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Designing a Comprehensive Evaluation Model of Educational Management in Elementary Schools of Lorestan Province: A Mixed-Methods Approach

ABSTRACT

The present study was conducted with the aim of designing a comprehensive evaluation model for educational management in elementary schools, with Lorestan Province as the case study. In terms of objectives, this research is applied, and in terms of data type, it follows an exploratory mixed-methods design (qualitative–quantitative). Regarding its nature and type, the qualitative phase adopts a grounded theory approach of the emergent type, while the quantitative phase is cross-sectional and survey-based. The statistical population in the qualitative section consisted of experts in the field of educational sciences, whereas in the quantitative section it included faculty members and principals of elementary schools in Lorestan Province, totaling 797 individuals (432 women and 365 men). The sampling method in the qualitative stage was purposeful theoretical sampling using the snowball technique, which reached theoretical saturation after interviewing 15 experts. In the quantitative phase, the sample size was determined using Morgan’s sampling table, resulting in 260 participants (141 women and 119 men). In this study, after conducting open and axial coding, the developed measurement tool was organized into a structured form and sent to the experts for selective coding and validation. Based on their feedback, a researcher-made questionnaire was finalized and distributed among the selected sample. The collected data were analyzed using descriptive and inferential statistics. Finally, the results led to the identification of two main dimensions—in order of priority: (1) individual and (2) organizational—as well as 14 components and 76 indicators for the comprehensive evaluation model of educational management in elementary schools (case study: Lorestan Province). The identified dimensions, integrated into a coherent framework, support the constructs of a unified concept referred to as the Comprehensive Evaluation Model of Educational Management in Elementary Schools (Lorestan Province Case Study).

Keywords: Evaluation model, Principals, Individual dimension, Organizational dimension.

Introduction

In the evolving landscape of education management, the role of the school principal stands as a cornerstone in achieving educational excellence and institutional effectiveness. As the central figure in the management and leadership of schools, principals are responsible for aligning instructional practices, administrative processes, and human resource development with

the overarching goals of the educational system. The modern educational environment—characterized by rapid technological advancements, socio-cultural transformations, and changing policy frameworks—demands that principals possess a diverse set of competencies that go beyond traditional administrative skills, encompassing strategic thinking, emotional intelligence, ethical leadership, and adaptability (1).

Globally, the principal's role has transitioned from a managerial function to one of strategic leadership and pedagogical innovation. In many systems, school leaders are viewed not merely as administrators but as facilitators of teaching quality, student development, and community engagement (2). The Ontario Principals Council emphasizes that the 21st-century school leader must exhibit strong decision-making abilities, accountability, and a learner-centered vision that fosters professional collaboration and educational improvement (3). This transformation underscores the necessity of developing comprehensive frameworks for evaluating and enhancing school leadership competencies that are contextually grounded and empirically validated (4).

In Iran, educational management has undergone notable reform efforts over recent decades. The increasing complexity of educational systems and the diversification of stakeholder expectations have led to greater emphasis on accountability and evidence-based management in schools. As the Ministry of Education expands its focus on decentralization and school autonomy, the evaluation of principals' performance has become a strategic priority for ensuring school effectiveness and quality education delivery (5). Educational management theorists emphasize that sustainable school improvement relies on an effective evaluation system that measures principals' cognitive, interpersonal, and strategic skills (1, 6).

The growing body of research highlights the need for scientifically grounded models for assessing the effectiveness of school leadership. Early studies developed evaluation frameworks focusing primarily on managerial efficiency and adherence to administrative regulations (7), whereas contemporary perspectives integrate multidimensional indicators such as instructional leadership, teacher empowerment, and ethical behavior (8, 9). In particular, competency-based assessment approaches have been proposed to ensure that principals are evaluated not only on procedural adherence but also on their ability to drive educational outcomes (10).

According to recent findings, the professional competency of principals has a direct impact on school performance, teacher motivation, and student learning (11). In Indonesia, for instance, a comprehensive evaluation of elementary school principals demonstrated that leadership attributes such as foresight, strategic alignment, and participatory management predict higher organizational effectiveness (11). Similarly, in Iran, models based on the balanced scorecard framework have been developed to assess school performance from multiple dimensions, including financial, internal, learning, and stakeholder perspectives (12). However, despite these advancements, a systematic and localized model that comprehensively evaluates educational management practices in elementary schools remains insufficiently developed.

Educational management evaluation must consider both individual and organizational dimensions. Individual competencies—such as insight, adaptability, and self-management—are vital for leadership efficacy and personal development (13). Organizational competencies, on the other hand, encompass areas such as participatory decision-making, strategic management, and resource utilization (14). Integrating these two dimensions within a coherent framework enables a more accurate representation of managerial performance, aligning personal skills with institutional objectives (15).

Modern educational systems increasingly emphasize evidence-based decision-making, which requires that managerial evaluation models be derived from empirical data. In this regard, grounded theory and mixed-methods approaches have been instrumental in identifying the dynamic relationships among various managerial constructs. Qualitative inquiry enables the identification of contextual nuances in leadership behaviors, while quantitative validation ensures the generalizability of the

model (16). Such methodological pluralism ensures that educational management frameworks are both theoretically sound and practically applicable to diverse school settings.

Recent international studies further reinforce the centrality of leadership quality in achieving school excellence. Leadership behavior that fosters teacher empowerment and trust significantly enhances instructional effectiveness and job satisfaction (17). Empowering leadership, as explored in recent empirical analyses, mediates the relationship between school management and teacher autonomy, leading to greater professional engagement and pedagogical innovation (18). In contexts characterized by educational change and crisis, adaptive and resilient leadership has been found to be a key determinant of institutional stability (19).

Cultural and philosophical dimensions also shape leadership practices. Liu (20) demonstrated how Taoist principles such as balance, humility, and non-coercive guidance influence leadership efficacy in Chinese preschools, reinforcing the need for culturally attuned evaluation models. In Islamic contexts, values such as ethical accountability, fairness, and community responsibility have long guided educational leadership philosophies (21). Therefore, any evaluation framework developed for Iranian schools must integrate cultural values with global standards of leadership performance.

The digital transformation of education presents both opportunities and challenges for school management. As schools increasingly adopt technology-driven teaching methods and data-based decision systems, the digital competency of principals has become a core element of educational leadership (22). The integration of digital literacy with organizational culture enables school leaders to drive innovation and efficiency, particularly in post-pandemic learning environments (23). Moreover, effective leadership in digital contexts requires balancing human values with technological advancement, fostering a culture that supports both innovation and inclusion (22, 23).

Psychological and emotional factors are equally critical in the evaluation of school leadership. The emotional well-being of principals not only affects their decision-making capacity but also influences the overall psychosocial climate of the school. Daly (24) found that effective leadership practices contribute significantly to supporting teachers' and students' mental health, thereby enhancing institutional well-being. Similarly, Hayward (25) emphasized the role of belongingness and emotional connection among school leaders, teachers, and staff as key predictors of collaborative effectiveness and organizational trust.

In the Iranian educational context, empirical studies have identified gaps in the professional development and evaluation of school principals. The majority of performance assessment systems remain overly bureaucratic, focusing primarily on administrative compliance rather than leadership impact (26). In contrast, contemporary frameworks advocate for dynamic evaluation models that link leadership competencies with measurable educational outcomes such as academic achievement, teacher satisfaction, and school innovation (10, 27). These findings align with the broader international discourse emphasizing the transformation of school evaluation systems toward developmental rather than punitive models (2, 9).

Comprehensive evaluation models are increasingly seen as instruments for professional growth rather than mere accountability mechanisms. By identifying strengths and developmental needs, such models encourage continuous learning among principals and contribute to the broader improvement of the education system (13). As leadership is inherently context-dependent, the design of an evaluation model must be localized to reflect the unique socio-cultural, institutional, and policy characteristics of the educational environment (8, 15).

Furthermore, the inclusion of participatory evaluation mechanisms, involving teachers, supervisors, and community members, enhances the legitimacy and fairness of the assessment process (11, 21). Effective performance evaluation should therefore be multidimensional—encompassing individual traits such as vision and integrity, interpersonal attributes like communication and motivation, and organizational capacities related to resource and strategic management (6, 14).

As leadership and management functions become increasingly intertwined with social and moral responsibilities, evaluation frameworks must also address ethical competence and social accountability (8). The integration of ethical leadership into school evaluation aligns with global sustainability and responsibility agendas, ensuring that educational institutions serve as both academic and moral exemplars. This orientation is particularly relevant in light of the global educational reforms emphasizing equity, inclusivity, and community engagement (2, 3).

In sum, the literature underscores that effective school leadership evaluation requires a holistic and empirically validated framework that captures the complexity of modern educational management. Such frameworks must integrate individual and organizational competencies, ethical and cultural considerations, and strategic and digital capabilities to produce actionable insights for leadership development. The present study, therefore, seeks to design a comprehensive evaluation model for educational management in elementary schools of Lorestan Province using a mixed-methods approach, aimed at integrating qualitative insights and quantitative validation to construct a culturally grounded and empirically robust assessment framework.

Methods and Materials

The present study, in terms of purpose, is applied, and in terms of data type, follows an exploratory mixed-methods design (qualitative and quantitative). In terms of nature and type, the qualitative phase employs a grounded theory of the emergent type, and the quantitative phase is a cross-sectional survey.

The statistical population of this research consists of two parts:

- a) Qualitative section: Experts in the field of educational sciences.
- b) Quantitative section: All principals of elementary schools in Lorestan Province, totaling 797 individuals (432 women and 365 men).

In the qualitative section, the sample consisted of 15 experts, selected through purposeful sampling. Theoretical saturation was achieved with these 15 participants. In the quantitative section, the sample size was determined using Morgan's sample size determination table, resulting in 260 participants (141 women and 119 men).

The data collection instruments were as follows:

For the qualitative phase, a semi-structured interview form was used, developed through open, axial, and selective coding. For the quantitative phase, after theoretical saturation of the experts' opinions on the qualitative interview form, the same form was converted into a questionnaire by appending the derived indicators, and it was administered to the randomly selected sample group.

The validity and reliability of the measurement instrument were established in two parts:

- a) Qualitative section: Validity and reliability were ensured through triangulation, including data triangulation, researcher triangulation, and theoretical and methodological triangulation.
- b) Quantitative section: Reliability was calculated using Cronbach's alpha, with an overall coefficient of 0.98, indicating excellent internal consistency.

Data collection procedures were conducted in two phases:

Qualitative phase: This phase included the following steps:

The researcher first reviewed relevant theories, frameworks, models, and findings from national and international studies.

Indicators identified in step 1 were extracted using open coding.

The extracted indicators were then categorized into dimensions, components, and indicators through axial coding.

At this stage, the categorized indicators were compiled into a semi-structured interview form, presented to experts, and refined through brainstorming sessions until theoretical saturation was reached.

The final dimensions, components, and prioritized indicators were illustrated in a model and subsequently validated by experts.

Quantitative phase: This phase included the following steps:

The saturated interview form from the expert phase was transformed into a weighted questionnaire.

The questionnaire was administered to a randomly selected sample group.

The participants' responses were first manually calculated and then analyzed using the LISREL software package through Confirmatory Factor Analysis (CFA).

Consequently, the components and indicators were measured.

Finally, a comparison between qualitative and quantitative results was conducted.

Data analysis methods were also performed in two sections:

a) Qualitative section: Data were analyzed using open, axial, and selective coding, combined with expert interviews and brainstorming sessions.

b) Quantitative section: This section included three analytical methods:

Descriptive statistics: Employing conventional techniques such as descriptive tables, statistical characteristics, and graphical representations.

Inferential statistics: Utilizing Confirmatory Factor Analysis (CFA) for model validation.

Supplementary findings: Employing independent t-tests and one-way ANOVA to examine demographic information.

Findings and Results

In the quantitative phase of the study, the demographic characteristics of the participants ($n = 260$) were analyzed. Regarding gender, 119 participants (45.77%) were male and 141 participants (54.23%) were female. In terms of educational level, 222 participants (85.38%) held a master's degree, while 38 participants (14.62%) held a doctoral degree. This demographic distribution indicates that the majority of the respondents were female principals with postgraduate (master's) qualifications.

Table 1. Descriptive Indicators of the Research Factors

Factors	Mean	Skewness	Kurtosis
Influential Power	5.19	-1.541	3.039
Insight	5.14	-1.473	2.541
Challenge Acceptance	5.12	-0.814	2.014
Mental Health	4.08	-1.341	2.307
Effective Communication	5.40	-0.142	3.135
Morale Boosting	5.36	-1.150	2.290
Inspiration	5.35	-1.512	1.089
Self-Management	5.35	-1.350	1.770
Self-Development	5.35	-1.150	2.019
Strategic Management	5.35	-2.314	3.769
Participatory Management	5.34	-1.714	2.540
Resource Management	5.09	-1.150	1.039
Technology	5.22	-1.140	1.099
Environment	5.32	-1.154	-1.078

According to Table 1, the highest mean value among the dimensions belongs to the "Influential Power" component with a mean of 5.19, while the lowest mean pertains to the "Mental Health" component with a mean of 4.08. Furthermore, the distribution of scores for all dimensions and components shows negative skewness, meaning that the squared deviations of scores from the mean yield a negative value and that most participants' scores on these scales are above the mean. The Strategic

Management component (skewness = -2.31) has the highest level of skewness, whereas Effective Communication (skewness = -0.14) has the lowest.

All dimensions and components also exhibit positive kurtosis, indicating that the majority of participants' scores are close to the mean. Therefore, based on the results obtained, the distribution of the sample is normal, suggesting that the sample is a representative reflection of the population under study.

The results of the normality test indicate that the obtained significance level for the Educational Management variable ($p = 0.514$) is greater than 0.05, and the K-S statistic equals 2.59. Thus, the distribution of data for the educational management variable is normal, confirming that the assumptions required for parametric tests are met for data analysis.

In the quantitative section of the research, in order to generalize the findings to the population from which they were drawn, a Confirmatory Factor Analysis (CFA) was conducted, and its results are presented below.

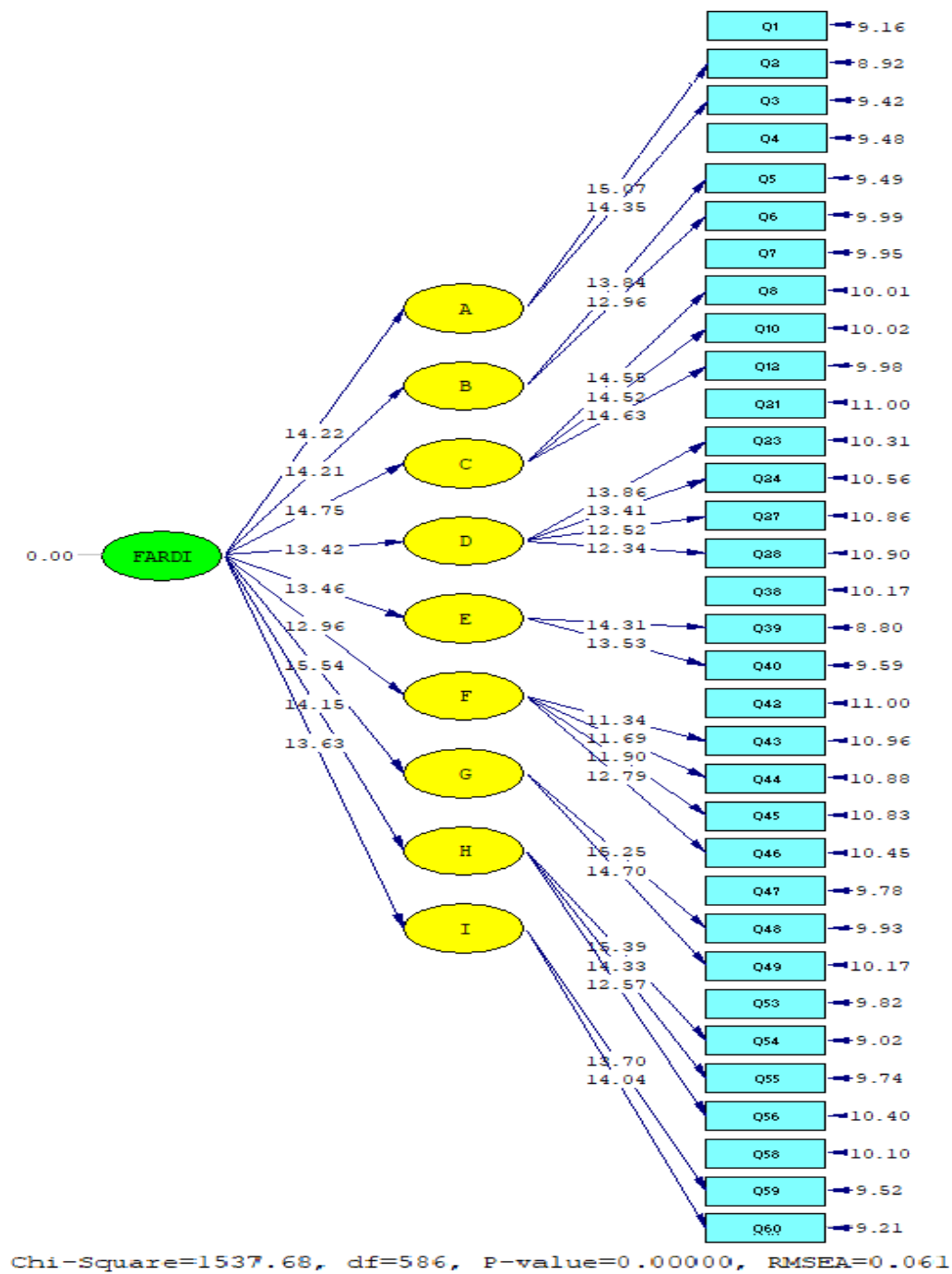


Figure 1. Significance Values (t-values) for the Individual Dimension

Figure (1) illustrates the significance levels of the relationships between observed and latent variables. Since significance was assessed at the 0.05 level, relationships with t-values outside the ± 1.96 range are considered statistically significant. The obtained results show that all t-values indicate significant relationships between the components and the individual dimension. In summary:

- Factor loading and significance of the path between Influential Power and the individual dimension: ($\lambda = 0.92$, $t = 14.22$)

- Factor loading and significance of the path between Insight and the individual dimension: ($\lambda = 0.95$, $t = 14.21$)
- Factor loading and significance of the path between Challenge Acceptance and the individual dimension: ($\lambda = 0.96$, $t = 14.75$)
- Factor loading and significance of the path between Effective Communication and the individual dimension: ($\lambda = 0.92$, $t = 13.42$)
- Factor loading and significance of the path between Inspiration and the individual dimension: ($\lambda = 0.96$, $t = 13.46$)
- Factor loading and significance of the path between Self-Management and the individual dimension: ($\lambda = 0.95$, $t = 12.96$)
- Factor loading and significance of the path between Self-Development and the individual dimension: ($\lambda = 0.98$, $t = 15.54$)
- Factor loading and significance of the path between Strategic Management and the individual dimension: ($\lambda = 0.94$, $t = 14.15$)
- Factor loading and significance of the path between Participatory Management and the individual dimension: ($\lambda = 0.96$, $t = 13.63$)

Regarding model fit indices, after removing covariance errors, the results demonstrated a good model fit. The chi-square to degrees of freedom ratio (χ^2/df) equals 2.62, which is below the acceptable threshold of 3. The Root Mean Square Error of Approximation (RMSEA) is 0.061, less than 0.08, indicating acceptable fit. Other fit indices, such as the Goodness of Fit Index (GFI = 0.92) and the Adjusted Goodness of Fit Index (AGFI = 0.91), confirm the adequacy of the individual dimension model, with all other indices exceeding 0.90.

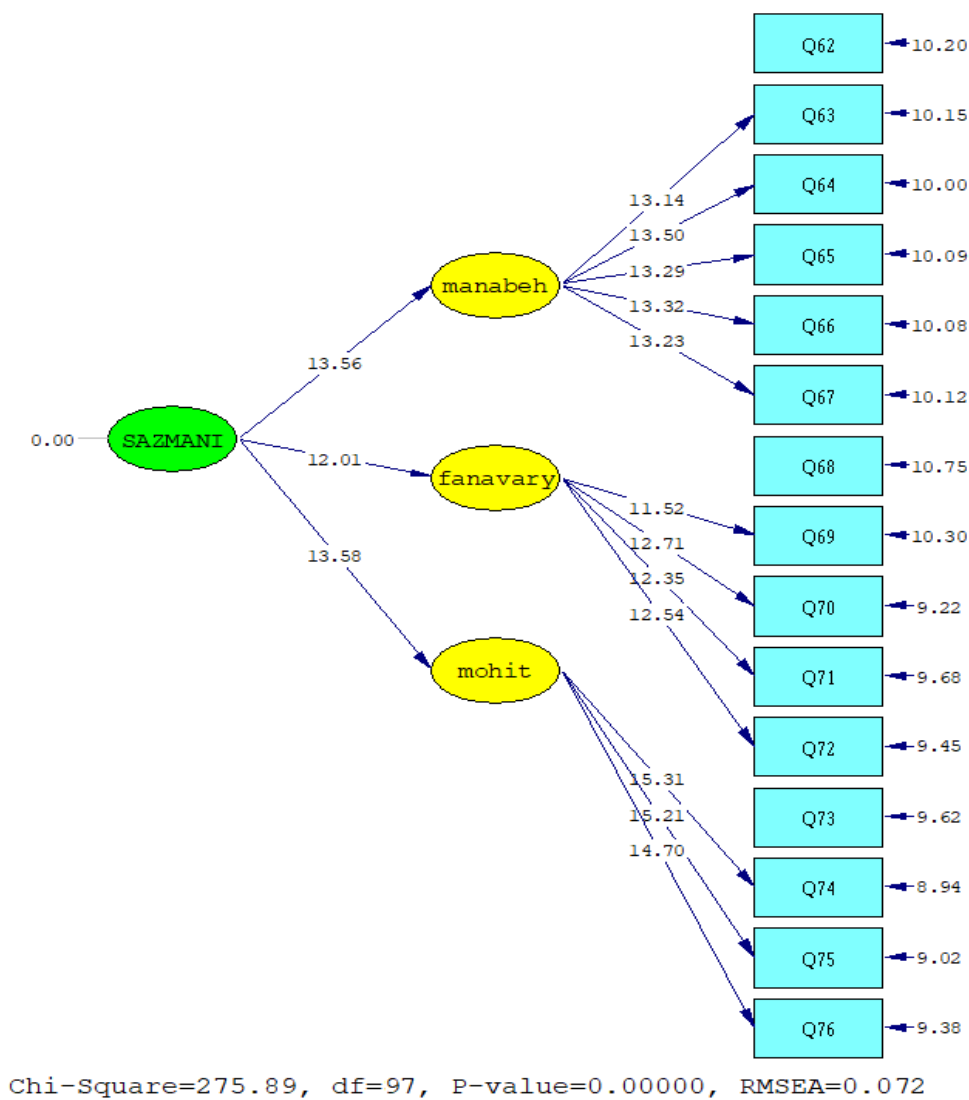


Figure 2. Significance Values (t-values) for the Organizational Dimension

Figure (2) presents the significance levels of the relationships between observed and latent variables. As significance was evaluated at the 0.05 level, paths with t-values outside the ± 1.96 range are statistically significant. The findings show that all t-values are significant, indicating strong relationships among the observed variables and the organizational dimension. In summary:

- Factor loading and significance of the path between Resource Management and the organizational dimension: ($\lambda = 0.79$, $t = 14.43$)
- Factor loading and significance of the path between Technology and the organizational dimension: ($\lambda = 0.96$, $t = 15.61$)
- Factor loading and significance of the path between Environment and the organizational dimension: ($\lambda = 0.89$, $t = 15.93$)

Regarding model fit indices, after eliminating covariance errors, the analysis confirmed a good model fit. The chi-square to degrees of freedom ratio (χ^2/df) equals 2.84, less than 3, and the RMSEA equals 0.072, which is below the 0.08 threshold. The

Goodness of Fit Index (GFI = 0.91) and the Adjusted Goodness of Fit Index (AGFI = 0.90) confirm the adequacy of the organizational dimension model, with all other fit indices also exceeding 0.90.

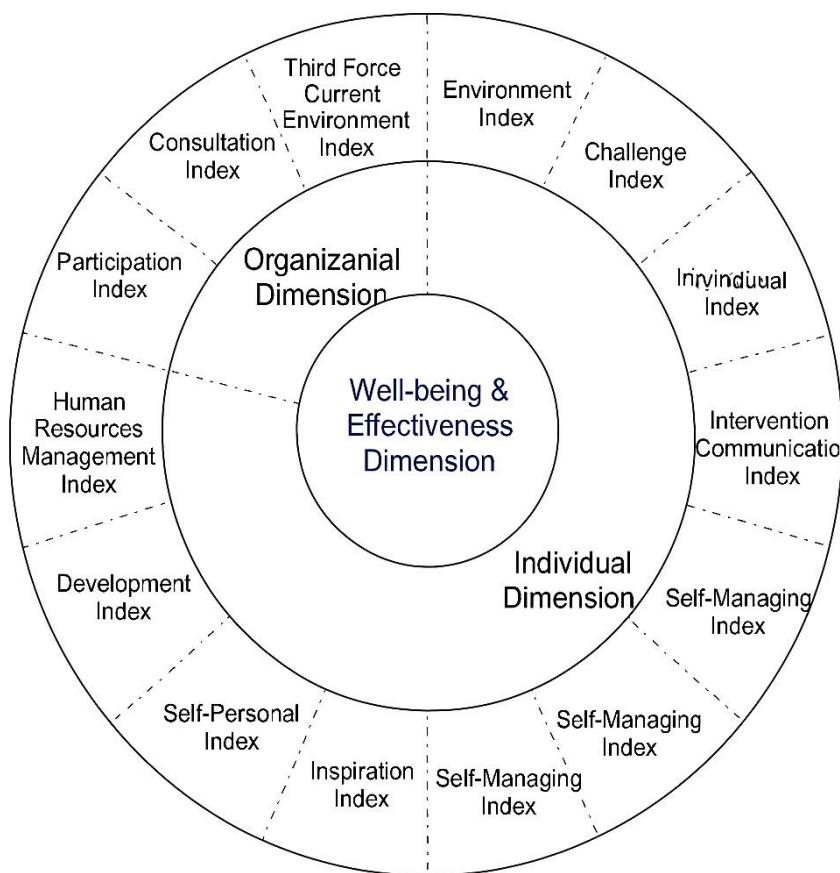


Figure 3. The Comprehensive Evaluation Model of Elementary School Principals in Lorestan Province

Discussion and Conclusion

The findings of the present study led to the design and validation of a comprehensive evaluation model for educational management in elementary schools of Lorestan Province. The model incorporated two principal dimensions—individual and organizational—supported by 14 components and 76 indicators. Within the individual dimension, elements such as influential power, insight, challenge acceptance, mental health, effective communication, inspiration, self-management, and self-development emerged as the most significant predictors of principal effectiveness. In the organizational dimension, components including resource management, technology integration, environmental adaptability, strategic management, and participatory decision-making were identified as key determinants of overall management performance. The confirmatory factor analysis (CFA) results indicated a satisfactory model fit, with strong t-values across all paths, confirming that the identified indicators reliably explain the constructs of educational management. These results confirm the multidimensional nature of educational leadership, encompassing both personal competencies and organizational capacities required for effective school management (1, 5).

The strong loading of factors such as “influential power” and “insight” in the individual dimension suggests that effective principals rely heavily on their ability to guide, influence, and inspire their teams. This finding is aligned with Day and Sammons’s argument that leadership effectiveness in schools is strongly associated with principals’ interpersonal influence

and moral authority, which serve as motivators for teachers and staff (2). Similarly, the Ontario Principals Council highlighted that 21st-century school leadership requires principals to develop a balance between authority and empathy to create a supportive school culture (3). The emphasis on “inspiration” and “effective communication” in this study also echoes Yalçın’s recent findings that trust, professionalism, and empowerment are key leadership attributes shaping instructional practices and enhancing teacher motivation (17).

The high significance of the “self-management” and “self-development” indicators in the model underscores the growing relevance of reflective practice and continuous professional growth in school leadership. As Badri et al. proposed, personal development programs for principals are essential in fostering resilience and adaptability, allowing school leaders to adjust to complex educational environments (13). This study also corroborates the conclusions of Nerimani et al., who demonstrated that self-awareness, emotional regulation, and professional commitment are foundational characteristics of effective elementary school leadership (15). Within this context, self-management acts not only as an internal regulatory mechanism but also as a determinant of a leader’s ability to model desirable behaviors for staff and students (6).

The results also highlight the significant role of “challenge acceptance” and “mental health” as personal factors in leadership performance. Principals who demonstrate the ability to face organizational and pedagogical challenges with composure and optimism tend to exhibit stronger performance outcomes. Daly et al. confirmed that effective school leadership directly supports the psychological well-being of both teachers and students, promoting an environment of stability and motivation (24). Furthermore, Hayward emphasized that a sense of belonging and psychological safety among school staff is shaped by leaders’ ability to maintain their own mental balance and emotional resilience (25). The positive relationship between mental health and leadership quality thus reinforces the necessity of incorporating emotional well-being into principal evaluation frameworks.

The organizational dimension of the model yielded equally compelling insights. “Strategic management” and “participatory management” showed the highest factor loadings, indicating that successful educational management relies on leaders’ capacity to plan strategically and involve multiple stakeholders in decision-making. This finding aligns with Aris et al., who emphasized that elementary school principals’ performance is significantly improved through collaborative leadership practices that encourage teacher participation and shared vision (11). Likewise, Moghadam et al. reported that participatory decision-making and systematic planning are among the strongest predictors of managerial productivity in the Iranian educational system (14). The inclusion of “resource management” as a major factor also aligns with the conclusions of Khatir and Haghighi, who found that efficient use of resources—human, financial, and infrastructural—enhances the operational effectiveness of schools and contributes to sustainable performance outcomes (27).

The “technology” and “environmental adaptability” components also demonstrated strong significance within the organizational dimension, confirming the critical role of digital transformation in contemporary school management. As noted by Hidayati et al., digital expertise and leader trust in technology-based systems serve as strategic assets in achieving school excellence (22). Haris and Nuraeni similarly highlighted that adaptive leadership, integrated with digital transformation and organizational culture, enhances teacher performance and institutional innovation in the era of disruption (23). The inclusion of technological competence in the evaluation model thus reflects global trends that emphasize the integration of information systems into management practices for greater transparency and effectiveness (8).

The validation of both the individual and organizational dimensions further supports the argument that educational management should be evaluated through a holistic framework. This approach is consistent with Mehrban Helan et al., who developed a balanced scorecard-based model for school performance evaluation, emphasizing the simultaneous consideration of internal processes, learning and growth, and stakeholder satisfaction (12). The current study’s model, by integrating both personal and institutional competencies, provides a comprehensive foundation for assessing principals’ effectiveness. Similar

multidimensional frameworks have been advocated in international literature, suggesting that leadership success in schools arises from the intersection of personal integrity, strategic foresight, and organizational learning capacity (8, 9).

From a comparative perspective, the strong empirical support for the proposed model indicates its alignment with global standards of principal evaluation while maintaining contextual relevance to Iran's educational system. Studies by Safi and Alaqeband have emphasized that local evaluation frameworks must align with the structural and cultural characteristics of the Iranian education system while incorporating contemporary management theories (1, 5). The results of this study substantiate their view by integrating international best practices—such as collaborative leadership and data-informed decision-making—with indigenous management principles rooted in Iranian educational values.

An interesting outcome of this research is the interconnection observed between personal insight, strategic management, and participatory practices. Principals who demonstrated strong self-awareness and reflective thinking also showed greater ability to implement strategic plans and promote participatory governance. This correlation supports Liu's interpretation of leadership as a balance between inner wisdom and external action, a perspective rooted in Taoist philosophical principles emphasizing harmony and self-discipline (20). In a similar vein, Shahrabi Farahani et al. highlighted that Iranian educational leadership is most effective when combining ethical integrity with practical management competencies (21).

Furthermore, the current study's results resonate with the global emphasis on ethical and sustainable leadership. Laasch et al. proposed that school administrators' evaluation must include dimensions of ethics, responsibility, and sustainability to ensure that leadership practices contribute to long-term institutional and societal well-being (8). The present model's inclusion of moral and developmental indicators such as self-development, mental health, and participatory management reflects this ethical orientation. Similarly, Mazhabi's qualitative research on crisis leadership in educational settings demonstrated that ethical resilience and adaptive capacity are vital to maintaining institutional stability during times of uncertainty (19).

The consistency of the current findings with prior research further validates the robustness of the developed model. For example, Abdolmaleki et al. emphasized the importance of constructing scientifically validated instruments for assessing school performance and leadership excellence, advocating for multidimensional tools that capture both qualitative and quantitative aspects (16). The present study's use of a mixed-methods design responds directly to that recommendation by ensuring that both experiential insights and statistical validation inform the model structure. In addition, Kamali Rad and Mazarei found that performance evaluation systems positively influence employee productivity and organizational outcomes when they are transparent, developmental, and evidence-based (26). The proposed model adheres to these principles by emphasizing fairness, inclusivity, and measurable outcomes.

The confirmed model also contributes to the broader discourse on leadership empowerment. Tankutay and Çolak demonstrated that empowering leadership enhances teacher autonomy and optimism, mediating the relationship between school management and instructional innovation (18). The current study's findings, particularly regarding participatory management and effective communication, complement these conclusions by confirming that empowerment-driven practices strengthen institutional cohesion and academic performance. In this regard, the results also align with the assertions of Scott, who identified empowerment and trust as central dimensions of school leadership capability frameworks (4).

Taken together, the results of this study offer a comprehensive and empirically validated framework for evaluating educational management that integrates personal competencies with organizational processes. The alignment of these findings with previous national and international studies demonstrates that effective educational leadership transcends cultural boundaries, reflecting universal principles of ethics, participation, strategic planning, and continuous self-improvement (2, 3, 8).

Despite its strengths, this study has certain limitations. First, the research sample was restricted to elementary school principals in Lorestan Province, which may limit the generalizability of the findings to other educational levels or regions with different administrative structures and cultural conditions. Second, the data were collected through self-reported questionnaires and expert interviews, which may introduce social desirability bias in participants' responses. Third, while confirmatory factor analysis provided strong statistical support for the proposed model, the study did not examine longitudinal changes in principals' performance over time. Future validation of the model across diverse educational contexts and with larger samples could enhance its general applicability.

Future studies could explore the application of the developed evaluation model in secondary and higher education settings to determine its adaptability across educational levels. Additionally, incorporating longitudinal research designs would help capture the developmental trajectory of leadership competencies over time. Researchers could also integrate qualitative case studies to examine how contextual factors—such as regional policies, organizational culture, and socio-economic diversity—affect the implementation of the evaluation framework. Comparative cross-national studies would further enrich understanding by highlighting how cultural and systemic variations influence the interpretation and operationalization of school leadership competencies.

Educational policymakers and administrators can utilize the validated model as a diagnostic tool to assess, develop, and improve the competencies of school principals. The identified indicators can serve as benchmarks for designing professional development programs, mentoring systems, and performance appraisal mechanisms that promote reflective practice and continuous learning. Furthermore, integrating the evaluation framework into national educational policy could enhance accountability, transparency, and evidence-based decision-making within schools. Ultimately, adopting such comprehensive evaluation systems can lead to the cultivation of visionary, ethical, and adaptive school leaders capable of driving sustainable educational excellence.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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