 (df) = 287.45 (142), $p < .001$
- RMSEA = 0.054 (90% CI: 0.045-0.063)
- CFI = 0.947
- TLI = 0.936
- SRMR = 0.048

The path model demonstrated excellent fit to the data, with all hypothesized direct paths achieving statistical significance. Instructional leadership showed the strongest direct effect on academic achievement ($\beta = .42$, $p < .001$), while transformational and distributed leadership demonstrated both direct and indirect effects through their influence on instructional leadership practices.

6.6 District-level comparisons

One-way ANOVA revealed significant differences across districts in both leadership effectiveness [$F(17,338) = 8.73$, $p < .001$] and academic achievement outcomes [$F(17,338) = 6.94$, $p < .001$]. Post-hoc Tukey tests indicated that Mueang Kalasin (urban center) and Yang Talat districts demonstrated significantly higher leadership effectiveness and achievement levels compared to more remote rural districts such as Huai Mek and Nong Kung Si.

6.7 School context analysis

Table 4: Leadership Effectiveness and Academic Achievement by School Context

Context	n	Leadership Effectiveness M(SD)	Academic Achievement M(SD)	Effect Size (η^2)
Urban	101	3.74 (0.58)	3.52 (0.51)	.089
Suburban	125	3.58 (0.61)	3.31 (0.54)	
Rural	130	3.41 (0.64)	3.02 (0.59)	
F - statistic		F(2,353) = 12.41***	F(2,353) = 28.67***	

Note: ***p < .001

Significant differences emerged across school contexts, with urban schools demonstrating higher leadership effectiveness and academic achievement compared to suburban and rural schools. The effect size for academic achievement differences ($\eta^2 = .089$) indicated a medium practical significance.

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6.8 Qualitative findings

Thematic analysis of qualitative data revealed six primary themes regarding leadership effectiveness and academic achievement relationships in Kalasin Province:

6.8.1 Instructional focus and academic priorities

Participants consistently identified leaders' focus on instruction and academic goals as critical for achievement improvement. A principal from Mueang Kalasin district explained: *"When I spend time in classrooms, observing teaching and discussing student progress with teachers, I see immediate improvements in both teaching quality and student learning outcomes."*

Teachers emphasized the importance of leaders who understand curriculum and instruction. One experienced teacher noted: *"Our principal knows the curriculum well and can provide specific feedback about our teaching. This helps us improve our instruction and better support our students' learning needs."*

6.8.2 Relationship building and community connections

Strong relationships with students, teachers, and community members emerged as essential leadership characteristics. A district education officer observed: *"Effective principals in our rural schools are those who build strong relationships with everyone - students, teachers, parents, and community leaders. These relationships create support networks that enhance student achievement."*

Community engagement proved particularly important in rural contexts. A parent representative shared: *"When the principal visits our community, attends local events, and understands our challenges, we feel more connected to the school and more willing to support our children's education."*

6.8.3 Professional development and teacher support

Participants highlighted leaders' roles in facilitating teacher professional growth and providing instructional support. A teacher from Kamalasai district explained: *"Our principal arranges training opportunities, brings in expert teachers to share knowledge, and supports us when we try new teaching methods. This helps us become better teachers."*

The importance of ongoing support was emphasized by another teacher: *"It's not just about sending us to training. Our principal follows up, helps us implement what we learned, and provides feedback. This makes professional development actually improve our teaching."*

6.8.4 Resource optimization and creative solutions

Given resource constraints, participants valued leaders who creatively address needs and optimize available resources. A principal from a rural school shared: *"We don't have much budget, but I work with teachers and community to find creative solutions. We share resources between schools, involve community experts as volunteers, and use local materials for learning activities."*

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Teachers appreciated leaders' efforts to secure resources. One teacher noted: *"Our principal actively seeks grants, partnerships with local businesses, and donations to improve our school facilities and learning materials. These efforts directly impact our ability to provide quality education."*

6.8.5 Vision creation and motivation

Effective leaders were characterized as those who create compelling visions for school improvement and motivate stakeholders toward common goals. A student representative observed: *"Our principal has a clear vision for our school's future and helps everyone understand how we can achieve it together. This motivates us to work harder and achieve more."*

The motivational aspect was emphasized by a teacher: *"When leaders have clear vision and communicate it effectively, it inspires us to go beyond minimum requirements. We feel we're working toward something meaningful that will benefit our students and community."*

6.8.6 Collaborative decision-making and shared leadership

Participants valued leaders who involved others in decision-making and distributed leadership responsibilities. A teacher explained: *"Our principal doesn't make all decisions alone. Teachers, students, and parents have opportunities to provide input and take on leadership roles. This creates ownership and commitment to school improvement."*

The benefits of shared leadership were noted by an assistant principal: *"When leadership responsibilities are shared, more people develop leadership skills and feel invested in school success. This creates a stronger foundation for sustained improvement."*

6.9 Intervention development and pilot testing

Based on empirical findings and theoretical frameworks, a comprehensive leadership development intervention was designed addressing identified effectiveness factors:

The Kalasin Leadership Excellence Program (KLEP) comprises four integrated components:

Instructional Leadership Academy: Intensive 40-hour training focusing on curriculum knowledge, instructional supervision, data analysis, and academic goal setting.

Transformational Leadership Workshop Series: Monthly 6-hour sessions addressing vision development, motivation strategies, relationship building, and change management.

Distributed Leadership Network: Peer learning communities supporting collaborative leadership practices, shared decision-making, and capacity building.

Community Engagement Initiative: Training and support for building school-community partnerships, stakeholder involvement, and resource mobilization.

Pilot implementation across 12 schools (representing different contexts and districts) over six months demonstrated significant improvements in leadership effectiveness (Cohen's $d = 1.47$, $p < .001$) and student academic achievement (Cohen's $d = 0.93$, $p < .001$), supporting intervention validity and potential for broader implementation.

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Table 5: Pilot Implementation Results Comparison

Measure	Pre-Intervention M(SD)	Post-Intervention M(SD)	t-statistic	Cohen's d	p-value
Leadership Effectiveness	3.42 (0.68)	4.12 (0.52)	8.74	1.47	<.001
Academic Achievement	3.18 (0.61)	3.75 (0.58)	6.89	0.93	<.001
Teacher Satisfaction	3.35 (0.73)	4.01 (0.64)	7.23	1.02	<.001
Student Engagement	3.28 (0.69)	3.89 (0.61)	6.45	0.98	<.001

6.10 Mediational analysis

Mediational analysis examined indirect effects of leadership dimensions on academic achievement through intervening variables. Results indicated that instructional leadership's effect on academic achievement was partially mediated by teacher effectiveness ($\beta = .187$, $p < .001$) and school climate ($\beta = .156$, $p < .001$). The total indirect effect was significant ($\beta = .343$, $p < .001$), representing 45.3% of the total effect of instructional leadership on academic achievement.

7. DISCUSSION

7.1 Interpretation of main findings

The study's findings provide compelling evidence for significant positive relationships between educational leadership effectiveness and student academic achievement in Kalasin Province's schools. The strong correlations observed between leadership dimensions and achievement measures ($r = .687$, $p < .001$) align with international research demonstrating the critical importance of effective leadership for educational outcomes (Day et al., 2021; Robinson et al., 2021).

The identification of instructional leadership as the strongest predictor of academic achievement ($\beta = .301$, $p < .001$) corroborates theoretical frameworks emphasizing leaders' direct involvement in curriculum, instruction, and assessment activities (Hallinger, 2019). This finding proves particularly relevant for rural contexts where principals often serve as primary instructional leaders and their curriculum knowledge directly influences teaching quality and student learning opportunities.

Transformational leadership's significant predictive value ($\beta = .260$, $p < .001$) reflects the importance of inspirational motivation, relationship building, and vision creation in rural educational contexts. The close-knit nature of rural communities amplifies the impact of leaders' personal characteristics and relationship-building abilities, making transformational behaviors particularly influential for stakeholder engagement and organizational improvement efforts.

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The significant contribution of distributed leadership practices ($\beta = .234$, $p < .001$) highlights the collaborative nature of effective rural educational leadership. In small schools with limited personnel, shared leadership responsibilities become essential for addressing diverse educational needs and building organizational capacity. This finding supports distributed leadership theory while demonstrating its particular relevance for resource-constrained rural contexts.

7.2 District and contextual variations

The significant differences observed across districts within Kalasin Province highlight the importance of local contextual factors in understanding leadership effectiveness and academic achievement relationships. The superior performance of Mueang Kalasin (the provincial capital) and Yang Talat districts likely reflects their greater access to resources, infrastructure, and professional development opportunities compared to more remote rural districts.

These variations underscore the need for differentiated leadership development approaches that account for local contexts, resource availability, and community characteristics. Leaders in remote rural areas may require additional support, resources, and adapted strategies to achieve effectiveness levels comparable to their urban counterparts.

The urban-suburban-rural achievement gradient observed in the study reflects broader patterns of educational inequality while highlighting opportunities for targeted interventions. Rural schools' lower achievement levels should not be interpreted as inevitable but rather as indicators of areas requiring additional support and innovative approaches to leadership development.

7.3 Theoretical implications

The study's findings contribute to educational leadership theory by demonstrating the applicability and relative importance of different leadership frameworks in rural contexts. The strong predictive value of instructional leadership supports its continued emphasis in leadership development programs, while the significant contributions of transformational and distributed leadership highlight the multidimensional nature of effective rural educational leadership.

The mediational findings provide important insights into mechanisms through which leadership influences academic achievement. The partial mediation through teacher effectiveness and school climate suggests that leaders impact student outcomes primarily through their influence on organizational conditions and personnel effectiveness rather than through direct student interaction.

These findings extend leadership theory by demonstrating how different leadership approaches complement each other in rural contexts. Effective rural leaders appear to integrate instructional, transformational, and distributed leadership practices rather than relying on single approaches, suggesting the need for comprehensive leadership development models.

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7.4 Practical implications for policy and practice

The research findings offer several important implications for educational policy and practice in Kalasin Province and similar rural contexts:

7.4.1 Leadership development priorities

The strong predictive value of instructional leadership suggests that leadership development programs should prioritize curriculum knowledge, instructional supervision skills, and academic goal-setting capabilities. This includes providing leaders with deep understanding of subject matter content, assessment practices, and evidence-based instructional strategies.

7.4.2 Relationship-building emphasis

The importance of transformational leadership behaviors indicates that leadership development should include training in relationship building, communication skills, and community engagement strategies. Rural leaders particularly need skills for navigating complex community dynamics and building stakeholder support for educational improvement.

7.4.3 Collaborative leadership practices

The significance of distributed leadership suggests that leadership development should emphasize collaborative decision-making, capacity building, and shared responsibility practices. This includes training in team building, delegation, and systems thinking approaches to organizational improvement.

7.4.4 Contextual adaptation

The district-level variations highlight the need for flexible, adaptive approaches to leadership development that account for local contexts and resource constraints. Rural leaders may require additional support, modified strategies, and creative problem-solving approaches to achieve effectiveness in challenging environments.

7.5 Intervention framework effectiveness

The successful pilot implementation of the Kalasin Leadership Excellence Program (KLEP) demonstrates the potential for evidence-based interventions to significantly improve both leadership effectiveness and academic achievement outcomes. The large effect sizes observed (Cohen's d = 1.47 for leadership effectiveness; d = 0.93 for academic achievement) indicate practically significant improvements that justify investment in comprehensive leadership development initiatives.

The integrated approach addressing multiple leadership dimensions simultaneously proved more effective than single-focus interventions, supporting systems thinking approaches to leadership development. The combination of instructional skills training, transformational behavior development, distributed leadership practices, and community engagement activities created synergistic effects that enhanced overall program impact.

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The mediational findings suggest that leadership development interventions should explicitly address teacher effectiveness and school climate improvement as pathways for achieving academic achievement gains. This includes providing leaders with skills for supporting teacher professional development, creating positive organizational cultures, and building collaborative learning environments.

7.6 Limitations and future research directions

Several limitations should be acknowledged in interpreting these findings. First, the cross-sectional design limits causal inferences, although the theoretical grounding and intervention pilot results provide support for hypothesized relationships. Future research should employ longitudinal designs to examine leadership development processes and their sustained impacts on academic achievement over time.

Second, the focus on Kalasin Province may limit generalizability to other rural contexts with different characteristics. Comparative studies across multiple provinces and regions would enhance understanding of contextual factors that influence leadership-achievement relationships and intervention effectiveness.

Third, while the study included multiple stakeholder perspectives, additional voices such as parents, community leaders, and provincial-level administrators could provide valuable insights into leadership effectiveness and improvement strategies. Future research should expand stakeholder inclusion to develop more comprehensive understanding of rural educational leadership dynamics.

Fourth, the intervention pilot implementation period of six months, while demonstrating initial effectiveness, requires longer-term evaluation to assess sustainability and lasting impacts. Future studies should examine intervention effects over multiple years to understand maintenance of improvements and identification of factors supporting sustained change.

Fifth, the study focused primarily on academic achievement outcomes, but rural education serves broader purposes including social development, cultural preservation, and community building. Future research should examine leadership impacts on these broader educational outcomes and community development goals.

7.7 Contribution to rural educational leadership

This research contributes significantly to understanding rural educational leadership in Southeast Asian contexts. The findings provide empirical validation for theoretical relationships while demonstrating the adapted forms these relationships take in rural environments. The developed intervention framework offers practical tools that can be implemented in similar rural contexts while accounting for local adaptations and modifications.

The study's emphasis on distributed leadership practices provides important insights for rural schools where collaborative approaches become necessities rather than preferences due to resource and personnel constraints. The findings suggest that rural schools can leverage

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their size and community connections as strengths rather than viewing them solely as limitations.

The successful intervention pilot demonstrates that rural schools can achieve significant improvements in leadership effectiveness and academic achievement when provided with appropriate support and development opportunities. This challenges deficit perspectives of rural education while highlighting the potential for evidence-based interventions to promote educational equity and excellence in underserved communities.

8. CONCLUSION

This mixed-methods research and development study provides comprehensive evidence of significant positive relationships between educational leadership effectiveness and student academic achievement in Kalasin Province's schools. The findings demonstrate that instructional leadership, transformational leadership behaviors, and distributed leadership practices serve as primary predictors of academic achievement outcomes, collectively explaining 72.3% of variance in student performance across rural educational contexts.

The research contributes to educational leadership theory by validating theoretical frameworks in rural Thai contexts while demonstrating the integrated nature of effective leadership practices. The successful development and pilot testing of the Kalasin Leadership Excellence Program provides practical evidence that comprehensive, evidence-based interventions can significantly improve both leadership effectiveness and academic achievement in resource-constrained rural environments.

Key findings include: (1) strong positive correlations between all leadership effectiveness dimensions and academic achievement measures; (2) instructional leadership as the strongest predictor of academic outcomes; (3) significant variations across districts reflecting contextual influences; (4) effectiveness of integrated leadership development approaches; (5) mediational pathways through teacher effectiveness and school climate; and (6) potential for substantial improvements through targeted interventions.

The study's implications extend beyond Kalasin Province to broader discussions of rural educational development in emerging economies. The developed intervention framework provides replicable strategies for enhancing leadership effectiveness while accounting for local contextual factors and resource constraints. The emphasis on collaborative leadership practices offers particular relevance for rural contexts where shared responsibility and community engagement become essential for educational success.

Future research should examine long-term intervention effects, expand geographical scope to enhance generalizability, and investigate cultural factors influencing leadership effectiveness in diverse rural contexts. Additionally, comparative studies across different Southeast Asian rural contexts would enhance understanding of universal versus context-specific factors in rural educational leadership and achievement relationships.

This research demonstrates that systematic, evidence-based approaches to leadership development can significantly enhance academic achievement in rural schools. The findings provide optimism for rural educational improvement efforts while highlighting the critical

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importance of effective leadership foundations for educational quality and equity in underserved communities. The success of rural students depends significantly on the quality of their educational leaders, making leadership development a priority investment for educational improvement and community development initiatives.

The implications for policy and practice emphasize the need for sustained investment in rural leadership development, recognition of contextual factors in program design, and integration of multiple leadership approaches for maximum effectiveness. Educational authorities, policymakers, and development organizations should prioritize evidence-based leadership development as a strategy for reducing educational inequalities and promoting rural community development through improved educational outcomes.

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APPENDICES

Appendix A: Research Instruments

A.1 Educational Leadership Effectiveness Scale (ELES)

Instructions: Please rate how frequently your school principal demonstrates each leadership behavior using the following scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

Instructional Leadership Dimension

1. Observes classroom instruction regularly
2. Provides feedback to teachers about their teaching
3. Discusses instructional goals with teachers
4. Uses student achievement data to guide decisions
5. Coordinates curriculum across grade levels
6. Ensures alignment between curriculum and assessments
7. Monitors student progress systematically
8. Promotes research-based instructional practices
9. Facilitates discussion about instructional improvement

Transformational Leadership Dimension 10. Communicates a clear vision for the school 11. Inspires teachers to go beyond expectations 12. Shows confidence in teachers' abilities 13. Treats teachers as individuals with unique needs 14. Encourages creative problem-solving 15. Models professional behavior and commitment 16. Builds consensus around school goals 17. Motivates staff through enthusiasm and optimism 18. Demonstrates care for teachers' professional growth

Distributed Leadership Dimension 19. Involves teachers in important decisions 20. Delegates leadership responsibilities to others 21. Encourages teacher leadership development 22. Seeks input from multiple stakeholders 23. Shares decision-making authority appropriately 24. Supports collaborative problem-solving 25. Recognizes and utilizes individual strengths 26. Creates opportunities for shared leadership

Community Engagement Dimension 27. Maintains regular communication with parents 28. Participates in community events and activities 29. Collaborates with local organizations 30. Seeks community input on school decisions 31. Promotes school-community partnerships 32. Addresses community concerns promptly 33. Involves community members in school activities 34. Represents the school positively in the community

Resource Management Dimension 35. Allocates resources based on educational priorities 36. Seeks additional funding sources for school needs 37. Manages school budget transparently 38. Ensures efficient use of available resources 39. Advocates for necessary

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resources and support 40. Plans resource allocation strategically 41. Monitors resource utilization effectiveness 42. Coordinates resource sharing with other schools

A.2 Academic Achievement Indicator Scale (AAIS)

Instructions: Please rate the current status of academic achievement indicators in your school using the following scale: 1 = Very Poor, 2 = Poor, 3 = Average, 4 = Good, 5 = Excellent

Standardized Test Performance Dimension

1. Overall O-NET test scores
2. Math achievement levels
3. Thai language proficiency
4. English language performance
5. Science achievement scores
6. Social studies performance
7. Year-over-year improvement trends
8. Performance compared to provincial averages

Classroom Assessment Results Dimension 9. Regular assessment outcomes 10. Assignment completion rates 11. Quality of student work 12. Progress monitoring results 13. Formative assessment feedback 14. Summative evaluation performance 15. Portfolio assessment quality 16. Authentic assessment outcomes

Student Engagement Indicators Dimension 17. Class participation levels 18. Attendance rates 19. Extracurricular involvement 20. Student initiative and motivation 21. Learning goal orientation 22. Academic help-seeking behavior 23. Time-on-task during instruction 24. Active learning behaviors

Learning Progression Measures Dimension 25. Skill development over time 26. Knowledge acquisition rates 27. Critical thinking improvement 28. Problem-solving capability growth 29. Academic confidence building 30. Learning strategy development 31. Self-regulation skills improvement 32. Academic goal achievement

Appendix B: Statistical Analysis Output Tables

B.1 Confirmatory Factor Analysis Results for ELES

Table B.1: Factor Loadings and Model Fit for Educational Leadership Effectiveness Scale

Dimension	Items	Factor Loading Range	Cronbach's α	CR	AVE
Instructional Leadership	9	.72 - .87	.924	.925	.634
Transformational Leadership	9	.69 - .84	.918	.919	.612
Distributed Leadership	8	.71 - .82	.911	.912	.598
Community Engagement	8	.68 - .85	.906	.907	.587
Resource Management	8	.70 - .83	.913	.914	.605

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Model Fit Indices:

- χ^2 (df) = 1,247.85 (824), $p < .001$
- RMSEA = 0.048 (90% CI: 0.043-0.054)
- CFI = 0.941
- TLI = 0.937
- SRMR = 0.052

B.2 Descriptive Statistics by District

Table B.2: Leadership Effectiveness and Academic Achievement Means by District

District	n	Leadership Effectiveness M(SD)	Academic Achievement M(SD)
Mueang Kalasin	24	3.89 (0.52)	3.67 (0.48)
Yang Talat	19	3.74 (0.58)	3.51 (0.52)
Kamalasai	21	3.63 (0.61)	3.38 (0.54)
Rong Kham	18	3.58 (0.64)	3.34 (0.57)
Kuchinarai	22	3.55 (0.59)	3.29 (0.51)
Sahatsakhan	20	3.52 (0.62)	3.26 (0.56)
Kham Muang	19	3.48 (0.65)	3.22 (0.58)
Tha Khantho	17	3.45 (0.67)	3.19 (0.61)
Somdet	20	3.42 (0.63)	3.16 (0.55)
Khong Chai	16	3.39	3.12 (0.59)
Na Mon	18	3.36 (0.68)	3.08 (0.62)
Don Chan	15	3.33 (0.71)	3.05 (0.64)
Huai Pho	19	3.29 (0.69)	3.01 (0.61)
Na Khu	17	3.26 (0.72)	2.98 (0.63)
Nong Kung Si	16	3.22 (0.74)	2.94 (0.66)
Huai Mek	14	3.18 (0.76)	2.89 (0.68)
Sam Chai	13	3.15 (0.73)	2.86 (0.65)
Wang Sam Mo	12	3.11 (0.75)	2.82 (0.67)

Appendix C: Qualitative Interview Guides

C.1 Principal Interview Guide

Background and Context

1. How long have you served as principal in this school?
2. What are the main characteristics of your school and community?
3. What do you see as your primary responsibilities as principal?

Leadership Practices 4. How do you support teachers in improving their instruction? 5. What strategies do you use to motivate teachers and staff? 6. How do you involve others in school decision-making? 7. Describe your approach to engaging with the community.

Academic Achievement Focus 8. What are your school's main academic goals? 9. How do you monitor student progress and achievement? 10. What challenges do you face in

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improving academic outcomes? 11. What successes have you experienced in enhancing student achievement?

Rural Context Considerations 12. What unique challenges do you face as a rural school leader? 13. How do you address resource limitations? 14. What advantages does your rural context provide? 15. How do you maintain connections with parents and community?

Professional Development 16. What leadership development experiences have been most valuable? 17. What additional support would help you be more effective? 18. How do you continue learning and growing as a leader?

C.2 Teacher Focus Group Guide

Leadership Effectiveness Perceptions

1. What leadership behaviors most positively impact your teaching?
2. How does your principal support your professional growth?
3. What role do you play in school leadership and decision-making?

Academic Achievement Impact 4. How does school leadership influence student achievement? 5. Can you provide examples of leadership actions that improved learning? 6. What leadership practices help create effective learning environments?

Rural Context Factors 7. What makes leadership in rural schools different from urban schools? 8. How do community connections influence school leadership? 9. What challenges do rural leaders face that urban leaders may not?

Recommendations 10. What changes in leadership would most improve your school? 11. What support do leaders need to be more effective? 12. How could leadership development be improved?

Appendix D: Intervention Program Details

D.1 Kalasin Leadership Excellence Program (KLEP) Curriculum

Module 1: Instructional Leadership Academy (40 hours)

Week 1-2: Curriculum Knowledge and Standards

- Understanding provincial and national curriculum standards
- Aligning instruction with learning objectives
- Analyzing curriculum coherence and scope
- Identifying learning progressions and prerequisites

Week 3-4: Instructional Supervision and Feedback

- Classroom observation techniques and protocols
- Providing effective instructional feedback
- Coaching conversations with teachers
- Supporting teacher reflection and improvement

Week 5-6: Data Analysis and Decision Making

- Collecting and analyzing student achievement data
- Using assessment data to guide instruction
- Creating data-driven improvement plans
- Monitoring progress and adjusting strategies

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Week 7-8: Academic Goal Setting and Monitoring

- Establishing clear academic goals and expectations
- Creating systems for progress monitoring
- Communicating goals to stakeholders
- Celebrating achievements and addressing challenges

Module 2: Transformational Leadership Workshop Series (48 hours)

Month 1: Vision Development and Communication

- Creating compelling school visions
- Engaging stakeholders in vision development
- Communicating vision effectively
- Aligning actions with vision

Month 2: Motivation and Inspiration Strategies

- Understanding motivation theories
- Building teacher confidence and efficacy
- Recognizing and celebrating achievements
- Creating positive organizational culture

Month 3: Relationship Building and Communication

- Developing interpersonal skills
- Building trust and rapport
- Managing conflicts constructively
- Facilitating effective meetings

Month 4: Change Management and Innovation

- Leading organizational change
- Overcoming resistance to change
- Promoting innovation and creativity
- Sustaining improvement efforts

Module 3: Distributed Leadership Network (Ongoing)

Peer Learning Communities

- Monthly meetings with fellow principals
- Sharing best practices and challenges
- Collaborative problem-solving sessions
- Peer observation and feedback

Shared Decision-Making Training

- Facilitating participatory decision processes
- Building consensus and managing disagreement
- Delegating authority and responsibility
- Creating leadership opportunities for others

Capacity Building Initiatives

- Identifying and developing teacher leaders
- Creating professional learning communities

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- Supporting collaborative planning and reflection
- Building organizational learning systems

Module 4: Community Engagement Initiative (24 hours)
Stakeholder Analysis and Engagement
- Mapping community stakeholders and interests
- Developing engagement strategies for different groups
- Building partnerships with local organizations
- Managing community expectations and concerns

Communication and Public Relations
- Effective communication strategies for rural contexts
- Using technology for community engagement
- Managing school reputation and image
- Crisis communication and conflict resolution

Resource Mobilization and Partnerships
- Identifying potential funding sources
- Writing grant proposals and funding applications
- Developing business and community partnerships
- Organizing fundraising and support activities

D.2 Implementation Timeline and Support Structure
Phase 1: Preparation (Month 1)
- Participant recruitment and selection
- Baseline data collection
- Initial assessment of leadership competencies
- Program orientation and goal setting

Phase 2: Core Training (Months 2-7)
- Sequential delivery of four program modules
- Regular coaching and mentoring support
- Peer learning network establishment
- Monthly progress monitoring and feedback

Phase 3: Implementation and Practice (Months 8-12)
- On-site application of learned strategies
- Continued peer support and networking
- Monthly follow-up sessions and troubleshooting
- Mid-point evaluation and program adjustment

Phase 4: Evaluation and Sustainability (Months 13-18)
- Comprehensive program evaluation
- Impact assessment on leadership and achievement
- Development of sustainability plans
- Preparation for program expansion

Support Structure Components:

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- Dedicated program coordinator
- Expert facilitators for each module
- Peer mentors from successful principals
- District-level administrative support
- Technology platform for ongoing communication
- Resource library and materials access

D.3 Program Evaluation Framework

Evaluation Questions:

1. To what extent does KLEP improve leadership effectiveness?
2. How does participation impact student academic achievement?
3. What program components are most valuable for participants?
4. What factors support or hinder program implementation?
5. How sustainable are program impacts over time?

Data Collection Methods:

- Pre/post leadership effectiveness assessments
- Student achievement data analysis
- Participant satisfaction surveys
- Classroom observation protocols
- Stakeholder interview and focus groups
- Program implementation monitoring

Evaluation Timeline:

- Baseline data: Month 1
- Mid-program assessment: Month 6
- Post-program evaluation: Month 12
- Follow-up assessment: Month 18
- Long-term impact study: Month 24

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The mixed-methods research design and statistical analyses employed in this study utilized appropriate methodological approaches and validated instruments to ensure scientific rigor and reliability of findings. All participants provided informed consent, and strict confidentiality protocols were maintained throughout the research process.

This study adheres to IME Journal AI policy guidelines regarding the use of artificial intelligence tools in research. While AI-assisted writing tools were used for editing and formatting purposes, all research design, data collection, analysis, and interpretation represent original scholarly work by the author. The findings, conclusions, and recommendations presented in this study are based entirely on empirical evidence collected and analyzed through rigorous scientific methods.