

The Roles of Local Administrative Organizations in Promoting Digital Learning Management to Enhance Learner Quality in Schools under the Maha Sarakham Primary Educational Service Area Office 1, Muang District, Maha Sarakham Province

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ABSTRACT

This study aimed to (1) examine the roles of local administrative organizations (LAOs) in supporting educational budgets, digital infrastructure, and teacher development; (2) investigate the levels of digital learning management and learner quality; and (3) analyze the relationships among LAOs' roles, digital learning management, and learner quality. The sample comprised 317 participants selected through stratified random sampling, including school administrators, teachers, and personnel from local administrative organizations in Mueang Maha Sarakham District, Maha Sarakham Province. Data were collected using a questionnaire with content validity indices ranging from 0.80 to 1.00 and a reliability coefficient of 0.938. The data were analyzed using descriptive statistics, Pearson's correlation coefficient, and Structural Equation Modeling (SEM). The results showed that: (1) the roles of local administrative organizations were rated at a high level, with digital infrastructure receiving the greatest support; (2) digital learning management was at the highest level, while learner quality was at a high level; and (3) local administrative organizations significantly influenced digital learning management ($\beta = 0.62$, $p < .001$) and learner quality both directly ($\beta = 0.28$) and indirectly through digital learning management ($\beta = 0.34$). Digital learning management also had a significant positive effect on learner quality ($\beta = 0.54$, $p < .001$). These findings indicate that digital learning management serves as an important mechanism linking local administrative support to learner quality. The study highlights the crucial role of local administrative organizations in promoting educational quality in the digital era.

Keywords: Local Administrative Organizations, Digital Learning Management, Learner Quality, Structural Equation Modeling, Educational Quality

Introduction

The rapid advancement of digital technology has transformed educational systems worldwide, requiring schools to develop learners' digital competencies, critical thinking, creativity, and lifelong learning skills. (Ramayah, 2024). (Worapongpat, 2026e). In Thailand, the National Education Plan (2017–2036) emphasizes the integration of digital technologies into teaching and learning to enhance educational quality. (Novitasari, et. al., 2025). However, disparities in technological infrastructure, educational resources, and access to digital learning opportunities remain significant, particularly in local and rural areas. (Worapongpat, 2026d). Digital learning management has become an important mechanism for improving learner quality through the effective integration of digital technologies into instructional processes, learning resources, and assessment practices. Research has shown that successful digital learning implementation can improve students' academic achievement and learning outcomes. Nevertheless, its effectiveness depends not only on school practices but also on support from external stakeholders. (Al-Adwan, et. al., 2021)

Under Thailand's decentralization policy, local administrative organizations play a key role in educational development through budget support, digital infrastructure provision, and teacher professional development. (Omany, et. al., 2026). Although previous studies have examined digital learning management (Alismaiel, 2021). learner quality, and local educational support separately, limited evidence exists regarding how local administrative organizations influence learner quality through digital learning management. (Worapongpat, 2026c). This research gap is particularly relevant in Mueang Maha Sarakham District, where schools continue to face challenges related to technology access and digital learning implementation. (Tarhini, et. al., 2014).

Therefore, this study aims to examine the roles of local administrative organizations, investigate the levels of digital learning management and learner quality, and analyze the relationships among these variables. The findings are expected to provide useful implications for educational policy and management in promoting learner quality in the digital era.

Research Objectives

1. To examine the level of roles of local administrative organizations in supporting educational budgets, digital infrastructure, and teacher development in schools.
2. To investigate the level of digital learning management in schools.
3. To investigate the level of learner quality in schools.
4. To examine the relationships among the roles of local administrative organizations, digital learning management, and learner quality.

Literature Review

Roles of Local Administrative Organizations in Educational Development Under Thailand's decentralization policy, Local Administrative Organizations (LAOs) play an important role in educational development through budget support, (Worapongpat, 2026b). infrastructure provision, and teacher professional development. Based on Local Governance and Decentralization Theory, (Panwar, et. al., 2022).local authorities can improve educational quality by responding effectively to local educational needs. (Worapongpat, 2025a)In the digital era, their responsibilities also include supporting digital infrastructure and technology resources that facilitate effective learning management. (Worapongpat, 2025b).

Digital Learning Management

Digital Learning Management (DLM) refers to the integration of digital technologies into teaching, (Worapongpat,2025c).learning resources,and assessment processes. (Worapongpat, 2025d).Grounded in Constructivist Learning Theory, digital learning promotes active learning, collaboration, and knowledge construction through technology-enhanced environments. (Worapongpat, 2025e).Previous studies have shown that effective digital learning management contributes positively to student achievement, engagement, and higher-order thinking skills. (Worapongpat, 2025f).

Learner Quality

Learner quality encompasses academic achievement and desirable characteristics, including critical thinking, (Worapongpat, 2025j). responsibility, adaptability, and lifelong learning skills.Research suggests that learner quality is influenced by instructional quality, learning environments, educational resources, and organizational support. (Worapongpat, 2025h). In digital contexts, effective learning management and access to technological resources are important factors in enhancing learner outcomes. (Worapongpat, 2025i).

Theoretical Framework and Research Gap

This study integrates Local Governance and Decentralization Theory with Constructivist Learning Theory to explain the relationships among local administrative organizations, (Worapongpat, 2025l). digital learning management, and learner quality. While previous studies have examined these variables separately, (Worapongpat, 2025m).limited empirical evidence has explored their integrated relationships. Therefore, this study proposes that the roles of local administrative organizations positively influence digital learning management, (Worapongpat, 2025n).which subsequently enhances learner quality. Digital learning management is expected to function as a mediating mechanism linking local educational support to learner outcomes. (Worapongpat. 2026a).

Research Conceptual Framework

This study examines the relationships among the roles of local administrative organizations (LAOs), digital learning management (DLM), and learner quality. (Worapongpat, et. al., 2025). The conceptual framework is based on Local Governance and Decentralization Theory and Constructivist Learning Theory.

(Worapongpat, 2025k). Local Governance and Decentralization Theory suggests that LAOs support educational development through budget allocation, digital infrastructure, and teacher professional development, while Constructivist Learning Theory emphasizes the use of digital technologies to promote active learning and learner engagement. (Worapongpat, 2025g).

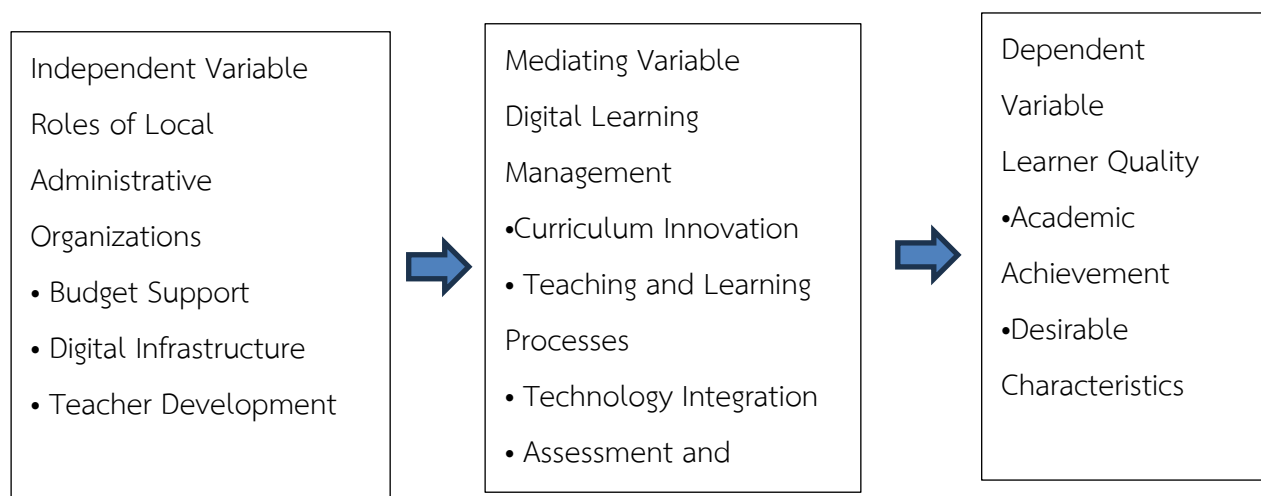


Figure 1. Research Conceptual Framework

Methodology

Research Design

This study employed a quantitative research design to examine the relationships among the roles of local administrative organizations (LAOs), digital learning management (DLM), and learner quality. Structural Equation Modeling (SEM) was used to test the proposed conceptual framework.

Population and Sample

The population consisted of school administrators, teachers, and personnel from local administrative organizations in Mueang Maha Sarakham District, Maha Sarakham Province. Using Krejcie and Morgan's sampling table and stratified random sampling, a total of 317 participants were selected.

Research Instrument

Data were collected using a structured questionnaire comprising three constructs: (1) roles of local administrative organizations (budget support, digital infrastructure, and teacher development), (2) digital learning management (curriculum innovation, instructional processes, technology integration, and assessment), and (3) learner quality (academic achievement and desirable characteristics). Responses were measured on a five-point Likert scale. Content validity, assessed by five experts, yielded IOC values ranging from 0.80 to 1.00, and the overall reliability coefficient was 0.938.

Data Collection and Analysis

Data were collected through questionnaire surveys and analyzed using descriptive statistics (mean and standard deviation) and inferential statistics, including Pearson's correlation coefficient and Structural Equation Modeling (SEM). Model fit was evaluated using χ^2/df , CFI, TLI, RMSEA, and SRMR.

Results

Table 1. Level of Roles of Local Administrative Organizations

Item	Mean ($\bar{X}$)	S.D.	Interpretation
Budget support	4.35	0.52	High
Digital infrastructure	4.48	0.49	High
Teacher development	4.21	0.57	High
Overall	4.35	0.46	High

Table 1 shows that the overall roles of local administrative organizations in supporting educational development were at a high level ($\bar{X}$ =4.35, S.D.=0.46). Among the dimensions, digital infrastructure received the highest rating ($\bar{X}$ =4.48, S.D.=0.49) followed by budget support ($\bar{X}$ =4.35, S.D.=0.52) and teacher development ($\bar{X}$ =4.21, S.D.=0.57). These findings indicate that local administrative organizations provide strong support for educational development, particularly in digital infrastructure.

Summary: Local administrative organizations play a significant role at a high level overall, with the strongest contribution in digital infrastructure.

Table 2. Level of Digital Learning Management

Item	Mean ($\bar{X}$)	S.D.	Interpretation
Curriculum	4.60	0.45	Highest
Teaching and learning	4.62	0.44	Highest
Research for development	4.32	0.56	High
Supervision	4.57	0.52	Highest
Technology and learning resources	4.42	0.55	High
Measurement and evaluation	4.61	0.49	Highest
Overall	4.52	0.43	Highest

Table 2 shows that the overall level of digital learning management was at the highest level ($\bar{X}$ = 4.52, S.D.=0.43). Teaching and learning processes received the highest mean score ($\bar{X}$ = 4.62, S.D.=0.44), followed by measurement and evaluation ($\bar{X}$ = 4.61, S.D.=0.49), curriculum ($\bar{X}$ = 4.60, S.D.=0.45), and supervision ($\bar{X}$ = 4.57, S.D.=0.52). Technology and learning resources ($\bar{X}$ = 4.42, S.D.=0.55) and research for development ($\bar{X}$ = 4.32, S.D.=0.56) were rated at a high level. These findings indicate that schools have effectively implemented digital learning practices, although further development in research and innovation may be needed.

Table 3. Level of Learner Quality

Item	Mean ($\bar{X}$)	S.D.	Interpretation
Academic achievement	4.13	0.53	High
Desirable characteristics	4.58	0.52	Highest
Overall	4.37	0.47	High

Table 3 shows that the overall level of learner quality was high ($\bar{X}$ = 4.37, S.D.=0.47). Desirable characteristics received the highest rating and were at the highest level ($\bar{X}$ = 4.58, S.D.=0.52), while academic achievement was rated at a high level ($\bar{X}$ = 4.13, S.D.=0.53). These findings suggest that schools have been particularly successful in developing students' desirable characteristics, although further improvement in academic achievement may be needed.

Table 4. Correlation Matrix among Variables

Variables	LAO	DLM	LQ
LAO	1	.621**	.574**
DLM	.621**	1	.683**
LQ	.574**	.683**	1

Note: $p < .01$

Table 4 presents the correlations among local administrative organizations (LAO), digital learning management (DLM), and learner quality (LQ). All variables were positively and significantly correlated at the .01 level. The strongest relationship was found between DLM and LQ ($r = .683$, $p < .01$), followed by LAO and DLM ($r = .621$, $p < .01$), and LAO and LQ ($r = .574$, $p < .01$). These findings suggest that greater support from local administrative organizations is associated with more effective digital learning management and higher learner quality, supporting the proposed conceptual framework for SEM analysis.

Table 5. Model Fit Indices

Index	Value	Criteria	Result
χ^2/df	1.85	< 3.00	Acceptable
CFI	0.96	> 0.90	Excellent
TLI	0.95	> 0.90	Excellent
RMSEA	0.045	< 0.08	Good
SRMR	0.038	< 0.08	Good

Structural Equation Modeling (SEM): Model Fit Assessment

Table 5 shows that the proposed structural equation model demonstrated a good fit with the empirical data. The fit indices met the recommended criteria, including $\chi^2/df = 1.85$, CFI = 0.96, TLI = 0.95, RMSEA = 0.045, and SRMR = 0.038. These results indicate that the model was appropriate for examining the relationships among local administrative organizations, digital learning management, and learner quality.

Table 6. Path Coefficients

Path	β	t-value	p-value	Result
LAO $\rightarrow$ DLM	0.62	9.45	.000	Supported
DLM $\rightarrow$ LQ	0.54	8.72	.000	Supported
LAO $\rightarrow$ LQ	0.28	4.11	.000	Supported

Table 6 presents the standardized path coefficients of the structural model. The results showed that the roles of local administrative organizations significantly influenced digital learning management ($\beta = 0.62$, $p < .001$), supporting Hypothesis 1. Digital learning management also had a significant positive effect on learner quality ($\beta=0.54$, $p < .001$), supporting Hypothesis 2. In addition, local administrative organizations exerted a significant direct effect on learner quality ($\beta = 0.28$, $p < .001$), supporting Hypothesis

Among the relationships examined, the strongest effect was found between local administrative organizations and digital learning management, followed by the effect of digital learning management on learner quality. These findings support the proposed conceptual framework and highlight the importance of local administrative support in enhancing educational quality in the digital era.

Table 7. Direct, Indirect, and Total Effects

Variable	Direct	Indirect	Total
LAO $\rightarrow$ LQ	0.28	0.34	0.62

Table 7 presents the direct, indirect, and total effects of local administrative organizations on learner quality. The results showed that local administrative organizations had both a direct effect ($\beta = 0.28$) and an indirect effect through digital learning management ($\beta = 0.34$), with a total effect of 0.62. Since the indirect effect was greater than the direct effect, digital learning management was confirmed as a significant mediating variable. Therefore, Hypotheses 4 and 5 were supported, indicating that local administrative organizations enhance learner quality primarily through strengthening digital learning management.

Discusstion

Objective 1. The findings showed that the roles of local administrative organizations were perceived at a high level overall, with digital infrastructure receiving the highest rating. This suggests that local administrative organizations have prioritized technological support to enhance educational development in the digital era. The findings are consistent (Zheng, Xiao, 2024). with Local Governance and Decentralization Theory, which emphasizes the role of local authorities in providing resources and responding to educational needs. They also support previous studies indicating that infrastructure, budget support, and teacher development contribute significantly to educational effectiveness.

Objective 2. The results indicated that digital learning management was at the highest level, while learner quality was at a high level. Desirable characteristics were rated higher than academic achievement, suggesting that digital learning environments may be particularly effective in developing students' responsibility, adaptability, collaboration, and lifelong learning skills. (Li, et. al., 2026). These findings are consistent with Constructivist Learning Theory and previous studies showing that technology-enhanced learning promotes learner engagement, critical thinking, and other essential twenty-first-century competencies.

Objective 3. The findings revealed that local administrative organizations significantly influenced digital learning management and learner quality, both directly and indirectly. The indirect effect through digital learning management was greater than the direct effect, confirming its role as a significant mediator. This suggests that support in the form of budget allocation, digital infrastructure, and teacher development improves learner quality primarily by strengthening digital learning practices. (Sharma, et. al., 2017). The findings support the integration of Local Governance and Decentralization Theory with Constructivist Learning Theory and highlight digital learning management as a key mechanism linking local educational support to learner outcomes.

New Knowledge From Research

The findings of this study generate new knowledge regarding the integrated mechanism through which local administrative organizations contribute to learner quality development in the digital era. The synthesis of the results can be presented as a conceptual model as follows:

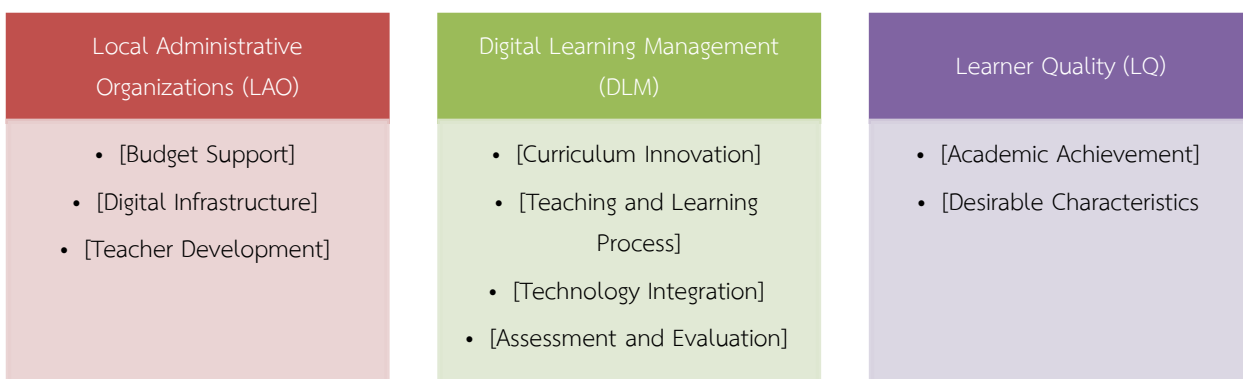


Diagram 2. Integrated Model of Local Administrative Organizations Supporting Digital Learning for Enhancing Learner Quality

From Diagram 2, local administrative organizations support education through budget allocation, digital infrastructure, and teacher development, which collectively enhance digital learning management. Digital learning management functions as a key mediating mechanism that improves curriculum implementation, instructional processes, technology integration, and assessment practices, leading to higher learner quality in terms of academic achievement and desirable characteristics. The findings support a mediated governance model, in which local administrative organizations influence learner outcomes primarily through strengthening instructional systems. The model also highlights the importance of reducing the digital divide and ensuring equitable access to educational resources for sustainable educational development.

Conclusion

This study examined the roles of local administrative organizations, digital learning management, and learner quality, as well as the relationships among these variables. The findings showed that local administrative organizations played a strong role in supporting education, particularly through digital infrastructure, budget allocation, and teacher development. Digital learning management was rated at the highest level, while learner quality was at a high level.

The SEM results revealed that local administrative organizations significantly influenced digital learning management and learner quality, both directly and indirectly. Digital learning management also had a significant positive effect on learner quality and functioned as an important mediating variable.

Suggestions

1. Practical Recommendations

1. Local administrative organizations should continue investing in digital infrastructure and educational technologies to ensure equitable access to digital learning.

2. Educational agencies should strengthen teachers' digital competencies through continuous professional development programs.

3. Schools should promote innovative approaches such as blended learning, technology-enhanced learning, and authentic assessment to improve learner quality.

4. Policymakers should encourage collaboration among local administrative organizations, schools, communities, and educational agencies to enhance educational outcomes.

2. Recommendations for Future Research

1. Future studies should test the proposed model in different educational contexts to improve generalizability.

2. Additional variables, such as digital leadership, digital literacy, organizational culture, teacher readiness, and community participation, should be incorporated into future models.

3. Mixed-methods and qualitative research should be conducted to gain deeper insights into the relationships among the study variables.

4. Longitudinal studies should investigate the long-term effects of local administrative support on digital learning management and learner quality.

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