



Educational Administration Challenges and Strategic Responses in Rural Northeast Thailand: A Mixed Methods Analysis of Resource Management, Teacher Retention, and Community Engagement in Maha Sarakham, Kalasin, Yasothon, and Mukdahan Provinces¹

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Abstract:

Background: Northeast Thailand (Isan) faces persistent educational disparities due to socioeconomic challenges, cultural diversity, and geographic isolation. Educational administrators in this region encounter unique obstacles in resource allocation, teacher recruitment, and community engagement that significantly impact educational outcomes.

Purpose: This mixed methods study examines the key challenges facing educational administrators in four northeastern provinces and evaluates the effectiveness of current administrative strategies in addressing these challenges.

Methods: A convergent parallel mixed methods design was employed, combining quantitative data from 485 educational administrators across Maha Sarakham, Kalasin, Yasothon, and Mukdahan provinces with qualitative insights from 48 in-depth interviews. Data collection occurred between March and August 2022. Statistical analyses included descriptive statistics, correlation analysis, and multiple regression. Qualitative data were analyzed using thematic analysis.

Results: Quantitative findings revealed that 78.4% of administrators identified resource limitations as the primary challenge ($M = 4.12$, $SD = 0.89$), followed by teacher shortages (72.6%, $M = 3.98$, $SD = 0.76$). Multiple regression analysis showed that community engagement strategies significantly predicted improved educational outcomes ($\beta = 0.42$, $p < 0.001$). Qualitative analysis identified five major themes: systemic resource inequity, cultural-linguistic barriers, migration impacts, decentralization challenges, and technology integration opportunities.

Conclusions: The study reveals significant systemic challenges requiring multi-level interventions. Successful administrative strategies emphasize community partnerships, localized governance, and technology integration. Policy recommendations include targeted

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funding mechanisms, enhanced teacher incentive programs, and strengthened school-community collaboration frameworks.

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1. INTRODUCTION

Northeast Thailand, known locally as Isan, represents a region of profound educational complexity, encompassing 20 provinces and serving approximately one-third of Thailand's population. This region has historically faced significant socioeconomic challenges that directly impact educational delivery and outcomes (Warr & Kohpaiboon, 2019). The provinces of Maha Sarakham, Kalasin, Yasothon, and Mukdahan exemplify the broader challenges facing rural educational administration in Northeast Thailand, where geographic isolation, cultural diversity, and economic constraints create unique administrative complexities.

Educational administration in these four provinces operates within a context characterized by persistent resource limitations, teacher shortages, and the complex dynamics of serving culturally and linguistically diverse communities. Maha Sarakham, despite hosting a major regional university, faces significant disparities between urban and rural educational access. Kalasin and Yasothon, primarily agricultural provinces, struggle with seasonal migration patterns that affect student enrollment stability. Mukdahan, situated along the Mekong River border with Laos, confronts additional challenges related to cross-border migration and multilingual educational needs (Siriluck, 2019).

The significance of effective educational administration in these provinces extends beyond local educational outcomes to broader regional development goals. Educational institutions serve as critical infrastructure for addressing poverty, promoting social mobility, and fostering economic growth in historically disadvantaged areas (Rigg, 2020). However, administrators in these regions face a complex array of challenges that require innovative approaches and strategic responses tailored to local contexts.

Recent educational reforms in Thailand, particularly decentralization policies implemented through the National Education Act of 1999 and subsequent amendments, have transferred significant administrative authority to local levels. While intended to improve responsiveness to local needs, these reforms have created new challenges for administrators who must navigate limited resources, inadequate training, and varying levels of community support (Pongtorn, 2021). Understanding how administrators in Maha Sarakham, Kalasin, Yasothon, and Mukdahan respond to these challenges provides crucial insights for educational policy and practice across rural Thailand.

This study addresses a critical gap in the literature by providing comprehensive empirical evidence of administrative challenges and responses in rural Northeast Thailand. Previous research has largely focused on individual provinces or specific aspects of educational administration, lacking the systematic mixed methods approach necessary to understand the complex interplay of factors affecting educational outcomes in this region. By

examining four provinces with distinct characteristics yet shared challenges, this research contributes to both theoretical understanding and practical policy development for rural educational administration.

2. LITERATURE REVIEW

2.1 Theoretical Framework: Educational Administration in Rural Contexts

Educational administration theory has evolved significantly over the past decades, moving from traditional bureaucratic models toward more adaptive, context-sensitive approaches (Hallinger & Chen, 2015). In rural contexts, educational administration faces unique challenges that require theoretical frameworks acknowledging the impact of geographic isolation, resource constraints, and community characteristics on administrative practice (Kalaoja & Pietarinen, 2019).

The Systems Theory approach provides a useful lens for understanding educational administration in rural Northeast Thailand, emphasizing the interconnections between schools, communities, local governments, and broader social systems (Senge, 2019). This perspective is particularly relevant in the Isan context, where educational institutions operate within complex networks of cultural, economic, and political relationships that significantly influence administrative decision-making and outcomes.

2.2 Resource Management Challenges in Rural Education

Resource limitations represent a persistent challenge in rural educational settings globally, with particular intensity in developing countries (Gershberg et al., 2016). In the Thai context, research has consistently documented significant resource disparities between rural and urban schools, with rural institutions receiving disproportionately lower funding per student despite facing higher operational costs due to geographic isolation and smaller economies of scale (Wongchaiya et al., 2021).

Studies specific to Northeast Thailand have highlighted multiple dimensions of resource challenges. Infrastructure deficits, including inadequate classroom facilities, limited laboratory equipment, and poor internet connectivity, significantly impact educational quality (Pimdee et al., 2019). Additionally, resource management in rural areas requires administrators to develop creative solutions for procurement, maintenance, and allocation under severe budget constraints (Mahidol University Research Institute, 2020).

The COVID-19 pandemic has exacerbated existing resource challenges, particularly in technology access and digital literacy support. Research conducted during 2020-2021 revealed that rural schools in Northeast Thailand faced severe difficulties in transitioning to online learning due to limited digital infrastructure and inadequate device availability



(Thongsri et al., 2021). These challenges underscore the critical importance of effective resource management strategies in rural educational administration.

2.3 Teacher Recruitment and Retention in Rural Areas

Teacher shortages in rural areas represent a global challenge with particular severity in developing countries (Monk, 2007). In Thailand, rural teacher shortages have persisted despite various government initiatives, with Northeast provinces consistently experiencing the highest vacancy rates and turnover levels (Niyomthai, 2019).

Research has identified multiple factors contributing to teacher recruitment and retention challenges in rural Northeast Thailand. Economic factors, including lower salaries compared to urban positions and limited opportunities for supplemental income, significantly influence teacher decisions (Siriluck, 2020). Professional isolation, limited career advancement opportunities, and inadequate support systems further compound recruitment difficulties (Kaewkumkong & Draper, 2018).

Recent studies have examined innovative approaches to addressing teacher shortages, including community-based recruitment programs, technology-enabled professional development, and collaborative teaching models that leverage expertise across multiple schools (Deecharoen et al., 2019). However, systematic evaluation of these approaches' effectiveness remains limited, highlighting the need for comprehensive research on teacher retention strategies in rural contexts.

2.4 Community Engagement in Educational Administration

Community engagement in education has gained increasing recognition as a critical factor in educational success, particularly in rural areas where schools often serve as community centers and cultural hubs (Henderson & Mapp, 2022). In the Northeast Thai context, community engagement takes on particular significance due to strong cultural traditions of collective decision-making and community support for education (Rigg, 2021).

Research has documented various forms of community engagement in Northeast Thai education, ranging from informal support through volunteer activities to formal participation in school governance structures (Kaewkumkong & Draper, 2020). Studies have shown that schools with strong community partnerships demonstrate better educational outcomes, including higher student retention rates and improved academic performance (Chaowarakul et al., 2021).

However, challenges exist in fostering effective community engagement. Cultural and linguistic barriers, particularly in communities where Lao dialects predominate, can create communication difficulties between schools and families (Nawarat, 2019). Additionally, economic pressures that require family members to migrate for work can limit sustained community involvement in educational activities (Kerdchoochuen, 2020).





2.5 Decentralization and Local Educational Governance

Educational decentralization has been a major policy trend globally, with Thailand implementing significant reforms through the National Education Act of 1999 and subsequent legislation (Pongtorn, 2021). The theoretical foundation for decentralization rests on assumptions that local control will improve educational responsiveness, efficiency, and accountability (Hanushek et al., 2013).

In Northeast Thailand, decentralization implementation has produced mixed results. Some studies have documented improved local responsiveness and innovation in educational programming (Wongchaiya et al., 2021). However, other research has highlighted challenges including inadequate local administrative capacity, insufficient funding mechanisms, and unclear role definitions between different governance levels (Mahidol University Research Institute, 2021).

Recent research has emphasized the importance of capacity building for local educational administrators to effectively implement decentralized governance. Studies have shown that administrators with appropriate training and support are more successful in leveraging local autonomy to address community-specific educational needs (Chaowarakul et al., 2022).

3. RESEARCH QUESTIONS

Based on the literature review and identified research gaps, this study addresses the following research questions:

RQ1: What are the primary challenges facing educational administrators in rural Northeast Thailand, and how do these challenges vary across different provincial contexts?

RQ2: What administrative strategies and responses have been implemented to address these challenges, and what factors influence their effectiveness?

RQ3: How do community engagement levels and decentralization implementation affect educational administrative outcomes in rural Northeast Thailand?

RQ4: What are the relationships between resource availability, teacher retention rates, and educational outcomes across the four study provinces?

4. RESEARCH OBJECTIVES

The primary objectives of this research are to:

1. Identify and analyze the key challenges facing educational administrators in Maha Sarakham, Kalasin, Yasothon, and Mukdahan provinces through comprehensive quantitative assessment.

2. Examine the relationships between administrative challenges, implemented strategies, and educational outcomes using statistical analysis.

3. Explore the experiences and perspectives of educational administrators through in-depth qualitative investigation of their challenges, strategies, and recommendations.





4. Evaluate the effectiveness of current administrative responses and identify factors that contribute to successful educational management in rural contexts.

5. Develop evidence-based recommendations for policy and practice to improve educational administration in rural Northeast Thailand.

6. Contribute to theoretical understanding of educational administration in rural, culturally diverse contexts through mixed methods analysis.

5. METHODOLOGY

5.1 Research Design

This study employed a convergent parallel mixed methods design, collecting and analyzing quantitative and qualitative data simultaneously to provide a comprehensive understanding of educational administration challenges in rural Northeast Thailand (Creswell & Plano Clark, 2018). The mixed methods approach was selected to leverage the strengths of both quantitative measurement of administrative challenges and outcomes with qualitative exploration of administrators' experiences and contextual factors.

The convergent parallel design allowed for triangulation of findings, where quantitative results provided breadth of understanding across the four provinces, while qualitative data offered depth and context for interpreting statistical relationships. This approach is particularly appropriate for educational research in diverse cultural contexts where numerical data alone may not capture the complexity of administrative experiences (Tashakkori & Teddlie, 2021).

5.2 Study Context and Setting

The study was conducted in four provinces of Northeast Thailand: Maha Sarakham, Kalasin, Yasothon, and Mukdahan. These provinces were selected to represent different characteristics within the Northeast region while maintaining comparability in terms of rural demographics and educational challenges.

Maha Sarakham Province serves as a regional educational center, hosting Mahasarakham University and several teacher training institutions. The province includes both urban and rural districts, providing insights into mixed administrative contexts.

Kalasin Province is predominantly agricultural with high rates of seasonal migration for employment. The province faces particular challenges in maintaining consistent student enrollment and teacher placement.

Yasothon Province represents one of the smaller northeastern provinces with limited industrial development and high dependency on agriculture. Educational institutions in this province operate with severe resource constraints.

Mukdahan Province borders Laos along the Mekong River, creating unique challenges related to cross-border migration, multilingual education needs, and cultural diversity.





5.3 Participants and Sampling

5.3.1 Quantitative Sample

The quantitative component included 485 educational administrators selected through stratified random sampling across the four provinces. Participants included school principals (n = 298), assistant principals (n = 132), and district education office administrators (n = 55). The sample distribution across provinces was: Maha Sarakham (n = 145), Kalasin (n = 128), Yasothon (n = 106), and Mukdahan (n = 106).

Inclusion criteria required participants to have: (1) current administrative responsibilities in public educational institutions, (2) minimum two years of experience in current position, and (3) willingness to participate in the study. The sample size was calculated using G*Power 3.1.9.7 software, with effect size of 0.15, alpha level of 0.05, and power of 0.80, resulting in a minimum required sample of 436 participants.

5.3.2 Qualitative Sample

The qualitative component included 48 educational administrators selected through purposive sampling to ensure representation across provinces, school types, and experience levels. Participants were distributed as follows: Maha Sarakham (n = 14), Kalasin (n = 12), Yasothon (n = 11), and Mukdahan (n = 11).

Selection criteria emphasized maximum variation sampling to capture diverse perspectives based on: (1) years of administrative experience (ranging from 3 to 28 years), (2) school size and type (small rural schools to large district centers), (3) gender representation (27 female, 21 male), and (4) educational background and training.

5.4 Data Collection Procedures

5.4.1 Quantitative Data Collection

Data collection occurred between March and August 2022 using a structured questionnaire developed specifically for this study. The questionnaire included five main sections:

1. Demographic Information (8 items): Personal and professional background
2. Administrative Challenges Scale (24 items): Likert-scale assessment of challenge severity
3. Resource Management Assessment (16 items): Evaluation of resource availability and management practices
4. Community Engagement Measurement (12 items): Assessment of community involvement levels
5. Administrative Outcomes Scale (18 items): Self-reported measures of educational outcomes and administrative effectiveness

The questionnaire was developed through extensive literature review and pilot testing with 45 administrators not included in the main study. Content validity was established through expert review by five educational administration specialists, and internal consistency



was confirmed through Cronbach's alpha coefficients ranging from 0.84 to 0.92 across subscales.

5.4.2 Qualitative Data Collection

In-depth semi-structured interviews were conducted with all 48 qualitative participants between April and September 2022. Interviews lasted 60-90 minutes and were conducted in Thai by trained research assistants with educational backgrounds. The interview guide included questions addressing:

- Personal experiences with administrative challenges
- Specific strategies implemented to address difficulties
- Community relationships and engagement experiences
- Perspectives on decentralization and local governance
- Recommendations for improving educational administration

All interviews were audio-recorded with participant consent and transcribed verbatim in Thai. Transcripts were translated into English by certified translators with expertise in educational terminology.

5.5 Data Analysis

5.5.1 Quantitative Analysis

Quantitative data analysis was conducted using SPSS version 29.0 and included multiple analytical approaches:

Descriptive Statistics: Means, standard deviations, frequencies, and percentages were calculated for all variables to provide comprehensive overview of participant characteristics and responses.

Correlation Analysis: Pearson correlation coefficients were computed to examine relationships between administrative challenges, strategies, and outcomes.

Multiple Regression Analysis: Hierarchical multiple regression was employed to identify predictors of administrative effectiveness while controlling for demographic variables.

ANOVA: One-way analysis of variance was used to examine differences across provinces and administrator types.

Factor Analysis: Exploratory factor analysis was conducted to identify underlying dimensions of administrative challenges and strategies.

5.5.2 Qualitative Analysis

Qualitative data analysis followed systematic thematic analysis procedures (Braun & Clarke, 2019):

Phase 1: Data Familiarization: All transcripts were read multiple times to develop familiarity with content and identify initial patterns.



Phase 2: Initial Coding: Line-by-line coding was conducted to identify meaningful units of data related to research questions.

Phase 3: Theme Development: Codes were organized into potential themes through constant comparison analysis.

Phase 4: Theme Review: Themes were reviewed and refined through iterative analysis and team discussion.

Phase 5: Theme Definition: Final themes were clearly defined with supporting evidence from multiple participants.

Phase 6: Report Writing: Results were written with extensive use of participant quotations to illustrate themes.

Inter-coder reliability was established through independent coding of 25% of transcripts by two researchers, achieving Cohen's kappa of 0.87.

5.5.3 Mixed Methods Integration

Quantitative and qualitative findings were integrated through several approaches:

- **Convergence:** Areas where quantitative and qualitative results supported similar conclusions
- **Complementarity:** Ways qualitative data provided additional insight into quantitative patterns
- **Divergence:** Areas where findings differed and required further interpretation
- **Development:** How qualitative insights helped explain quantitative relationships

6. RESULTS

6.1 Participant Characteristics

6.1.1 Quantitative Sample Demographics

The quantitative sample ($n = 485$) demonstrated diverse characteristics across the four provinces. Participants ranged in age from 28 to 58 years ($M = 42.3$, $SD = 8.7$), with administrative experience ranging from 2 to 25 years ($M = 8.4$, $SD = 5.2$). Gender distribution was relatively balanced with 52.4% female and 47.6% male participants.

Educational qualifications included: Bachelor's degree (18.6%), Master's degree (76.3%), and Doctoral degree (5.1%). The majority of participants (68.2%) had received formal training in educational administration, while 31.8% had learned administrative skills through experience and informal mentoring.

School contexts varied significantly, with rural schools representing 74.2% of the sample, semi-urban schools 19.4%, and urban schools 6.4%. Student enrollment in administered schools ranged from 47 to 1,847 students ($M = 342$, $SD = 267$).

6.1.2 Qualitative Sample Characteristics

The qualitative sample ($n = 48$) represented experienced administrators with an average of 11.6 years in administrative roles (range: 3-28 years). Participants included





principals from various school sizes: small rural schools with fewer than 100 students ($n = 19$), medium schools with 100-500 students ($n = 21$), and larger schools with over 500 students ($n = 8$).

Provincial representation was balanced across Maha Sarakham (29%), Kalasin (25%), Yasothon (23%), and Mukdahan (23%). Gender distribution included 27 female (56%) and 21 male (44%) administrators, reflecting the increasing feminization of educational leadership in rural Thailand.

6.2 Quantitative Findings

6.2.1 Primary Administrative Challenges

Analysis of the Administrative Challenges Scale revealed five primary challenge categories ranked by severity (see Table 1):

Table 1: Primary Administrative Challenges by Severity and Provincial Distribution

| Challenge Category | Overall Mean (SD) | Maha Sarakham Mean (SD) | Kalasin Mean (SD) | Yasothon Mean (SD) | Mukdahan Mean (SD) | % Rating as Severe/Very Severe |
|----------------------|-------------------|-------------------------|-------------------|--------------------|--------------------|--------------------------------|
| Resource Limitations | 4.12 (0.89) | 3.89 (0.82) | 4.18 (0.91) | 4.38 (0.94)** | 3.97 (0.87) | 78.4% |
| Teacher Shortages | 3.98 (0.76) | 3.78 (0.71) | 4.21 (0.79)** | 4.05 (0.82) | 3.89 (0.73) | 72.6% |
| Community Engagement | 3.67 (0.83) | 3.54 (0.79) | 3.62 (0.85) | 3.71 (0.89) | 3.94 (0.91)** | 64.3% |
| Student Issues | 3.45 (0.91) | 3.32 (0.88) | 3.58 (0.96) | 3.51 (0.94) | 3.41 (0.87) | 58.7% |
| Decentralization | 3.28 (0.95) | 3.15 (0.91) | 3.34 (0.98) | 3.42 (1.02) | 3.21 (0.92) | 52.1% |

Note: ** indicates significantly higher than other provinces at $p < 0.01$ level

Resource Limitations emerged as the most severe challenge ($M = 4.12$, $SD = 0.89$), with 78.4% of administrators rating this as "severe" or "very severe." Specific resource challenges included: inadequate funding (85.2%), outdated infrastructure (79.6%), limited teaching materials (74.8%), and insufficient technology access (71.3%).

Teacher Shortages and Retention ranked second in severity ($M = 3.98$, $SD = 0.76$), affecting 72.6% of administrators significantly. Sub-components included: difficulty recruiting qualified teachers (81.4%), high teacher turnover rates (69.7%), limited professional development opportunities (66.8%), and inadequate teacher housing (58.3%).

Community Engagement Challenges ranked third ($M = 3.67$, $SD = 0.83$), with 64.3% reporting significant difficulties. Key issues included: limited parent participation (71.1%), communication barriers due to language differences (55.7%), conflicting community priorities (48.9%), and insufficient community financial support (67.4%).

Student Enrollment and Retention Issues ranked fourth ($M = 3.45$, $SD = 0.91$), affecting 58.7% of administrators substantially. Primary concerns included: seasonal



migration patterns affecting attendance (69.2%), high dropout rates at secondary level (54.3%), and family economic pressures limiting educational continuation (72.6%).

Decentralization Implementation Challenges ranked fifth ($M = 3.28$, $SD = 0.95$), with 52.1% experiencing significant difficulties. Specific issues included: unclear role definitions (63.5%), inadequate training for local governance (58.8%), insufficient autonomy for decision-making (47.2%), and complex bureaucratic procedures (61.7%).

6.2.2 Provincial Variations in Challenges

One-way ANOVA revealed significant provincial differences in challenge severity across multiple dimensions:

Resource Limitations: $F(3, 481) = 12.47$, $p < 0.001$. Post-hoc Tukey tests showed Yasothorn reported significantly higher resource challenges ($M = 4.38$) compared to Maha Sarakham ($M = 3.89$, $p < 0.01$) and Mukdahan ($M = 3.97$, $p < 0.05$).

Teacher Shortages: $F(3, 481) = 8.93$, $p < 0.001$. Kalasin demonstrated the highest teacher shortage severity ($M = 4.21$), significantly different from Maha Sarakham ($M = 3.78$, $p < 0.01$).

Community Engagement: $F(3, 481) = 6.74$, $p < 0.001$. Mukdahan showed significantly higher community engagement challenges ($M = 3.94$) due to cultural and linguistic diversity, compared to other provinces ($p < 0.05$).

6.2.3 Relationships Between Variables

Correlation analysis revealed several significant relationships between administrative challenges and outcomes:

Resource availability showed strong negative correlations with administrative effectiveness ($r = -0.64$, $p < 0.001$) and student achievement measures ($r = -0.58$, $p < 0.001$).

Community engagement levels demonstrated positive correlations with teacher retention ($r = 0.52$, $p < 0.001$) and school improvement measures ($r = 0.47$, $p < 0.001$).

Administrator training and experience correlated positively with effective challenge management ($r = 0.39$, $p < 0.001$) and innovative strategy implementation ($r = 0.41$, $p < 0.001$).

6.2.4 Predictors of Administrative Effectiveness

Multiple regression analysis identified significant predictors of administrative effectiveness ($R^2 = 0.67$, $F(8, 476) = 121.3$, $p < 0.001$). Table 2 presents the detailed results of this analysis.

Table 2: Multiple Regression Analysis Predicting Administrative Effectiveness

| Predictor Variable | B | SE B | β | t | p | 95% CI for B | VIF |
|---------------------------------|-------|-------|---------|------|-------|----------------|------|
| Community Engagement Strategies | 0.342 | 0.039 | 0.423 | 8.67 | <.001 | [0.265, 0.419] | 1.89 |

| | | | | | | | |
|------------------------------------|-------|-------|-------|------|-------|-----------------|------|
| Resource Management Efficiency | 0.289 | 0.032 | 0.378 | 9.12 | <.001 | [0.227, 0.351] | 2.14 |
| Administrator Training Background | 0.176 | 0.051 | 0.234 | 3.45 | .001 | [0.076, 0.276] | 1.43 |
| School-Community Partnerships | 0.148 | 0.053 | 0.187 | 2.78 | .006 | [0.043, 0.253] | 1.67 |
| Technology Integration Level | 0.123 | 0.053 | 0.156 | 2.34 | .020 | [0.020, 0.226] | 1.52 |
| Years of Administrative Experience | 0.084 | 0.044 | 0.119 | 1.89 | .060 | [-0.003, 0.171] | 1.28 |
| School Enrollment Size | 0.052 | 0.039 | 0.078 | 1.34 | .182 | [-0.024, 0.128] | 1.33 |
| Provincial Location | 0.031 | 0.028 | 0.056 | 1.12 | .265 | [-0.023, 0.085] | 1.19 |

Note: $R^2 = .67$, Adjusted $R^2 = .66$, $F(8, 476) = 121.3$, $p < .001$ VIF = Variance Inflation Factor; all values < 3.0 indicate acceptable multicollinearity levels

The model explained 67% of the variance in administrative effectiveness. Community engagement strategies emerged as the strongest predictor ($\beta = 0.42$, $p < 0.001$), followed by resource management efficiency ($\beta = 0.38$, $p < 0.001$). Administrator training background also significantly predicted effectiveness ($\beta = 0.23$, $p < 0.01$), along with school-community partnerships ($\beta = 0.19$, $p < 0.05$) and technology integration level ($\beta = 0.16$, $p < 0.05$).

6.3 Qualitative Findings

Thematic analysis of interview data revealed five major themes that provided deeper understanding of quantitative results:

6.3.1 Theme 1: Systemic Resource Inequity and Creative Adaptation

Administrators consistently described facing severe resource constraints that required innovative problem-solving approaches. A principal in Yasothon explained:

"We have learned to be creative with nothing. Last year, we had no budget for science equipment, so we partnered with the local temple and community members who donated materials. Students now learn chemistry using everyday items from their homes."

Participants emphasized that successful resource management required building extensive networks of community support and developing skills in "creative administration" that went far beyond traditional management training.

6.3.2 Theme 2: Cultural-Linguistic Barriers as Both Challenge and Opportunity

The multilingual nature of many communities created complex challenges for administrators, particularly in areas with significant Lao-speaking populations. However,



administrators who successfully navigated these challenges described them as opportunities for educational innovation:

"Initially, I saw the Lao language as a barrier because our curriculum is in Thai. But then we developed bilingual programs that actually strengthened students' identity and improved their Thai learning. Now parents are more engaged because they feel their culture is respected." (Principal, Mukdahan)

6.3.3 Theme 3: Migration Impacts on Educational Continuity

Seasonal and permanent migration patterns created ongoing challenges for educational planning and student support. Administrators described developing flexible systems to accommodate these patterns:

"During rice planting and harvest seasons, we lose about 30% of our students temporarily. We've created mobile learning packets and coordinate with families to ensure educational continuity. It's challenging, but we've learned to work with the community rhythm rather than against it." (Principal, Kalasin)

6.3.4 Theme 4: Decentralization as Double-Edged Opportunity

While decentralization policies provided greater local autonomy, administrators described feeling inadequately prepared for increased responsibilities:

"Decentralization gave us more freedom to make decisions, but we weren't trained for financial management, community relations, or strategic planning. We're learning by trial and error, which sometimes means mistakes that affect students." (District Administrator, Maha Sarakham)

Successful administrators emphasized the importance of peer networks and collaborative learning to navigate decentralization challenges.

6.3.5 Theme 5: Technology Integration as Transformative Possibility

Despite resource limitations, administrators who successfully integrated technology described transformative impacts on educational quality:

"When we finally got internet connectivity and tablets for students, everything changed. Suddenly our rural students could access the same resources as students in Bangkok. But it required extensive teacher training and community education to make it work." (Principal, Yasothon)

6.4 Mixed Methods Integration

Integration of quantitative and qualitative findings revealed several key insights:



Convergence was observed in the identification of resource limitations and teacher shortages as primary challenges. Both data sources consistently highlighted these issues across all four provinces, with quantitative severity ratings ($M = 4.12$ for resources, $M = 3.98$ for teachers) supported by detailed qualitative narratives describing daily struggles with inadequate funding and staffing.

Complementarity emerged as qualitative data provided contextual explanations for quantitative patterns. For example, while quantitative data showed significant community engagement challenges in Mukdahan, qualitative interviews revealed that cultural diversity, rather than lack of interest, was the primary barrier.

Development occurred as qualitative insights helped explain why certain quantitative predictors were significant. The importance of community engagement strategies became clearer through administrator narratives describing specific partnership approaches.

Complementarity emerged as qualitative data provided contextual explanations for quantitative patterns. For example, while quantitative data showed significant community engagement challenges in Mukdahan ($M = 3.94$, highest among provinces), qualitative interviews revealed that cultural diversity, rather than lack of interest, was the primary barrier. A Mukdahan principal explained: *"We have Lao, Thai, Vietnamese, and Khmer families in our community. Each group has different educational expectations and communication styles. It's not that they don't care - they just express caring differently."*

7. DISCUSSION

7.1 Principal Findings and Theoretical Implications

This mixed methods study provides comprehensive evidence of the complex challenges facing educational administrators in rural Northeast Thailand while identifying effective strategies for addressing these challenges. The findings contribute to educational administration theory by demonstrating how contextual factors—including cultural diversity, economic constraints, and geographic isolation—require adaptive leadership approaches that go beyond traditional administrative models.

The identification of resource limitations as the primary challenge aligns with previous research (Wongchaiya et al., 2021) but extends understanding by quantifying the severity across multiple provinces and documenting innovative adaptation strategies. The finding that community engagement strategies significantly predict administrative effectiveness ($\beta = 0.42$, $p < 0.001$) supports theoretical frameworks emphasizing the importance of school-community partnerships in rural contexts (Henderson & Mapp, 2022).

7.2 Practical Implications for Educational Administration

The study's findings have several important implications for educational practice in rural Northeast Thailand:



Resource Management Innovation: Administrators must develop skills beyond traditional financial management to include community resource mobilization, creative problem-solving, and network building. The qualitative findings suggest that successful administrators act as "community entrepreneurs" who identify and leverage local resources for educational improvement.

Cultural Competency Development: The challenges and opportunities associated with linguistic diversity highlight the need for administrator training in cultural competency and multilingual education approaches. The success stories from Mukdahan demonstrate that embracing cultural diversity can enhance rather than hinder educational outcomes.

Flexible Educational Delivery: The impact of migration patterns on student enrollment requires educational systems that can adapt to community rhythms. Administrators need support in developing flexible scheduling, mobile learning programs, and community-coordinated educational delivery.

7.3 Policy Implications

The research findings suggest several policy recommendations for improving educational administration in rural Northeast Thailand:

Targeted Resource Allocation: The significant provincial variations in resource challenges indicate the need for differentiated funding formulas that account for local contexts. Yasothon's particularly severe resource challenges suggest the need for special intervention programs.

Administrator Capacity Building: The challenges associated with decentralization implementation highlight the urgent need for comprehensive training programs that prepare administrators for expanded responsibilities in financial management, community engagement, and strategic planning.

Community Engagement Support: The positive relationship between community engagement and educational outcomes suggests the need for policy frameworks that facilitate and support school-community partnerships, including formal roles for community members in educational governance.

7.4 Limitations and Future Research

Several limitations should be considered when interpreting these findings:

Geographic Scope: While the four-province focus provides depth, it may limit generalizability to other regions of Thailand or other countries with similar challenges.

Self-Report Measures: The reliance on administrator self-reports for both challenges and outcomes may introduce bias, though the mixed methods approach helps mitigate this limitation.

Temporal Constraints: The cross-sectional design captures administrators' experiences at a specific time period, potentially missing seasonal or cyclical variations in challenges.

Future research should consider longitudinal designs to track changes in administrative challenges and outcomes over time, experimental designs to test specific intervention strategies, and expansion to additional provinces or countries with similar contexts.

8. CONCLUSION

This mixed methods study provides comprehensive evidence of the complex challenges facing educational administrators in rural Northeast Thailand while identifying effective strategies for addressing these difficulties. The research demonstrates that successful educational administration in these contexts requires innovative approaches that go beyond traditional management models to embrace community partnership, cultural competency, and adaptive leadership.

The quantitative findings establish clear priorities for intervention, with resource limitations and teacher shortages requiring immediate attention. The qualitative findings provide crucial contextual understanding that explains how successful administrators navigate these challenges through creative problem-solving, community engagement, and cultural sensitivity.

The study's theoretical contribution lies in demonstrating how contextual factors fundamentally shape administrative practice, requiring theoretical frameworks that account for cultural diversity, economic constraints, and community characteristics. The practical contribution includes specific strategies and approaches that have proven effective in these challenging contexts.

For policy makers, the research provides evidence-based recommendations for supporting rural educational administrators through targeted resource allocation, comprehensive training programs, and policy frameworks that facilitate community engagement. The success stories documented in this research demonstrate that significant improvements in educational outcomes are possible even within constrained contexts when appropriate strategies and support are provided.

The challenges facing educational administrators in Maha Sarakham, Kalasin, Yasothon, and Mukdahan provinces are representative of broader issues affecting rural education throughout Thailand and similar contexts globally. By providing comprehensive documentation of these challenges alongside evidence of effective responses, this research contributes to both local policy development and international understanding of rural educational administration.

Moving forward, continued research and policy attention to rural educational administration will be essential for achieving educational equity and supporting regional development goals throughout Northeast Thailand and similar contexts worldwide.

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APPENDICES

Appendix A: Quantitative Survey Instrument

Educational Administration Challenges Survey

Section A: Demographic Information

1. Province: Maha Sarakham Kalasin Yasothon Mukdahan
2. Current Position: Principal Assistant Principal District Administrator
3. Years in current position: _____ years
4. Years of total administrative experience: _____ years
5. Highest educational qualification: Bachelor's Master's Doctoral
6. Gender: Male Female Other
7. Age: _____ years
8. School enrollment (approximate): _____ students

Section B: Administrative Challenges Assessment Rate each challenge on a scale of 1 (*Not a problem*) to 5 (*Very severe problem*)

Resource Management Challenges

1. Inadequate funding for educational programs
2. Outdated or insufficient infrastructure
3. Limited access to teaching materials and resources
4. Insufficient technology and internet connectivity
5. Lack of transportation for students
6. Inadequate maintenance and repair resources

Teacher-Related Challenges 7. Difficulty recruiting qualified teachers 8. High teacher turnover rates 9. Limited professional development opportunities 10. Inadequate teacher housing and facilities 11. Teacher isolation and lack of peer support 12. Insufficient teacher salaries and benefits

Community Engagement Challenges 13. Limited parent participation in school activities 14. Communication barriers due to language differences 15. Conflicting priorities between school and community 16. Insufficient community financial support 17. Limited community understanding of educational goals 18. Resistance to educational changes or innovations

Student-Related Challenges 19. High student dropout rates 20. Irregular attendance due to family obligations 21. Students leaving for work or migration 22. Limited student motivation and engagement 23. Academic performance below standards 24. Lack of educational support at home

Section C: Administrative Strategies Assessment Rate the extent to which you use each strategy (1 = *Never use* to 5 = *Always use*)



1. Building partnerships with local businesses
2. Engaging community leaders in school planning
3. Developing flexible scheduling for students
4. Creating incentives for teacher retention
5. Implementing technology-enhanced learning
6. Establishing parent education programs
7. Collaborating with other schools for resource sharing
8. Seeking external funding and grants
9. Developing culturally responsive curricula
10. Creating community advisory committees

Section D: Outcomes Assessment *Rate your agreement with each statement (1 = Strongly disagree to 5 = Strongly agree)*

1. Our school effectively meets student learning needs
2. Teacher retention has improved in recent years
3. Community support for education has increased
4. Student achievement levels are satisfactory
5. Administrative efficiency has improved
6. School-community relationships are strong
7. Educational resources are used effectively
8. Students are well-prepared for future education/employment

Appendix B: Qualitative Interview Guide

Semi-Structured Interview Guide for Educational Administrators

Opening Questions

1. Please tell me about your background and how you came to be an educational administrator in this province.
2. What initially motivated you to pursue educational administration?

Experience with Challenges 3. What would you identify as the most significant challenges you face as an educational administrator here? 4. Can you describe a specific situation where resource limitations significantly impacted your ability to provide quality education? 5. Tell me about your experiences with teacher recruitment and retention. What strategies have you tried? 6. How do language and cultural differences affect your administrative work?

Community Relationships 7. Describe the relationship between your school and the local community. 8. Can you give me an example of successful community engagement? What made it work? 9. What barriers exist to greater community involvement in education? 10. How do you communicate with parents and community members who primarily speak Lao dialects?

Administrative Strategies 11. What specific strategies have you developed to address resource limitations? 12. Tell me about innovative approaches you've tried to improve educational outcomes. 13. How has decentralization affected your administrative

responsibilities and decision-making? 14. What role does technology play in your administrative work and educational delivery?

Professional Development and Support 15. What kind of training or support do you feel would be most helpful for administrators in your situation? 16. How do you stay current with educational best practices and administrative techniques? 17. Describe your professional network and how it supports your work.

Future Perspectives 18. What changes would you most like to see in educational policy or support for rural administrators? 19. How do you envision education in your area developing over the next 5-10 years? 20. What advice would you give to new administrators taking positions in rural Northeast Thailand?

Closing Questions 21. Is there anything important about your administrative experience that we haven't discussed? 22. What would you want policymakers to understand about the realities of rural educational administration?

Appendix C: Statistical Analysis Details

Table C1: Descriptive Statistics for Primary Variables

| Variable | Mean | SD | Min | Max | Skewness | Kurtosis | n |
|------------------------------|------|------|------|------|----------|----------|-----|
| Resource Challenges | 4.12 | 0.89 | 1.83 | 5.00 | -0.78 | 0.34 | 485 |
| Teacher Shortages | 3.98 | 0.76 | 2.17 | 5.00 | -0.65 | 0.41 | 485 |
| Community Engagement | 3.67 | 0.83 | 1.50 | 5.00 | -0.42 | -0.23 | 485 |
| Student Issues | 3.45 | 0.91 | 1.25 | 5.00 | -0.31 | -0.45 | 485 |
| Decentralization Challenges | 3.28 | 0.95 | 1.00 | 5.00 | -0.18 | -0.67 | 485 |
| Administrative Effectiveness | 3.72 | 0.68 | 2.13 | 5.00 | -0.54 | 0.28 | 485 |
| Years of Experience | 8.4 | 5.2 | 2.0 | 25.0 | 1.23 | 1.45 | 485 |
| School Enrollment | 342 | 267 | 47 | 1847 | 2.14 | 5.67 | 485 |

Table C2: Correlation Matrix for Key Variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------------------------------|--------|--------|--------|--------|--------|-------|-------|------|
| 1. Resource Challenges | 1.00 | | | | | | | |
| 2. Teacher Shortages | .67** | 1.00 | | | | | | |
| 3. Community Engagement | -.52** | -.48** | 1.00 | | | | | |
| 4. Student Issues | .58** | .61** | -.44** | 1.00 | | | | |
| 5. Decentralization Challenges | .45** | .52** | -.38** | .49** | 1.00 | | | |
| 6. Administrative Experience | -.23** | -.31** | .39** | -.28** | -.34** | 1.00 | | |
| 7. Administrative Effectiveness | -.64** | -.56** | .52** | -.49** | -.41** | .39** | 1.00 | |
| 8. Technology Integration | -.38** | -.42** | .47** | -.35** | -.29** | .33** | .51** | 1.00 |

Note: ** $p < 0.01$, * $p < 0.05$

Table C3: ANOVA Results for Provincial Differences

Challenge Category: Resource Limitations

| Source | SS | df | MS | F | p | η^2 |
|-------------------|-------|----|------|-------|-------|----------|
| Between Provinces | 29.67 | 3 | 9.89 | 12.47 | <.001 | .072 |



| | | | |
|------------------|--------|-----|------|
| Within Provinces | 381.42 | 481 | 0.79 |
| Total | 411.09 | 484 | |

Post-hoc Tukey HSD Results:

- Yasothon > Maha Sarakham ($p = .002$, $d = 0.58$)
- Yasothon > Mukdahan ($p = .019$, $d = 0.45$)
- Kalasin > Maha Sarakham ($p = .034$, $d = 0.34$)

Challenge Category: Teacher Shortages

| Source | SS | df | MS | F | p | η^2 |
|-------------------|--------|-----|------|------|-------|----------|
| Between Provinces | 15.23 | 3 | 5.08 | 8.93 | <.001 | .053 |
| Within Provinces | 273.58 | 481 | 0.57 | | | |
| Total | 288.81 | 484 | | | | |

Post-hoc Tukey HSD Results:

- Kalasin > Maha Sarakham ($p = .001$, $d = 0.59$)
- Kalasin > Mukdahan ($p = .015$, $d = 0.43$)

Table C4: Factor Analysis Results for Administrative Challenges Scale

Principal Component Analysis with Varimax Rotation

| Item | Factor 1 (Resource) | Factor 2 (Personnel) | Factor 3 (Community) | Factor 4 (Student) | Communality |
|----------------------------|------------------------|-------------------------|-------------------------|-----------------------|-------------|
| Inadequate funding | .834 | .156 | .102 | .189 | .756 |
| Outdated infrastructure | .798 | .203 | .134 | .167 | .715 |
| Limited teaching materials | .782 | .245 | .198 | .201 | .731 |
| Technology access | .723 | .287 | .245 | .156 | .689 |
| Teacher recruitment | .198 | .845 | .167 | .123 | .787 |
| Teacher turnover | .234 | .812 | .189 | .178 | .764 |
| Professional development | .267 | .789 | .234 | .145 | .745 |
| Teacher housing | .345 | .698 | .245 | .167 | .678 |
| Parent participation | .156 | .189 | .823 | .234 | .789 |
| Language barriers | .134 | .167 | .798 | .189 | .723 |
| Community priorities | .189 | .234 | .756 | .267 | .712 |
| Student attendance | .234 | .123 | .267 | .834 | .823 |
| Dropout rates | .267 | .178 | .189 | .798 | .756 |
| Academic performance | .189 | .234 | .234 | .723 | .687 |

Eigenvalues: Factor 1 = 4.67, Factor 2 = 3.23, Factor 3 = 2.89, Factor 4 = 2.45 Total variance explained = 67.3% Kaiser-Meyer-Olkin = .89, Bartlett's Test $\chi^2 = 2847.3$, $p < .001$



Appendix D: Qualitative Data Analysis Examples

Example of Coding Process

Original Text (translated): "The biggest problem we face is that we never have enough money for basic things. Last month, we had to choose between buying new textbooks or fixing the roof in the computer room. We chose the roof because rain was damaging the few computers we have. But then students had to share old textbooks, sometimes three students to one book."

Initial Codes:

- Insufficient funding
- Difficult resource allocation decisions
- Infrastructure maintenance needs
- Technology protection priorities
- Inadequate learning materials
- Student resource sharing

Theme Assignment: Systemic Resource Inequity and Creative Adaptation

Example of Theme Development

Theme: Cultural-Linguistic Barriers as Both Challenge and Opportunity

Supporting Codes:

- Language barriers in parent communication
- Lao dialect as home language
- Cultural traditions affecting school participation
- Bilingual education innovations
- Cultural identity preservation
- Community cultural resources

Representative Quotes:

1. "Many parents speak only Lao at home, so they feel uncomfortable coming to school meetings conducted in Thai." (Principal, Mukdahan)
2. "We started incorporating local cultural practices into our curriculum, and suddenly parents became much more interested in school activities." (Principal, Kalasin)
3. "The students who are strong in both Lao and Thai actually perform better academically - they have cognitive advantages." (Principal, Yasothon)

Appendix E: Provincial Context Details

Maha Sarakham Province Profile

- Population: 960,588 (2022)
- Area: 5,291 km²



- Primary Economic Activities: Agriculture (60%), Education services (15%), Small-scale manufacturing (10%)
- Educational Institutions: 847 schools (524 primary, 198 secondary, 125 combined levels)
- Literacy Rate: 94.2%
- University Presence: Mahasarakham University (major regional institution)

Kalasin Province Profile

- Population: 985,327 (2022)
- Area: 6,946 km²
- Primary Economic Activities: Agriculture (75%), Handicrafts (8%), Services (7%)
- Educational Institutions: 923 schools (612 primary, 186 secondary, 125 combined levels)
- Literacy Rate: 91.8%
- Migration Patterns: High seasonal migration (35% of families affected)

Yasothon Province Profile

- Population: 537,445 (2022)
- Area: 4,162 km²
- Primary Economic Activities: Agriculture (82%), Small trade (6%), Government services (5%)
- Educational Institutions: 456 schools (298 primary, 98 secondary, 60 combined levels)
- Literacy Rate: 89.3%
- Economic Indicators: Lowest per capita income among study provinces

Mukdahan Province Profile

- Population: 355,912 (2022)
- Area: 4,340 km²
- Primary Economic Activities: Agriculture (55%), Border trade (20%), Tourism (8%)
- Educational Institutions: 378 schools (234 primary, 89 secondary, 55 combined levels)
- Literacy Rate: 92.1%
- Cultural Characteristics: High ethnic diversity, significant Lao-speaking population (68%)

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