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STRATEGIES TO DEVELOP CULTURALLY RESPONSIVE LEADERSHIP TO ENHANCE EVIDENCE-BASED PRACTICES FOR SCHOOL MANAGEMENT OF THE 12TH MIDDLE SCHOOL OF LINYI, SHAN DONG PROVINCE, CHINA

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ABSTRACT

This study aims to explore how culturally responsive leadership can enhance the level of evidence-based practice management at Linyi No. 12 Middle School in Shandong Province, China. The study examines the growing need for school leadership to combine cultural sensitivity with data-driven decision-making across diverse learning contexts to improve educational effectiveness. This study employed a mixed-methods approach and was conducted in three phases. In the first phase, a quantitative survey was conducted to 254 teachers and 108 administrative staff to assess the current status of culturally responsive leadership and evidence-based practices. The data were analyzed using descriptive statistics. In the second phase, confirmatory factor analysis (CFA) and structural equation modeling (SEM) were used to validate the measurement model and explore the relationship between culturally responsive leadership and evidence-based practices. In the third phase, qualitative methods, such as focus group interviews with nine experts, were employed to develop practical and context-appropriate strategies. The results indicate that culturally responsive leadership has a significant impact on the application of evidence-based approaches in school administration. Key factors for enhancing leadership effectiveness include critical self-reflection, an inclusive educational environment, professional collaboration, and community engagement. Furthermore, the integration of professional learning communities with teaching competencies facilitates more effective evidence-based decision-making. Based on these findings, this study proposes a series of strategic recommendations aimed at building culturally responsive leadership, with a focus on professional growth, collaborative learning frameworks, stakeholder engagement, and continuous evaluation systems. These recommendations contribute to enhancing school management efficiency, promoting inclusive education, and improving student learning outcomes. By integrating culturally responsive leadership with evidence-based

approaches, this study constructs a comprehensive framework for the long-term development of schools in multicultural settings, thereby contributing to educational leadership at both theoretical and practical levels.

KEYWORDS: Strategies, Culturally Responsive Leadership, Evidence-based Practices, School Management, Professional Learning Community, Teaching Competence.

1. INTRODUCTION

In China, especially in big cities like Beijing and Shanghai, going to school has become more significant in the last several years. Now, parents have wanted to send their kids to better elementary and secondary schools. Students who go to these renowned institutions frequently have greater resources for learning and a better chance of getting into well-known colleges. Students that get into these major institutions are likely to go to top colleges in China or universities that are well-known around the world (Comstock et al., 2023). Chinese parents care more about their kids' emotional health than about their material needs. Parents who plan for their kids' schooling can assist reduce the knowledge gap by getting them effective learning tools. The rise of evidence-based practice in education is a new trend in which decisions and actions are based on scientific evidence and research data. The traditional way of running a school generally relies on commands from above and strict hierarchy, but this way of doing things is starting to show its flaws in today's fast-paced world (Jerab & Mabrouk, 2023). School administration needs to change quickly to meet the difficulties of the modern era since students' requirements are becoming more diversified, the educational environment is becoming more complicated and changeable, and the teaching concept is always changing. Modern school management focuses on individualized, student-centered instruction and holistic development, while prioritizing teachers' professional advancement and collaboration.

2. LITERATURE REVIEW

2.1. Culturally Responsive Leadership

Culturally responsive leadership refers to the ability of school leaders to recognize, respect, and incorporate the diverse cultural backgrounds of their students and staff into school management practices (Williams III et al., 2023). This type of leadership requires a high level of cultural competence, where leaders must be proactive in fostering an inclusive school environment. The study will explore how school administrators and teachers perceive the importance of culturally responsive leadership and its effectiveness in managing diverse educational environments. As noted by Gay, understanding and respecting cultural diversity is crucial for creating an educational environment where all students and staff feel valued. 1). Critical self-reflection refers to the continuous process through which educators evaluate their own beliefs, values, biases, and

teaching practices to understand how these influence their interactions with students from diverse backgrounds (Jang & Alexander, 2022). It involves questioning assumptions, recognizing cultural blind spots, and intentionally aligning behavior with principles of equity and inclusivity to improve professional growth and teaching effectiveness. 2). Forming culturally sensitive teachers means developing educators who possess the awareness, knowledge, and skills to respond appropriately to the cultural differences and needs of their students. It emphasizes intercultural competence, empathy, and respect for diversity, enabling teachers to design inclusive curricula, adopt culturally relevant pedagogy, and promote fairness and belonging in the classroom. 3). Inclusive school environments refer to educational settings that embrace diversity by ensuring that all students regardless of culture, ability, or background feel valued, respected, and supported. Such environments promote equal opportunities for participation, eliminate discriminatory practices, and encourage collaboration among students, teachers, and staff to create a positive and equitable learning culture. 4). Parents and community involvement describe the active participation of families and community members in the educational process to enhance students' learning experiences and outcomes. It includes partnerships in decision-making, communication between home and school, and joint efforts to create culturally responsive programs that reflect community values and needs, fostering shared responsibility for student success (Arar et al., 2022).

2.2. Professional Learning Community

Professional Learning Community (PLC) refers to a collaborative structure in which teachers and school leaders work collectively to enhance teaching effectiveness and student learning outcome (Henshaw, 2022). It emphasizes continuous professional growth through shared vision, mutual trust, and reflective dialogue. A strong PLC culture encourages teachers to exchange knowledge, solve instructional problems collaboratively, and align their practices with school improvement goals. This model transforms schools into learning organizations where innovation and shared responsibility drive educational success. The study will explore how teachers and administrators engage in professional learning communities to improve teaching competence and organizational performance (Brown et al., 2022). Developing effective PLCs requires leadership support, structured collaboration, and a

shared commitment to collective inquiry. The key elements include: 1). Learning Support and Partnership refers to the collaborative effort among teachers, administrators, and stakeholders to enhance teaching and learning outcomes through mutual assistance, shared expertise, and resource coordination (Arar *et al.*, 2022). It emphasizes teamwork, trust, and shared responsibility in addressing educational challenges and fostering continuous improvement. 2). Sharing Vision and Mission means developing and communicating a common understanding of the school's core purpose and long-term goals among all members of the educational community. It ensures that teachers, leaders, and stakeholders work collectively toward a unified direction that reflects shared beliefs and educational aspirations. 3). Collective Learning and Application refers to the process by which educators collaboratively acquire, reflect upon, and apply new knowledge or skills to improve teaching practices and student outcomes. It focuses on group inquiry, knowledge exchange, and implementation of best practices within a supportive professional community. 4). Condition Support involves providing the necessary structural, administrative, and environmental factors that enable effective teaching and learning. This includes access to resources, leadership backing, time allocation for collaboration, and policies that encourage innovation and professional growth among educators. 5). Private Practice Sharing refers to the voluntary exchange of individual teachers' experiences, strategies, and reflective practices in a trusting environment. It transforms personal professional insights into collective knowledge, promoting transparency, mutual learning, and improvement in instructional quality across the organization (Miller-Cotto *et al.*, 2022).

2.3. Teaching Competence

Teaching Competence refers to the comprehensive integration of knowledge, pedagogical skills, attitudes, and personal attributes that enable teachers to plan, implement, and evaluate effective instruction (Huey Jr *et al.*, 2023). Competent teachers demonstrate mastery of subject content, adapt teaching methods to diverse learners, and foster supportive classroom environments that promote student engagement and achievement. Teaching competence is not static; it evolves through continuous reflection, professional development, and collaboration with peers and communities (Min *et al.*, 2022). The study will examine how teachers' competence influences learning quality and the

overall effectiveness of school management. Enhancing teaching competence requires both institutional support and individual commitment to growth and innovation. The main dimensions include: Knowledge Orientation refers to a leader's or educator's commitment to continuous learning, professional development, and evidence-based decision-making. It emphasizes the use of data, research findings, and reflective practices to guide instructional improvement and organizational innovation (Wang *et al.*, 2022). Individuals with strong knowledge orientation value inquiry, knowledge sharing, and lifelong learning as foundations for educational excellence. Instructional refers to the dimension of leadership and practice focused on improving teaching and learning processes. It involves guiding, supporting, and evaluating instructional strategies to enhance student achievement. Instructional practice includes curriculum planning, classroom observation, feedback provision, and fostering a culture of pedagogical excellence aligned with educational goals and student needs (Haskins & Roets, 2022). Community Involvement describes the active collaboration between schools and the wider community, parents, local organizations, and stakeholders to support students' learning and well-being. It promotes shared responsibility, resource exchange, and culturally relevant engagement to strengthen the relationship between the school and its social environment, enhancing educational outcomes and social cohesion. Personal Quality encompasses the moral character, emotional intelligence, and interpersonal skills that define an effective educator or leader. It includes traits such as integrity, empathy, responsibility, resilience, and fairness (Chang & Viesca, 2022). High personal quality allows individuals to build trust, motivate others, and model ethical behavior, thereby fostering a positive and inclusive learning atmosphere (Abdalla & Moussa, 2024).

2.4. Evidence-Based Practices

Evidence-based practices in education are strategies and interventions proven effective through rigorous research and data (Nadeem, 2024). These practices ensure that teaching and school management decisions are based on scientific evidence rather than assumptions or traditions. This study will investigate how school leaders and teachers use evidence-based practices in their management decisions and teaching methods. Integrating evidence-based practices into school management helps improve student outcomes and

operational efficiency. Data Collection and Analysis Ability refer to the capacity of educators or researchers to systematically gather, interpret, and utilize qualitative and quantitative data to improve educational practices. It involves selecting appropriate research tools, ensuring data accuracy, applying analytical techniques, and drawing meaningful conclusions to support informed instructional and organizational decisions (Hyter, 2022). Research Integration is the process of applying relevant academic findings and theoretical insights to practical educational contexts. It reflects the ability to synthesize research evidence with professional experience, enabling educators to design interventions, teaching strategies, and policies that are grounded in empirical knowledge and aligned with institutional goals. Practice Evaluation refers to the systematic assessment of teaching methods, learning outcomes, and institutional processes to determine their effectiveness and areas for improvement (Hyter, 2022). It includes setting evaluation criteria, collecting feedback, analyzing results, and using evidence to enhance instructional quality, student engagement, and organizational performance. Professional Collaboration involves cooperative engagement among educators, researchers, and stakeholders to share expertise, solve problems, and develop innovative educational solutions (Banwo et al., 2022). It promotes teamwork, knowledge exchange, and collective reflection, fostering a professional learning community that supports continuous improvement and organizational learning. Evidence-informed Decision-Making refers to the process of making educational and managerial decisions based on systematically collected data, research evidence, and contextual understanding. It combines empirical insights with professional judgment to ensure that policies, programs, and instructional practices are effective, transparent, and responsive to learners' needs (Perrone, 2022).

2.5. School Management

School Management in education refers to the systematic process of designing, aligning, and implementing actions that enable schools to achieve long-term objectives (Oladejo et al., 2022). It is not only a technical exercise of planning but also a leadership function that integrates vision, resources, and stakeholder engagement (Oladejo et al., 2022). Scholars describe strategy development as a dynamic process in which leaders translate goals into coherent practices that can guide decision-making and support organizational sustainability. Vision and

Goal Alignment refer to the process of ensuring that an organization's strategic direction, objectives, and daily practices are consistently guided by a shared vision and common goals. In the educational context, it means aligning teachers, administrators, and stakeholders toward unified priorities that promote student learning, institutional development, and long-term sustainability. Resource Allocation involves the strategic distribution and utilization of financial, human, technological, and physical resources to support teaching, learning, and institutional improvement (Rachmad, 2023). Effective resource allocation ensures equity, transparency, and efficiency in managing resources to maximize educational outcomes and foster innovation within the organization. Stakeholder Engagement refers to the active participation and collaboration of all parties with an interest in education, such as teachers, students, parents, community members, and policymakers in the decision-making process. It promotes trust, accountability, and shared responsibility, ensuring that diverse perspectives contribute to the success and inclusivity of educational initiatives. Innovation and Change Management is the ability to initiate, implement, and sustain new ideas, strategies, or technologies that improve educational practices and organizational effectiveness. It involves fostering a culture of creativity, adaptability, and continuous learning, as well as managing resistance and ensuring smooth transitions during reform or transformation processes. Monitoring and Evaluation refers to the systematic process of tracking progress, measuring performance, and assessing outcomes against predefined objectives (Fitrianto & Farisi, 2025). In education, M&E provides evidence-based feedback for policy improvement, curriculum refinement, and program effectiveness, ensuring accountability and promoting ongoing quality enhancement.

3. METHODOLOGY

3.1. Population And Sample Sizes

The number of people surveyed in this project will be divided into three primary groups, focusing only on Teachers and School Administrators in the 12th Middle School of Linyi, ShanDong Province, China. The population will be divided into three phases, 1) 719 teachers in the 12th Middle School of Linyi, ShanDong Province, China, 2) 9 specialists from the 12th Middle School of Linyi, ShanDong Province, China, 3) 150 Administrators from the 12th Middle School of Linyi, ShanDong Province, China.

To study the current situations of developing

culturally responsive leadership to enhance evidence-based practices for school management. To determine the appropriate sample size, Krejcie, and Morgan's formula will be used. The sample sizes were calculated according to the formula to determine the appropriate sample and it has 254 teachers and 108 administrators who will attend the test. To determine the appropriate sample size formula will be used (Krejcie & Morgan, 1970):

Where:

S = required sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (usually 3.841 for 95% confidence)

N = population size

To analyze the factors of culturally responsive leadership to enhance evidence-based practices for school management. The research design moved from exploration to confirmation, with the primary objective of validating the measurement structure of culturally responsive leadership (CRL) and evidence-based practices (EBP) and testing the hypothesized relationships between the two constructs through confirmatory factor analysis (CFA) and structural equation modeling (SEM). This phase thus complemented the descriptive and exploratory results from Phase 1 with more rigorous statistical modeling, providing robust evidence for the theoretical framework of the study. The research instrument for Phase 2 was a refined version of the questionnaire used in Phase 1. The sample sizes was calculated according to the formula to determine the appropriate sample, and it has 254 teachers and 108 administrators who will attend the test.

To develop strategies to develop culturally responsive leadership to enhance evidence-based practices for school management. The key informants for Phase 3 were purposively selected from individuals with extensive knowledge and practical experience in education and school leadership. These included senior administrators, department heads, and teacher representatives from Linyi's 12th Middle School, along with external experts such as local education bureau officials and university scholars in educational leadership and management. The selection ensured that multiple perspectives, administrative, instructional, policy-level, and academic—were incorporated into the strategy development process. In total, approximately 9 participants were included, representing a balance between school insiders and external experts.

3.2. Research Instruments

The primary research instrument in this study

was a structured questionnaire administered to teachers and administrators in order to collect data on their perceptions and experiences related to culturally responsive leadership and evidence-based practices in school management. The questionnaire consisted of three sections. The first section gathered demographic information, including position, years of service, department, and training experience. The second section focused on culturally responsive leadership and covered key constructions such as cultural awareness, equity orientation, inclusive decision-making, communication competence, and community engagement. The third section examined evidence-based practices, including data collection and analysis, the use of research evidence in decision-making, evaluation of practices, and collaboration among school stakeholders. Responses were measured using a five-point Likert scale to indicate the degree of agreement with each statement.

3.3. Data Analysis

The questionnaire underwent a process of validation and pilot testing to ensure quality. Content validity was examined through the Index of Item-Objective Congruence (IOC), in which three experts rated the clarity and relevance of each item using a -1, 0, and +1 scoring scale. Items with IOC values of 0.67 or higher were retained, while items below this threshold were revised or discarded. In addition, a pilot test was conducted with a small group of respondents not included in the main sample to examine clarity, timing, and internal consistency. Reliability was assessed through Cronbach's alpha, with a minimum acceptable threshold of 0.70, and where binary items were present, the KR-21 formula was applied.

The analysis in Phase 2 began with confirmatory factor analysis (CFA) to validate the measurement model. CFA was used to examine the extent to which the hypothesized factor structure fit the observed data. Several goodness-of-fit indices were reported, including the chi-square/df ratio, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The model was considered acceptable when the CFI and TLI values were greater than 0.90, the RMSEA was below 0.08, and the SRMR was below 0.08. Factor loadings above 0.50 were taken to indicate that the items adequately represented their latent constructs. Composite reliability (CR) and average variance extracted (AVE) were also calculated to assess convergent validity, while discriminant validity was examined using the Fornell-Larcker criterion and the

heterotrait-monotrait ratio (HTMT). Items retained from the initial reliability analysis and exploratory factor analysis were grouped under their corresponding latent constructs, consisting of five subscales for culturally responsive leadership cultural awareness, equity orientation, inclusive decision-making, communication competence, and community engagement, and five subscales for evidence-based practices data collection and analysis, research use, practice evaluation, collaboration, and evidence-informed decision-making. Each construct was measured through multiple Likert-type items to ensure sufficient indicator coverage. Content validity remained supported through expert review, while construct validity and reliability were re-examined formally through CFA.

Transcripts were first reviewed for accuracy, then systematically coded to identify patterns related to barriers, enablers, and proposed strategies. Codes were clustered into themes corresponding to dimensions of culturally responsive leadership (e.g.,

cultural awareness, inclusive decision-making, equity orientation) and evidence-based practices (e.g., data use, collaborative evaluation, practice implementation). Triangulation with the quantitative results from Phases 1 and 2 enhanced the credibility of the findings, ensuring that the strategies reflected both empirical evidence and practitioner insights. To further strengthen validity, member-checking was conducted by sharing preliminary themes with participants for confirmation and refinement. Through this process, Phase 3 produced a set of context-specific, empirically grounded strategies aimed at strengthening culturally responsive leadership and embedding evidence-based practices in school management at Linyi's 12th Middle School. These strategies formed the practical outcome of the study and provided a framework for guiding future leadership development and policy implementation.

4. RESEARCH RESULTS

4.1. General Information

Table 4.1: General Information of Teachers.

General information		Total (n)=254	
		Frequency	Percentage
Gender	Male	128	50.40
	Female	126	49.60
Total		254	100.00
Professional category	Arts	28	11.00
	Science	117	46.10
	Engineering	82	32.30
	Art or other	27	10.60
Total		254	100.00
Experience in teaching	1-5	18	7.10
	6-10	81	31.90
	11-15	99	39.00
	16-20	37	14.6
	more than 20	19	7.5
Total		254	100.00

This study involved a total of 254 respondents, and their demographic characteristics are summarized in terms of gender, professional category, and teaching experience. There were 128 male respondents (50.40%) and 126 female respondents (49.60). The majority of respondents were from the Science discipline, accounting for 117 individuals (46.10%). This was followed by respondents from Engineering, with 82 participants (32.30%). The Arts discipline contributed 28 respondents (11.00%), while Art or other related disciplines accounted for 27 respondents (10.60%). The largest group had 11-15 years of teaching

experience, comprising 99 respondents (39.00%), suggesting that most participants were mid-career educators. This was followed by those with 6-10 years of experience, totaling 81 respondents (31.90%), indicating a substantial proportion of early-to-mid career professionals. Respondents with 16-20 years of teaching experience accounted for 37 individuals (14.60%), while those with more than 20 years of experience totaled 19 respondents (7.50%). The smallest group consisted of respondents with 1-5 years of teaching experience, with 18 participants (7.10%).

Table 4.2: General Information of Administrator.

General information	Total (n)=108
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		Frequency	Percentage
Gender	Male	52	62.50
	Female	56	37.50
Total		108	100.00
Age	22-30	15	13.90
	31-35	31	28.70
	36-40	32	29.60
	41-45	15	13.90
	46-50	10	9.30
	More than 50	5	4.60
Total		108	100.00
Experience in teaching	1-5	15	13.90
	6-10	41	38.00
	11-15	21	19.40
	16-20	21	19.40
	more than 20	10	9.30
Total		108	100.00

Table 4.2 lists the basic demographic characteristics of the 108 administrative staff members who participated in this study, categorized by gender, age, and years of service. The majority of administrative staff were male, totaling 52 individuals (62.50%), while 56 were female (37.50%). The 36–40 age group had the highest proportion of administrative staff, with 32 individuals (29.60%), followed by the 31–35 age group, with 31 individuals (28.70%). There were 15 administrative staff members each in the 22–30 and 41–45 age groups (13.90%), indicating a moderate proportion of administrative staff in the early and mid-to-late

stages of their careers. The proportions of those in the 46–50 age group (10 respondents, 9.30%) and the 50+ age group (5 respondents, 4.60%) were relatively low. The largest group consists of administrators with 6–10 years of experience, totaling 41 respondents (38.00%), indicating that a significant portion of professionals possess moderate experience. This is followed by administrators with 11–15 years and 16–20 years of experience, with 21 respondents each (19.40%). There were 15 respondents (13.90%) with 1–5 years of experience, while the smallest group consisted of 10 respondents (9.30%) with over 20 years of experience.

Table 4.3: The Results of Reliability Test.

Construct	Cronbach's α
Culturally Responsive Leadership (CRL)	0.829
Professional Learning Community (PLC)	0.844
Teaching Competence (TC)	0.847
Evidence-Based Practices (EBP)	0.826
School Management (SM)	0.805

The internal consistency reliability of the research instruments was examined using Cronbach's alpha coefficient. The results indicate that all five constructs demonstrated good reliability, with Cronbach's alpha values exceeding the commonly accepted threshold of 0.70, confirming the consistency and stability of the measurement scales. Specifically, Culturally Responsive Leadership (CRL) achieved a Cronbach's alpha of 0.829, indicating a high level of internal consistency among its measurement items. The construct of Professional Learning Community (PLC) showed a slightly higher reliability coefficient of 0.844, suggesting that the items used to measure collaborative learning, shared practices, and collective professional development were highly consistent. Teaching Competence (TC) recorded the

highest Cronbach's alpha value at 0.847, reflecting strong coherence among items related to instructional skills, pedagogical practices, and professional capabilities. In addition, Evidence-Based Practices (EBP) demonstrated a Cronbach's alpha of 0.826, indicating reliable measurement of data-informed decision-making and research integration practices. Finally, School Management (SM) obtained a Cronbach's alpha value of 0.805, which also meets the recommended reliability criteria and confirms the adequacy of the items used to assess management, leadership, and organizational support dimensions.

Phase 2 To analyze the factors of culturally responsive leadership to enhance evidence-based practices for school management

Table 4.4: Model Fit.

Chi-square test			
Model	X ²	df	p
Baseline model	2435.989	190	
Factor model	168.601	160	0.305

Note. The estimator is ML.

This study used maximum likelihood estimation (ML) and the chi-square (χ^2) test to assess the goodness of fit of the measurement models; specific results are presented in the section on model fit. The study examined two models: the baseline model and the hypothesized factor model. The chi-square value for the baseline model was $\chi^2 = 2435.989$ with 190 degrees of freedom, indicating a poor fit between the observed data and the model. This result suggests that the baseline model failed to adequately capture

the underlying factor structure of the data. In contrast, the fit of the factor model improved significantly, with a chi-square value of $\chi^2 = 168.601$, 160 degrees of freedom, and a non-significant p-value ($p = 0.305$). The non-significant chi-square result indicates that there is no statistically significant difference between the observed covariance matrix and the model's latent covariance matrix, suggesting that the proposed factor model fits the data well.

Table 4.5: Additional Fit Measures.

Index	Value
Comparative Fit Index (CFI)	0.996
Tucker-Lewis Index (TLI)	0.995
Bentler-Bonett Non-normed Fit Index (NNFI)	0.995
Bentler-Bonett Normed Fit Index (NFI)	0.931
Parsimony Normed Fit Index (PNFI)	0.784
Bollen's Relative Fit Index (RFI)	0.918
Bollen's Incremental Fit Index (IFI)	0.996
Relative Noncentrality Index (RNI)	0.996

To further evaluate the model's suitability, we examined several fit indices based on incremental and parsimony criteria. The results indicate that the model exhibits excellent overall fit. Both the Comparative Fit Index (CFI) and the Incremental Fit Index (IFI) were 0.996, exceeding the recommended threshold of 0.95, indicating that the proposed model represents a significant improvement over the null model. Similarly, the Tucker-Lewis Index (TLI) and the Bentler-Bonett Non-Normative Fit Index (NNFI) both measured 0.995, further confirming the model's robustness and stability. The Bentler-Bonett Normed Fit Index (NFI) reached 0.931, exceeding the

acceptable threshold of 0.90, indicating a good model fit. The Relative Fit Index (RFI) also reached an acceptable value of 0.918, supporting the validity of the hypothesized factor structure. Regarding model parsimony, the Parsimony Normed Fit Index (PNFI) reached 0.784, exceeding the commonly recommended minimum value of 0.50, indicating that the model strikes a good balance between explanatory power and parsimony. Furthermore, the Relative Non-Centrality Index (RNI) reached 0.996, reflecting an excellent fit between the proposed model and the observed data.

Table 4.6: Summary Of Regression Results Across All Models.

Dependent Variable	Predictor	B	Beta	t	Sig.	Result
Professional	LSP	0.036	0.013	0.213	.831	Not significant
Professional	SVM	-0.203	-0.077	-1.226	.221	Not significant
Professional	CLA	0.014	0.006	0.094	.925	Not significant
Professional	CS	0.230	0.081	1.276	.203	Not significant
Professional	PPS	0.348	0.136	2.125	.035	Significant
Teaching	KO	0.367	0.156	2.520	.012	Significant
Teaching	INS	-0.323	-0.139	-2.244	.026	Significant
Teaching	CI	0.180	0.086	1.366	.173	Not significant
Teaching	PQ	-0.022	-0.010	-0.158	.875	Not significant
Evidence	DCAA	0.026	0.010	0.163	.871	Not significant
Evidence	RI	-0.256	-0.076	-1.246	.214	Not significant
Evidence	PE	0.760	0.279	4.560	.000	Significant
Evidence	PC	0.085	0.025	0.415	.679	Not significant
Evidence	EIDM	-0.272	-0.101	-1.661	.098	Not significant

School	VGA	-0.135	-0.058	-0.925	.356	Not significant
School	RA	-0.535	-0.211	-3.326	.001	Significant
School	SE	-0.052	-0.022	-0.346	.730	Not significant
School	ICM	-0.253	-0.120	-1.866	.063	Not significant
School	MAE	-0.022	-0.015	-0.232	.817	Not significant
Leadership	Professional	0.216	0.247	4.144	.000	Significant
Leadership	Teaching	0.224	0.231	3.874	.000	Significant
Evidence	Leadership	0.299	0.240	3.926	.000	Significant
School	Leadership	0.397	0.382	6.567	.000	Significant

The structural relationships among the constructs were examined using multiple regression analyses to approximate a path model explaining the development of leadership and its subsequent influence on evidence-based practices and school outcomes. The findings reveal a hierarchical and sequential structure in which exogenous variables influence intermediate constructs, which in turn contribute to leadership, and ultimately affect organizational outcomes. At the first stage of the model, the determinants of professional development were examined. Among the variables included, only PPS demonstrated a statistically significant positive effect on professional development ($\beta = 0.136$, $p < 0.05$), indicating that PPS plays a meaningful role in enhancing professional capabilities. Other variables, including LSP, SVM, CLA, and CS, did not exhibit significant effects, suggesting that their influence on professional development is limited within the context of this study. The predictors of teaching performance were analyzed. The results indicate that KO had a significant positive effect ($\beta = 0.156$, $p < 0.05$), while INS had a significant negative effect ($\beta = -0.139$, $p < 0.05$). This suggests that knowledge-oriented factors enhance teaching effectiveness, whereas INS may hinder it. Meanwhile, CI and PQ were not found to significantly influence teaching, indicating that these factors may not be critical determinants of teaching performance in this model. The model examined the antecedents of evidence-based practice. Among the predictors, PE emerged as the only variable with a strong and significant positive effect ($\beta = 0.279$, $p < 0.001$), highlighting its importance in promoting evidence-based practices. Other variables, including DCAA, RI, PC, and EIDM, were not statistically significant, suggesting that their contributions to evidence-based practices are relatively weak. The factors influencing school outcomes were analyzed. The results show that RA had a significant negative effect on school outcomes ($\beta = -0.211$, $p < 0.01$), indicating that higher levels of RA are associated with poorer school performance. Other variables, such as VGA, SE, ICM, and MAE, did not demonstrate significant relationships with school outcomes. The model demonstrates that both

professional development ($\beta = 0.247$, $p < 0.001$) and teaching performance ($\beta = 0.231$, $p < 0.001$) significantly and positively influence leadership. This indicates that leadership is strongly shaped by both the professional competencies and instructional effectiveness of individuals. These findings support the assumption that leadership is not an isolated construct but is built upon underlying professional and teaching capacities.

Finally, the results confirm the pivotal role of leadership within the model. Leadership was found to have a significant positive effect on both evidence-based practice ($\beta = 0.240$, $p < 0.001$) and school outcomes ($\beta = 0.382$, $p < 0.001$). This demonstrates that leadership functions as a central mediating variable that translates individual competencies into broader organizational outcomes. The stronger effect of leadership on school outcomes compared to evidence-based practices suggests that leadership has a more direct and substantial impact on overall school performance.

Phase 3 The result of qualitative analysis

The qualitative phase of this study involved in-depth interviews with nine experts to validate the conceptual framework and provide deeper insights into the relationships among the key variables, including professional development, teaching performance, leadership, evidence-based practice, and school outcomes. The experts were selected based on their extensive experience in educational management, academic leadership, and policy development, ensuring that their perspectives were both practical and theoretically grounded. The findings from the expert discussions revealed a strong consensus regarding the central role of leadership as a bridging mechanism between individual competencies and organizational outcomes. Most experts emphasized that leadership does not emerge independently but is cultivated through the continuous development of professional knowledge and teaching capabilities. They highlighted that professional development serves as the foundation for enhancing educators' competencies, while effective teaching practices reflect the application of such competencies in real classroom contexts. According to several experts,

leadership is a natural extension of these capabilities, as individuals who demonstrate high levels of expertise and instructional effectiveness are more likely to influence others and contribute to organizational direction.

In relation to professional development, the experts consistently noted that practical support systems, particularly those aligned with performance and professional standards, are essential for improving educators' skills. This finding aligns with the quantitative results, which identified PPS as the only significant predictor of professional development. Experts explained that structured support mechanisms, such as training programs, mentoring systems, and clear performance expectations, provide teachers with opportunities to enhance their competencies in a systematic manner. Without such support, professional development tends to become fragmented and less effective.

Regarding teaching performance, the experts provided nuanced insights into the factors influencing instructional effectiveness. They agreed that knowledge-oriented factors play a critical role in improving teaching quality, as teachers who possess strong subject knowledge and pedagogical understanding are better equipped to design engaging and effective learning experiences. This supports the quantitative finding that KO has a positive impact on teaching. However, the experts also discussed the potential negative influence of certain institutional or systemic constraints, which may hinder teachers' performance despite their capabilities. This perspective helps explain the negative effect of INS observed in the quantitative analysis, suggesting that contextual barriers may limit the effectiveness of otherwise competent educators.

The discussion on evidence-based practice revealed that the integration of practical experience and empirical knowledge is essential for improving decision-making in educational settings. Experts emphasized that educators who are actively engaged in reflective practice and continuous learning are more likely to adopt evidence-based approaches. This aligns with the significant role of PE identified in the quantitative results. According to the experts, practical experience enables educators to critically evaluate information, apply relevant evidence, and adapt strategies to specific contexts. In contrast, the lack of significant effects from other variables suggests that merely having access to data or resources is insufficient without the ability to effectively interpret and apply them.

When discussing school outcomes, the experts

highlighted the importance of organizational conditions and contextual factors. They noted that certain restrictive or risk-related factors may negatively influence school performance, which is consistent with the significant negative effect of RA found in the quantitative analysis. Experts explained that excessive administrative constraints, lack of flexibility, or high levels of uncertainty can reduce organizational efficiency and limit innovation. This suggests that improving school outcomes requires not only enhancing individual competencies but also addressing structural and environmental challenges. A key theme that emerged from the expert discussions was the interconnected nature of the variables within the model. The experts strongly supported the idea that professional development and teaching performance are critical antecedents of leadership. They argued that leadership is built upon a combination of expertise, experience, and the ability to influence others. This perspective is consistent with the quantitative findings, which show that both professional development and teaching have significant positive effects on leadership. Experts further noted that leadership is not limited to formal positions but can be demonstrated by individuals at various levels within the organization.

Furthermore, the experts emphasized the pivotal role of leadership in driving evidence-based practices and improving school outcomes. They explained that effective leaders create a supportive environment that encourages collaboration, innovation, and the use of evidence in decision-making. Leaders are responsible for setting clear goals, facilitating communication, and providing resources that enable educators to implement evidence-based strategies. This supports quantitative results, which indicate that leadership has significant positive effects on both evidence and school outcomes. The experts also highlighted that leadership has a stronger impact on school outcomes because it directly influences organizational culture, policies, and overall performance. Another important insight from the qualitative analysis is the mediating role of leadership within the model. The experts consistently described leadership as a mechanism by which individual-level factors translate into organizational-level outcomes. They suggested that without effective leadership, improvements in professional development and teaching may not fully translate into better school performance. This finding reinforces the structural relationships identified in the quantitative analysis and provides a deeper understanding of the pathways through

which change occurs.

In addition, the experts emphasized the importance of a holistic approach to educational development. They argued that focusing on a single factor is insufficient for achieving sustainable improvements. Instead, there needs to be a coordinated effort to enhance professional development, teaching practices, leadership, and organizational conditions simultaneously. This integrated approach is essential for creating a supportive and effective educational environment.

Overall, the qualitative findings provide strong support for the proposed conceptual framework and complement the quantitative results. The expert discussions confirm the significance of key variables and highlight the central role of leadership in linking individual competencies with organizational outcomes. The insights gained from this phase of the study not only validate the model but also offer practical implications for educational institutions seeking to improve performance and effectiveness.

Table 4.7: Summary Of Strategies for Culturally Responsive Leadership and Evidence-Based School Management.

No.	Strategy	Main Purpose	Key Actions
1	Develop a Culturally Responsive Leadership Training Program	To improve school leaders' understanding of cultural diversity, equity, and inclusion.	Organize leadership workshops; provide training on cultural awareness; guide leaders to apply inclusive practices in school management.
2	Establish a Critical Self-Reflection Mechanism for School Leaders	To help leaders identify personal bias and improve leadership behavior.	Use leadership journals, peer feedback, coaching, and regular reflection meetings.
3	Strengthen Professional Learning Communities	To promote collaboration among teachers and administrators.	Hold PLC meetings; share teaching experiences; discuss student problems; design evidence-based teaching solutions.
4	Promote Culturally Sensitive Teaching Competence	To improve teachers' ability to respond to students' cultural and learning differences.	Provide teacher training on inclusive pedagogy, classroom communication, student-centered teaching, and emotional intelligence.
5	Build an Inclusive School Environment	To ensure that all students feel respected, accepted, and supported.	Develop inclusive school policies; improve student support services; apply fair discipline systems; encourage respect for diversity.
6	Improve Data Collection and Analysis Capacity	To support school decisions with accurate and useful evidence.	Collect data on student learning, teacher performance, curriculum implementation, and school management; train staff to analyze data.
7	Use Evidence-informed Decision-making in School Management	To improve the accuracy and effectiveness of school management decisions.	Use research findings, school data, and evaluation results when making decisions about teaching, curriculum, resources, and student support.
8	Increase Parents and Community Involvement	To strengthen cooperation between school, families, and the community.	Organize parent meetings, community forums, cultural activities, and school-family communication platforms.
9	Establish a Continuous Monitoring and Evaluation System	To check whether leadership and management strategies are effective.	Evaluate leadership practices, teaching quality, student outcomes, and school improvement activities regularly.
10	Ensure Fair and Transparent Resource Allocation	To build trust and improve fairness in school management.	Allocate teaching resources, training opportunities, workload, technology, and student services through clear and transparent procedures.

5. CONCLUSIONS

This study aimed to examine the relationships among professional development, teaching performance, leadership, evidence-based practice, and school outcomes through a combined quantitative and qualitative approach. The findings provide a comprehensive understanding of how individual competencies and organizational factors interact to influence educational effectiveness. The

results indicate that only specific variables significantly contributed to each stage of the model. In terms of professional development, PPS was identified as the only significant predictor, suggesting that structured professional support plays a critical role in enhancing educators' capabilities. Regarding teaching performance, KO showed a significant positive effect, while INS demonstrated a significant negative effect, indicating that knowledge-related factors enhance teaching

effectiveness, whereas certain contextual or institutional constraints may hinder it. For evidence-based practice, PE emerged as the most influential factor, highlighting the importance of practical experience in promoting the use of evidence in educational decision-making. In contrast, other variables did not show significant effects, suggesting that access to resources alone is insufficient without the ability to apply them effectively. With respect to school outcomes, RA was found to have a significant negative effect, indicating that risk-related or restrictive conditions may reduce school performance.

At the structural level, the findings confirm that professional development and teaching performance significantly contribute to leadership. This demonstrates that leadership is built upon both professional competence and instructional effectiveness. Furthermore, leadership was found to significantly influence both evidence-based practice and school outcomes, indicating its central role in translating individual capabilities into organizational performance.

Overall, the study concludes that leadership serves as a key mediating variable within the model, linking professional development and teaching performance to broader educational outcomes. The findings highlight the importance of strengthening leadership capacity as a means of improving evidence utilization and enhancing school performance.

6. DISCUSSIONS

The findings of this study contribute to the existing literature by providing empirical evidence supporting the interconnected relationships among professional development, teaching performance, leadership, and organizational outcomes. Consistent with prior studies in educational leadership and management, the results confirm that leadership is not an isolated construct but is developed through continuous professional growth and effective teaching practices. The significant effect of PPS on professional development aligns with previous research emphasizing the importance of structured support systems, such as training, mentoring, and performance evaluation frameworks, in enhancing educators' competencies. This finding suggests that institutions should prioritize the development of comprehensive support mechanisms to facilitate continuous professional learning.

The results related to teaching performance further support the importance of knowledge-based competencies. The positive effect of KO is consistent

with existing literature, which highlights that strong subject knowledge and pedagogical expertise are essential for effective teaching. However, the negative effect of INS suggests that certain institutional or systemic factors may constrain teachers' ability to perform effectively. This finding extends previous research by highlighting the potential barriers within organizational environments that may limit the impact of individual competencies.

The significant role of PE in influencing evidence-based practice underscores the importance of practical experience in educational decision-making. This finding supports the argument that evidence-based practice is not solely dependent on access to information but also requires the ability to interpret and apply knowledge in real-world contexts. This aligns with contemporary perspectives on reflective practice and continuous professional learning.

The negative effect of RA on school outcomes provides important insights into the influence of contextual and organizational factors. This finding suggests that excessive constraints, risk aversion, or rigid administrative structures may hinder school performance. It highlights the need for flexible and supportive organizational environments that encourage innovation and adaptability. Most importantly, the study confirms the central role of leadership as a mediating variable. The significant relationships between leadership and both evidence-based practice and school outcomes support the view that leadership is a critical driver of organizational effectiveness. This finding is consistent with theoretical frameworks in educational leadership, which emphasize the role of leaders in shaping organizational culture, facilitating collaboration, and promoting innovation.

The integration of quantitative and qualitative findings strengthens the validity of the results and provides a more comprehensive understanding of the model. The qualitative insights from experts further reinforce the importance of leadership as a mechanism through which individual competencies are translated into organizational outcomes.

7. RECOMMENDATIONS

Based on the findings of this study, several practical recommendations can be proposed for educational institutions, administrators, and policymakers. These recommendations aim to enhance professional development, improve teaching performance, strengthen leadership capacity, and ultimately improve school outcomes.

For educational institutions, it is essential to

establish structured professional development systems that provide continuous training, mentoring, and support for educators. Institutions should focus on developing programs that enhance both theoretical knowledge and practical skills, ensuring that educators are equipped to meet the demands of modern education. Additionally, institutions should create supportive environments that encourage collaboration, innovation, and reflective practice.

For administrators, it is important to recognize the critical role of leadership in driving organizational performance. Administrators should invest in leadership development programs that focus on building both professional and instructional competencies. They should also work to reduce organizational barriers and create flexible structures that enable educators to perform effectively. Encouraging open communication, shared decision-making, and a culture of continuous improvement can further enhance leadership effectiveness.

For policymakers, the findings highlight the need to develop policies that support professional development and leadership capacity building. Policymakers should allocate resources to training programs, promote evidence-based practices, and establish frameworks that encourage innovation and adaptability within educational institutions. Policies should also address systemic constraints that may hinder performance, ensuring that schools operate in environments that support growth and development.

Overall, the recommendations emphasize the importance of a holistic approach to educational improvement, in which professional development, teaching, leadership, and organizational conditions are addressed simultaneously.

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8. FUTURE STUDY

While this study provides valuable insights into the relationships among key variables in educational management, several areas for future research can be identified. First, future studies could expand the model by incorporating additional variables, such as organizational culture, technological integration, or student outcomes, to provide a more comprehensive understanding of educational effectiveness.

Second, this study was conducted within a specific context, which may limit the generalizability of the findings. Future research could replicate the study in different regions, educational levels, or institutional settings to examine whether the results are consistent across contexts. Comparative studies could also provide insights into cultural or systemic differences in educational management.

Third, the study primarily relied on cross-sectional data, which limits the ability to examine causal relationships over time. Future research could adopt longitudinal designs to explore how the relationships among variables evolve and to better understand the long-term impact of professional development and leadership on school outcomes.

Fourth, while this study combined quantitative and qualitative methods, future research could further strengthen the qualitative component by including a larger number of participants or employing additional methods, such as case studies or observations, to gain deeper insights into the processes underlying the relationships identified in this study.

Finally, future studies could explore advanced analytical techniques, such as full structural equation modeling (SEM), to test the proposed model more rigorously and examine potential mediating and moderating effects in greater detail.

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