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Instructional leadership, supervision, teacher learning and classroom practice: An integrated review of international evidence

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Abstract

Instructional leadership is a central concern in educational leadership research, yet its contribution to improved teaching and student learning remains difficult to explain when leadership is examined mainly as a set of principal behaviours. A related limitation can be observed in the literature on instructional supervision, where observation and evaluation are often considered separately from teacher learning and organisational improvement. This narrative review examines how instructional leadership and supervision can be integrated as interconnected processes that contribute to strengthening teacher capacity and classroom practice. It draws on 43 international sources published between 1967 and 2025, ten of them systematic reviews or meta-analyses, on instructional leadership, developmental supervision, distributed leadership, instructional coaching, professional learning, and teacher evaluation, and it identifies the mechanisms through which leadership contributes to instructional improvement. Sources were purposively selected from international literature published between 1967 and 2025, and findings were synthesised through a narrative review approach. It suggests that leadership is most productive when it sets a coherent instructional direction, creates supportive professional conditions, facilitates meaningful supervision, and distributes instructional responsibility, and that supervision is most effective when it moves beyond episodic evaluation toward differentiated feedback, coaching, and sustained teacher development. On this basis, the article proposes an integrated capacity-building framework of five components (instructional direction, instructional diagnosis, capacity building, distributed instructional leadership, and monitoring and adaptation),

operationalized through eight targeted interventions. The framework is a theoretically informed proposal that has not yet been tested in schools; the article sets out six propositions for empirical testing across school systems.

Key terms: Classroom practice; Instructional coaching; Instructional leadership; Instructional supervision; Teacher professional development

1.0 Introduction

1.1 Background of Study

Improving the quality of teaching remains one of the most consequential challenges facing schools and education systems. Although student learning is influenced by a wide range of social, economic, institutional, and individual factors, the quality of classroom instruction remains a central mechanism through which schools influence educational outcomes. This places school leaders in a distinctive position. They are expected not only to administer schools effectively but also to establish instructional priorities, support teachers, monitor teaching and learning, and create organizational conditions in which professional practice can improve continuously.

The concept of instructional leadership emerged partly from this concern. Early effective-schools research drew attention to schools that achieved comparatively strong academic outcomes despite serving disadvantaged communities, thereby directing scholarly attention toward the role of school leadership in establishing conditions conducive to learning (Edmonds, 1979; Bridges, 1967). Hallinger and Murphy's (1985) framework, discussed in Section 2.1.1, shifted educational leadership research toward the technical core of schooling: teaching and learning. Related work situated instructional leadership within the broader social context of effective schools and consolidated it as a distinct research tradition in educational administration (Hallinger & Murphy, 1986; Murphy, 1990).

Over subsequent decades, however, the meaning of instructional leadership expanded. Principal-centred approaches were challenged by perspectives emphasizing teacher expertise, collaboration, distributed leadership, and organizational capacity (Harris, 2004; Hallinger & Heck, 2010). Leadership increasingly came to be understood not simply as what principals do but as a practice that can be enacted through interactions among principals, teachers, middle leaders, coaches, and other members of the school community. This matters because instructional expertise is rarely concentrated in one individual, particularly in larger or more complex schools. A large-scale review of successful school leadership reinforced the claim that leadership is second only to classroom teaching among school-related factors influencing student learning (Leithwood et al., 2006).

Instructional supervision has undergone a comparable transformation. Traditional supervision was often associated with inspection, compliance, and professional judgement (Sergiovanni & Starratt, 2007). Clinical supervision introduced a collaborative model based on planning, observation, analysis, and professional dialogue. Developmental supervision recognized that teachers differ in experience, expertise, autonomy, and professional needs. Contemporary instructional coaching has extended this trajectory by emphasizing sustained cycles of goal setting, observation, feedback, practice, and reflection (see Section 2.1.2).

While instructional leadership and instructional supervision have developed as influential strands of educational research, they have often evolved along parallel trajectories. Instructional leadership research has concentrated on leadership behaviours and school outcomes, whereas supervision research has focused on observation, evaluation, feedback, and coaching. Consequently, limited attention has been given to understanding how these processes interact to strengthen teacher learning and classroom

practice within a unified instructional improvement system.

1.2 Statement of Problem

Despite these conceptual developments, instructional leadership and instructional supervision are still frequently investigated as separate areas of educational administration. Instructional leadership is often examined through measures of principal behaviour and student achievement, while supervision is frequently examined through teacher evaluation, classroom observation, or coaching. What receives comparatively less attention is the relationship between these processes: how leadership establishes the conditions for supervision, how supervision contributes to teacher learning, and how teacher learning translates into changes in classroom practice.

The practical consequence of this separation is that schools can invest in leadership and in supervision without the two reinforcing each other. A school may have a clearly articulated instructional vision but lack effective mechanisms for helping teachers translate that vision into practice. Conversely, a school may have elaborate supervision procedures without a coherent instructional direction. In either situation, leadership and supervision may operate as parallel bureaucratic processes rather than as mutually reinforcing components of instructional improvement.

Existing research offers indications of these difficulties, although it does not test the separation of leadership and supervision directly. Hargreaves and Dawe (1990) cautioned that peer coaching imposed administratively can become “contrived collegiality” rather than developing teachers’ practice. Hill and Grossman (2013) noted that observation-based evaluation systems face challenges of reliability, observer preparation, and the limited amount of teaching captured by any single observation, which limits the value of observation as a basis for feedback. Horng et al. (2010) found that principal time spent on day-to-day instructional activities was only weakly related, or unrelated, to student performance and was often negatively related to teacher and parent assessments of the school, which suggests that instructional activity alone does not ensure improvement. Evidence on classroom practice in low- and middle-income settings indicates the scale of the challenge. A World Bank policy research working paper on primary schools in seven Sub-Saharan African countries reported that students received about two hours and fifty minutes of teaching per day, just over half of the scheduled time, that large shares of teachers did not master the curricula they taught, and that good teaching practices were rare (Bold et al., 2017). These findings do not show that the separation of leadership and supervision causes weak classroom practice. They do indicate that classroom practice depends on systems that give teachers direction, feedback, and opportunities to learn, which is what an integrated approach seeks to provide.

The gap addressed here is therefore specific. The sources reviewed in Section 2 offer substantial evidence on instructional leadership, supervision, coaching, and teacher learning individually, and growing evidence on mediating processes such as teacher collaboration, professional development, and teacher attitudes. What they offer little of is an integrated account of how these processes connect within a single improvement system; none of the sources reviewed tests an integrated system of this kind. The gap is defined by the evidence reviewed in this article and is not a claim that no related work exists beyond it.

This article therefore addresses what may be described as the missing link in instructional leadership: the systematic integration of leadership, supervision, teacher learning, and classroom practice. Rather than asking only whether instructional leadership is associated with student achievement, the review examines the mechanisms through which leadership and supervision may influence the professional conditions and instructional practices that precede student outcomes.

1.3 Objectives of the Study

Building on the problem identified above, this review pursues three objectives: (1) to examine how instructional leadership and instructional supervision have evolved as related but historically separated fields of inquiry; (2) to identify the mechanisms that connect leadership and supervision with teacher learning and classroom practice; and (3) to translate this evidence into targeted, evidence-informed interventions that schools can use to integrate leadership, supervision, and professional learning into a coherent instructional-improvement system.

1.4 Research Questions

Three questions guide the review.

First, how have instructional leadership and instructional supervision evolved as fields of inquiry? Second, what mechanisms connect leadership and supervision with teacher learning and classroom practice? Third, what targeted interventions can schools use to integrate these processes into a sustainable instructional-improvement system? The second and third questions correspond to a set of testable propositions developed later in this review (see Section 5.3), which may guide future empirical validation of the integrated framework proposed here.

2.0 Literature Review

2.1 Theoretical Framework

This review is informed primarily by Instructional Leadership Theory and Distributed Leadership Theory. Instructional Leadership Theory explains how leadership influences the core functions of teaching and learning through goal setting, instructional monitoring, and the establishment of supportive learning conditions. Distributed Leadership Theory complements this perspective by emphasising leadership as a collective organizational practice involving multiple actors rather than the principal alone. Together, these perspectives provide a conceptual basis for understanding how leadership and supervision can be integrated to strengthen teacher learning and classroom practice.

A systematic review of leadership models published between 1980 and 2014 confirms that instructional leadership has remained among the most extensively studied constructs in educational leadership research, providing the theoretical backdrop for the models discussed below (Gümüş et al., 2018).

2.1.1 Instructional Leadership

Instructional leadership is one of the most established traditions within educational leadership research. Its early development was strongly influenced by effective-schools research, which associated effective schools with clear academic expectations, attention to instruction, monitoring of student progress, and strong leadership. Hallinger and Murphy’s (1985) model gave these ideas a systematic structure by defining instructional leadership through three broad dimensions: defining the school’s mission, managing the instructional programme, and promoting a positive school learning climate.

The continuing influence of this model demonstrates the durability of the instructional leadership construct. The Principal Instructional Management Rating Scale (PIMRS) has supported a substantial body of empirical research and remains one of the most widely used instruments for examining instructional leadership. Recent reviews indicate that research based on the PIMRS continues to expand, although the contexts and theoretical interpretations surrounding instructional leadership have changed considerably. A 2025 systematic review of 791 studies employing the PIMRS across 65 countries found that univariate

and bivariate models still dominate the literature, and it called for more sophisticated mediated and moderated designs (Hallinger, Liu, Aung, & Yan, 2025).

The principal-centred orientation of early models nevertheless generated important criticism. Cuban (1988) and Lambert (1998) questioned assumptions that positioned the principal as the primary source of instructional expertise. In complex schools, principals cannot realistically possess detailed expertise across all subjects, grade levels, pedagogical approaches, and student needs. More importantly, concentrating instructional responsibility in the principal can restrict opportunities for teachers to exercise leadership and contribute their professional knowledge to school improvement.

Distributed leadership offered a response to this limitation. Spillane (2006) conceptualized leadership as a practice distributed among leaders, followers, and organizational situations (see also Spillane et al., 2004). From this perspective, the principal remains important, but leadership capacity is not confined to the formal leader. Department heads, teacher leaders, instructional coaches, and other professionals can contribute to the instructional work of the organization.

The contemporary challenge, therefore, is not to choose between principal leadership and distributed leadership. Rather, it is to determine how formal leaders can create the structures through which collective instructional capacity can be developed. This distinction is particularly important for supervision because classroom observation and instructional feedback require professional expertise that may be distributed across several members of the organization. Although much of the instructional leadership literature originates from North America, Europe, and Australia, its underlying principles remain relevant to African education systems seeking to improve instructional quality, teacher support, and learner outcomes. Nevertheless, differences in contextual conditions, resource availability, and leadership structures suggest that adaptation rather than direct replication is necessary when applying these models in African schools.

2.1.2 Instructional Supervision

Instructional supervision has similarly evolved from a predominantly evaluative orientation toward a developmental conception of professional learning. Cogan's (1973) clinical supervision model emphasized a collaborative cycle involving planning, observation, analysis, and post-observation dialogue. Goldhammer et al. (1980) further formalized the process and established clinical supervision as an important alternative to inspection-oriented approaches.

Glickman's (1980) developmental supervision model introduced another significant conceptual development by recognizing that teachers differ in their professional needs (Gordon, 1990; Glickman et al., 2014). A novice teacher may require explicit modelling and frequent feedback, whereas an experienced teacher may benefit more from collaborative inquiry and professional autonomy. Supervision should therefore be responsive rather than uniformly directive.

This developmental orientation has relevance in contemporary schools because teacher experience is heterogeneous. Treating all teachers as though they require identical supervision can produce either excessive control for experienced professionals or insufficient support for teachers who are still developing foundational skills.

The contemporary movement toward instructional coaching can be understood as a further development of this tradition. Coaching emphasizes sustained engagement rather than isolated observations. Knight's (2018) impact cycle, for example, involves identifying goals, selecting strategies, implementing them, observing evidence, and using feedback to refine practice. Earlier scholarship cautioned, however, that peer-coaching arrangements can become "contrived collegiality" when imposed administratively rather than developed organically among teachers (Hargreaves & Dawe, 1990). The significance of such

approaches lies in their recognition that instructional improvement is rarely achieved through feedback alone. Teachers require opportunities to practise new approaches, receive evidence-based feedback, and adjust their practice over time.

This distinction also highlights the persistent tension between developmental supervision and summative evaluation. When observations are closely connected to high-stakes decisions, teachers may become less willing to expose weaknesses or experiment with unfamiliar instructional practices. Hill and Grossman (2013) also noted that classroom observation systems face challenges concerning reliability, observer preparation, and the limited amount of teaching captured by individual observations. Standardized observation frameworks such as Danielson's (2013) Framework for Teaching and Marzano and Toth's (2013) evaluation model were developed partly to address these reliability concerns, although debates about their formative versus summative use persist.

The implication is that effective supervision should be understood less as an event and more as a professional learning process.

2.2 Empirical Studies

The central proposition of this review is that the relationship between instructional leadership and student learning is best understood through intermediate processes involving teachers and classroom practice. Leadership does not normally influence students directly. Instead, leadership establishes organizational conditions that affect teacher learning, motivation, collaboration, instructional decision-making, and ultimately classroom practice.

This interpretation is supported by recent research. He et al. (2024), for example, examined instructional leadership as a predictor of teacher professional development, highlighting the role of leadership in supporting continuing teacher learning. Mavi et al. (2025) further found that teacher collaboration mediated the relationship between instructional leadership and teacher professionalism (see also Kraft & Papay, 2014, on how professional environments shape returns to teaching experience). These findings suggest that leadership may be consequential partly because it creates opportunities for teachers to work together and develop professional capacity.

Teacher attitudes constitute another important mechanism. Hallinger, Liu, and Chen (2025) synthesized quantitative studies examining the relationship between principal instructional leadership and teacher attitudes and identified meaningful associations with trust, self-efficacy, collective efficacy, commitment, and job satisfaction. These findings reinforce the importance of the relational dimension of instructional leadership. Teachers are not passive recipients of leadership practices; their perceptions of trust, support, autonomy, and professional respect shape how they respond to improvement initiatives.

A companion meta-analysis of 66 quantitative studies similarly found that principal instructional leadership was more strongly associated with teacher efficacy in cultures marked by higher collectivism and power distance, underscoring the contextual sensitivity of these relationships (Hallinger, Liu, & Niu, 2025).

Recent research has also begun to connect instructional leadership more directly to instructional practice. Demir and Kalman (2025), for example, examined pathways involving teacher autonomy and collective teacher innovativeness, while other recent work has examined professional learning as a mediator between instructional leadership and teachers' instructional practices.

Taken together, this evidence suggests that the pathway from leadership to student learning is indirect and multidimensional. A more defensible working conceptualization, which this review treats as a proposition to be tested, is:

Instructional leadership → professional conditions → teacher learning and motivation → instructional practice → student learning.

Instructional supervision occupies a critical position within this pathway because it provides evidence about instructional practice and creates opportunities for feedback and professional reflection.

2.2.1 Comparing Findings across Studies and School Systems

The studies summarized in Table 1 differ in design, level of analysis, and context. These differences help to explain where their findings converge and where they diverge.

Where findings converge. Studies that examine teacher-level outcomes point in the same direction. A single-country study in Nigeria (He et al., 2024), a single-country study in Türkiye (Mavi et al., 2025), and meta-analytic evidence from many countries (Hallinger, Liu, & Chen, 2025) all associate instructional leadership with teacher professional development, professionalism, or attitudes such as trust and efficacy, and Demir and Kalman (2025) suggest that autonomy and innovativeness carry the link to instructional practice. In the Nigerian study, the provision of professional learning opportunities was the strongest predictor of teachers' professional development, whereas supervising and evaluating instruction was not a significant predictor (He et al., 2024). This is consistent with the meta-analysis by Robinson et al. (2008), in which leaders' promotion of and participation in teacher learning and development had the largest effect on student outcomes among the leadership dimensions compared. It also supports the argument of this review that supervision contributes most when it is connected to teacher learning rather than treated as a separate evaluative activity.

Where findings diverge. Findings are less consistent when the outcome is student achievement. Syntheses and large-scale studies have generally reported positive associations between leadership and student outcomes, although their size varies (Robinson et al., 2008; Witziers et al., 2003; Liebowitz & Porter, 2019), whereas Pietsch et al. (2025), analysing PISA data on about 1.5 million students in 75 countries and regions, found an average relationship close to zero with significant variation across contexts. Two features of the evidence help to reconcile these results. First, the outcomes differ: studies of teacher-level outcomes examine nearer links in the pathway than studies of student achievement. Second, the designs differ: the single-country studies in Table 1 use correlational or mediation models, which cannot by themselves establish causal direction, whereas the meta-analytic studies estimate average relationships across many settings.

Context and transferability. Hallinger, Liu, and Niu (2025) found the leadership–teacher efficacy relationship to be stronger in higher-collectivism, higher-power-distance cultures, and Pietsch et al. (2025) attributed the cross-country variation in the leadership–achievement relationship mainly to differences in human development level and cultural factors. Hallinger (2018) similarly argues that context needs to be brought out of the shadows of leadership research. These findings caution against assuming that models developed largely in North America and Western Europe, including the observation frameworks of Danielson (2013) and Marzano and Toth (2013), transfer unchanged to other school systems. Where principals hold high formal authority, for example, directive instructional leadership may be received differently from how it is received in more egalitarian systems. This is an interpretation to be tested and not a finding. The reviewed evidence from Sub-Saharan African schools is limited to a small number of sources (He et al., 2024; Bold et al., 2017), so the transfer of the framework proposed here to those settings is a matter for empirical testing rather than assumption (see Section 5.6).

Table 1. Selected Recent Empirical Studies Linking Leadership, Supervision, and Teacher

Outcomes

Study	Focus, method, and context	Key finding
He, Guo, & Abazie (2024)	Correlational study of 304 secondary school teachers and 19 principals (Nigeria); Hallinger and Murphy (1985) model	Instructional leadership is a significant predictor of teacher professional development.
Mavi, Tuti, & Özdemir (2025)	Multilevel structural equation model; 401 teachers (Türkiye)	Teacher collaboration mediates the relationship between instructional leadership and teacher professionalism.
Hallinger, Liu, & Chen (2025)	Meta-analytic review, 1989–2024	Moderate, significant associations between instructional leadership and teacher trust, self-efficacy, collective efficacy, commitment, and job satisfaction.
Demir & Kalman (2025)	Serial mediation model	Teacher autonomy and collective teacher innovativeness mediate the link between instructional leadership and instructional practice.
Pietsch, Aydin, & Gümüş (2025)	Meta-analytic “big data” study across cultures and time (PISA data; about 1.5 million students; 75 countries and regions)	The average relationship between instructional leadership and student achievement is close to zero, with significant variation across contexts attributed mainly to human development level and cultural factors.
Hallinger, Liu, & Niu (2025)	Meta-analysis of 66 quantitative studies	The instructional leadership–teacher efficacy relationship is stronger in higher-collectivism, higher-power-distance cultures.
Hallinger, Liu, Aung, & Yan (2025)	Systematic review of 791 PIMRS studies, 65 countries	Univariate and bivariate models still dominate; calls for more mediated and moderated designs.

2.2.2 The Leadership–Supervision Nexus

The concept of a leadership–supervision nexus is the central conceptual proposal of this review. The nexus refers to the point at which strategic instructional leadership and direct professional supervision become connected within a school’s improvement processes.

Instructional leadership establishes the question of what the school is trying to improve. Supervision addresses what is happening in classrooms and what teachers need to improve. Professional learning provides the means through which teachers develop new knowledge and skills, while coaching and collaboration support the implementation of those changes.

This relationship should not be interpreted as a rigid sequence. These processes operate as a continuous improvement cycle in which evidence from practice informs subsequent leadership decisions. The process therefore becomes:

Direction → Diagnosis → Learning → Practice → Evidence → Adaptation

This cycle offers a more integrated starting point than treating instructional leadership and supervision as separate administrative functions, although it remains a proposal to be tested. Section 4.1 consolidates these steps into five components, with distributed instructional leadership treated as the enabling structure through which the other steps are carried out.

2.2.3 Research Gap

The literature reveals a substantial body of evidence concerning instructional leadership, instructional supervision, distributed leadership, teacher development, and instructional coaching. However, the fields remain conceptually fragmented. Studies frequently investigate whether leadership predicts student achievement without sufficiently examining the mechanisms through which leadership affects classroom instruction. Supervision research, meanwhile, often focuses on observation and evaluation without fully connecting supervisory practice to the broader instructional priorities established by school leadership. A recent systematic review of PIMRS studies likewise found that simple univariate and bivariate designs still dominate and called for mediated and moderated designs (Hallinger, Liu, Aung, & Yan, 2025).

The contribution of this review is therefore to integrate these literatures around instructional improvement as the central outcome. Rather than positioning student achievement as the immediate consequence of leadership, the proposed framework identifies classroom practice and teacher capacity as proximal outcomes and student learning as a longer-term outcome. The article also contributes an intervention-oriented dimension: it translates the evidence into organizational practices that schools can implement, emphasizing targeted interventions rather than broad prescriptions for “stronger leadership.”

3.0 Methodology

3.1 Review Design

This article adopts a narrative literature review approach. The choice of a narrative design reflects the interdisciplinary nature of the topic and the diversity of research traditions examining instructional leadership, supervision, teacher development, coaching, professional learning, and school improvement. Rather than generating a new statistical estimate, the review brings together conceptual, empirical, systematic-review, and meta-analytic evidence to identify patterns and relationships that can inform an integrated framework.

The review is not a systematic review. It did not follow a registered protocol, a documented search strategy, or a formal quality-appraisal instrument. A narrative design gives up replicability in exchange for interpretive breadth, and the consequences of that trade-off are discussed in Section 5.4. The review is interpretive as well as descriptive: its purpose is not simply to summarize what previous researchers have found but to examine how the findings can be connected into a coherent explanation of instructional improvement. This approach is consistent with Hallinger’s (2013) argument that reviews in educational leadership need to attend to conceptual definitions, contextual conditions, methodological differences, and the processes through which leadership is expected to influence outcomes.

3.2 Scope, Sources, and Selection

Scope. The review covers international, English-language literature on leadership and supervision for instructional improvement in primary and secondary schools. The 43 sources cited were published between 1967 and 2025 and include journal articles, books, and reports. Ten are systematic reviews or meta-analyses, and the others are conceptual works and individual empirical studies. The foundational

and conceptual works are drawn mainly from North America and the United Kingdom. The recent empirical studies in Table 1 include single-country studies from Nigeria and Türkiye and meta-analytic studies that combine evidence from many countries, such as the 75 countries and regions covered by Pietsch et al. (2025). Evidence from Sub-Saharan African schools is thin in the corpus.

Identifying sources. Sources were identified purposively and iteratively around the thematic areas described in Section 3.3, beginning with foundational works and extending to recent reviews and empirical studies. Literature was identified through iterative searches of major academic databases including Scopus, Web of Science, ERIC, Google Scholar, and Education Source. Although the search process was exploratory rather than systematic, emphasis was placed on foundational works, recent empirical studies, systematic reviews, and meta-analyses relevant to instructional leadership, supervision, teacher learning, and instructional improvement.The review does not claim to be exhaustive, and this limitation is acknowledged in Section 5.4.

Selection. Selection rested on the author's judgement and was guided by three considerations: relevance to at least one of the five thematic areas; foundational standing in the field or, for the recent evidence, publication in 2024 or 2025; and, among the empirical studies, attention to mediating processes such as teacher collaboration, professional development, teacher attitudes, autonomy, and instructional practices. No formal exclusion criteria were applied.

Judging quality and relevance. No formal appraisal instrument was used. Interpretive weight was guided instead by study type and scale. Systematic reviews and meta-analyses were treated as stronger evidence about patterns than single studies, and single studies, such as those from Nigeria and Türkiye in Table 1, were treated as illustrative and not generalizable. Findings from correlational and mediation designs are not interpreted as causal. Where studies disagree, the review notes the differences in outcome, design, and context that may explain them (Section 2.2.1).

3.3 Thematic Synthesis and Framework Development

The literature was examined thematically around five interconnected areas: instructional direction, supervision and feedback, teacher professional learning, distributed instructional leadership, and evidence-informed improvement. Foundational studies were considered alongside more recent scholarship to trace both the historical development of the field and emerging directions in research. Particular attention was given to studies examining mediating processes such as teacher collaboration, professional development, teacher attitudes, autonomy, and instructional practices.

The themes were developed interpretively. Findings that addressed the same stage of the pathway from leadership to classroom practice were grouped, and each theme was then translated into one component of the proposed framework by asking what the evidence in that area implies about how leadership and supervision should connect. The correspondence is: instructional direction (component 1), supervision and feedback (component 2, instructional diagnosis), teacher professional learning (component 3, capacity building), distributed instructional leadership (component 4), and evidence-informed improvement (component 5, monitoring and adaptation). The framework is therefore an interpretive synthesis and not the output of a formal coding procedure. Table 2 in Section 4.1 sets out the evidence on which each component rests.

4.0 Findings

4.1 An Integrated Framework for Instructional Improvement

The framework presented in this section is an interpretive synthesis of the literature reviewed in Section

2. It is proposed here for testing and has not yet been tested in schools. It consists of five interconnected components. The first is instructional direction, through which leaders establish a small number of clear priorities concerning teaching and learning. The second is instructional diagnosis, through which leaders, supervisors, and teachers gather evidence about current classroom practice. The third is capacity building, through which teachers receive differentiated professional learning, coaching, and opportunities for collaboration. The fourth is distributed instructional leadership, through which responsibility for improvement is shared among principals, middle leaders, coaches, and teachers. The fifth is monitoring and adaptation, through which evidence is used to determine whether interventions are producing meaningful changes in teaching.

Table 2 shows how each component was derived from the literature. For each component it identifies the question the component addresses, the main sources on which it rests, and what the evidence suggests.

Table 2. Evidence Base for the Five Components of the Proposed Framework

Component	Question addressed	Main supporting literature	What the evidence suggests
1. Instructional direction	What should improve?	Edmonds (1979); Hallinger & Murphy (1985); Robinson et al. (2008); Leithwood et al. (2006); Cuban (1988); Lambert (1998)	Clear mission, goals, and expectations are a long-standing core of instructional leadership. Because principal-centred models have been criticized, direction should be a small set of shared priorities and not the principal's sole expertise.
2. Instructional diagnosis	What is currently happening in classrooms?	Cogan (1973); Goldhammer et al. (1980); Hill & Grossman (2013); Danielson (2013); Marzano & Toth (2013)	Clinical supervision cycles gather evidence about practice. Single observations have limited reliability, so diagnosis should draw on multiple sources of evidence.
3. Capacity building	What support do teachers need?	Glickman (1980); Gordon (1990); Knight (2018); He et al. (2024); Mavi et al. (2025); Robinson et al. (2008); Hargreaves & Dawe (1990); Kraft & Papay (2014)	Support should be differentiated and sustained. Professional learning was the strongest predictor of teacher development in He et al. (2024), and collaboration mediated the leadership effect in Mavi et al. (2025). Imposed collaboration risks "contrived collegiality."
4. Distributed instructional leadership	Who leads and sustains the work?	Spillane et al. (2004); Spillane (2006); Harris (2004); Hallinger & Heck (2010); Leithwood & Mascall (2008); Cuban (1988); Lambert (1998)	Instructional expertise is rarely concentrated in one person. Leadership is a practice shared among principals, middle leaders, coaches, and teachers, provided teacher leaders have preparation, authority, and time.

5. Monitoring and adaptation	Are teachers changing practice, and what should the school do next?	Hallinger, Liu, Aung, & Yan (2025); Pietsch et al. (2025); Hallinger, Liu, & Niu (2025); Hallinger (2018); Horng et al. (2010)	Effects vary with context and implementation, uniform models cannot be assumed to transfer, and activity alone (such as additional principal time on instruction) does not ensure improvement. Evidence should therefore be used to adapt priorities.

Figure 1 presents the five components as a cycle. The components should not be interpreted as rigid stages. They operate as a continuous improvement cycle in which evidence from practice informs subsequent leadership decisions.

Figure 1. Proposed Integrated Leadership–Supervision Framework

Source: Author's synthesis from reviewed literature.

The framework places classroom practice at the centre of the leadership–supervision relationship. This is important because student achievement is influenced by many factors beyond school leadership. Changes in instructional practice provide a more immediate indication of whether leadership and supervision are functioning as intended. For this reason Figure 1 distinguishes classroom practice, the proximal outcome, from student learning, which is treated as a longer-term outcome that the framework does not claim to guarantee.

4.2 Targeted Interventions

The framework can be translated into several targeted interventions, but these should be implemented as connected elements rather than isolated programmes.

Table 3. Targeted Interventions for Integrating Leadership and Supervision

Intervention	Description	Primary purpose
1. Structured instructional walkthroughs	Systematic, brief classroom visits that give leaders knowledge of teaching patterns across classrooms. Value depends on purpose: used for judging individual teachers they reinforce surveillance; used to identify patterns they guide professional learning.	Instructional diagnosis
2. Differentiated supervision	Supervisors adjust the intensity and form of support to teachers' experience, confidence, and demonstrated needs: explicit modelling for novices, inquiry and peer coaching for experienced teachers.	Responsive capacity building
3. Instructional coaching cycles	Repeated cycles of goal setting, strategy selection, implementation, observation, reflection, and adjustment, rather than one-off post-observation feedback.	Bridging evidence and practice change

4. Problem-centred professional learning communities	Professional learning begins with evidence of student learning or classroom practice; teachers collaboratively identify a problem, examine evidence, and select and test a response.	Embedding learning in improvement
5. Teacher-led instructional teams	Department leaders, grade-level leaders, coaches, and experienced teachers take genuine roles in curriculum analysis, professional learning, peer support, and monitoring.	Distributed leadership
6. Evidence-informed supervision	Judgements draw on multiple sources (observation, student work, formative assessment, lesson planning, teacher reflection, curriculum implementation) rather than a single observation.	Accurate, useful professional dialogue
7. Separation of developmental supervision from high-stakes evaluation	Coaching and developmental conversations are distinguished, where possible, from formal summative evaluation so that teachers engage openly.	Psychological safety for learning
8. Protected instructional leadership time	Organizational structures protect principal and supervisor time for observation, dialogue, coaching, professional learning, and analysis of evidence, since competing administrative demands can otherwise crowd these activities out.	Sustaining implementation capacity

Protecting leaders' time is not merely an organizational nicety, but it is not sufficient either. Horng et al. (2010) found that principal time spent on organization management was associated with positive school outcomes, whereas time spent on day-to-day instructional activities was only weakly related, or unrelated, to student performance and was often negatively related to teacher and parent assessments. These findings caution against assuming that more time on instruction-related activity improves schools automatically. They are consistent with the design logic of Table 3, in which protected time is intended to be used for the connected activities of observation, dialogue, coaching, and analysis of evidence (interventions 1 to 7) and not for additional unstructured visits, and in which its effect should be monitored.

4.3 Implementation as a Coherent System

The interventions described above should not be implemented independently. Their potential lies in their interaction. For example, walkthroughs may identify a widespread difficulty with formative assessment. That evidence can inform a professional learning community, which can then develop and test instructional strategies. Coaches can support teachers in implementing those strategies, while supervisors can observe changes in practice and provide feedback. Teacher leaders can facilitate professional dialogue, and school leaders can review evidence to determine whether the instructional priority should be continued, modified, or replaced. In this way, the school becomes a learning system rather than a collection of disconnected interventions.

Implementation of the proposed framework should follow a cyclical process in which instructional priorities guide diagnosis of classroom practice, diagnosis informs professional learning and support,

leadership responsibilities are distributed across relevant personnel, and evidence from implementation is used to refine future actions. The effectiveness of the framework depends on the interaction among its components rather than the isolated application of any single intervention.

This approach also addresses a common weakness in school improvement initiatives: the tendency to introduce programmes without establishing mechanisms for monitoring implementation and learning from evidence.

5.0 Discussion, Implications and Conclusion

5.1 Discussion

The discussion is organized around the three objectives of the review: examining the evolution of instructional leadership and supervision, identifying mechanisms linking leadership to classroom practice, and translating evidence into practical interventions for instructional improvement.

The central argument emerging from this review is that instructional leadership should be understood as an organizational process for developing instructional capacity. The principal remains an important actor, but effective leadership increasingly involves creating conditions in which multiple professionals can contribute to instructional improvement.

This interpretation helps to reconcile apparently contradictory findings concerning leadership and student achievement. Syntheses and large-scale studies generally report positive associations between instructional leadership and student outcomes, although their size varies (Robinson et al., 2008; Leithwood & Mascall, 2008; Tan et al., 2020; Karadağ, 2020; Witziers et al., 2003; Liebowitz & Porter, 2019; Hattie, 2009), while more recent large-scale research has found weaker average relationships after accounting for contextual and methodological factors. Pietsch et al. (2025), for example, found substantial cross-national variation and an average relationship close to zero in a very large international dataset. Such findings caution against treating instructional leadership as a universal intervention with a predictable effect on achievement.

At the same time, weaker direct effects on student achievement do not make instructional leadership irrelevant. They may instead indicate that leadership operates primarily through intermediate outcomes. Recent studies linking instructional leadership with teacher collaboration, professional development, teacher attitudes, autonomy, innovation, and instructional practice are consistent with this interpretation, although most of them are correlational and none tests the framework proposed here.

This has implications for both research and practice. Researchers should examine the processes through which leadership influences teaching rather than treating student achievement as the only meaningful outcome. Practitioners, meanwhile, should design leadership and supervision systems around the improvement of professional practice rather than around the accumulation of observations, meetings, or evaluation scores.

5.2 Implications and Recommendations for Educational Leadership

The recommendations below are practical and conditional on the framework being tested. Each one is linked to the component of the framework, and the part of the review, that supports it.

For principals, instructional leadership should be organized around a limited number of meaningful instructional priorities (component 1; Hallinger & Murphy, 1985; Robinson et al., 2008). Leaders need sufficient knowledge of classroom practice to identify problems, but they also need systems that allow other professionals to contribute to instructional diagnosis and support (components 2 and 4; Cuban, 1988; Spillane, 2006).

For instructional supervisors, the recommendation is a shift from evaluator to a capacity builder (components 2 and 3; Glickman et al., 2014; Knight, 2018). Technical expertise in observation remains important, but supervisors also require knowledge of adult learning, feedback, coaching, collaboration, and professional development. Judgements should draw on more than a single observation (Hill & Grossman, 2013; Table 3, intervention 6).

For teacher leaders, expanded instructional responsibility should be accompanied by preparation, authority, time, and institutional recognition (component 4; Lambert, 1998; Spillane et al., 2004). Distribution without these conditions risks becoming task delegation rather than genuine leadership.

For leadership-preparation programmes, instructional leadership should be treated as a practical professional competence (components 2 and 3; Table 3, interventions 1 to 3). Aspiring leaders need opportunities to develop skills in classroom observation, instructional coaching, feedback, curriculum leadership, evidence interpretation, and collaborative inquiry.

For policymakers, accountability systems should not undermine the developmental purposes of supervision (Section 2.1.2; Table 3, intervention 7). High-stakes evaluation may be necessary in some contexts, but it should be balanced with opportunities for teachers to receive low-stakes feedback and sustained professional support.

5.3 Research Propositions (Hypotheses for Future Testing)

The integrated framework generates six propositions that can be tested empirically. The second and third research questions posed in Section 1.4 correspond to them, and each proposition is linked to the framework components it concerns.

Proposition 1 (components 2 and 3). The relationship between instructional leadership and instructional practice is likely to be stronger when teacher professional learning and collaboration function as mediating mechanisms.

Proposition 2 (component 3). Differentiated supervision should produce stronger professional-learning outcomes than uniform supervisory approaches because teachers differ in their developmental needs.

Proposition 3 (components 3 and 5). Teacher trust, autonomy, and perceived organizational support are likely to moderate the extent to which instructional leadership translates into changes in classroom practice.

Proposition 4 (component 4). Distributed instructional leadership should contribute more strongly to school capacity when teacher leaders have adequate preparation, decision-making authority, and protected time.

Proposition 5 (components 1 and 3). Instructional coaching is likely to produce more sustained changes in practice when it is continuous and explicitly connected to school-wide instructional priorities.

Proposition 6 (component 5). The relationship between instructional leadership and student achievement is likely to vary according to school and system context, making contextual adaptation an important condition of intervention effectiveness.

5.4 Limitations

This article is a narrative review and therefore does not provide a new pooled estimate of the relationship between instructional leadership, supervision, and educational outcomes. Its main limitations follow from that design. The literature searches were not documented, and the sources were selected purposively, so the review is not reproducible and may reflect the author’s selection. No formal quality-appraisal

instrument was used. The corpus is limited to English-language sources and is weighted toward North America, the United Kingdom, and large multi-country meta-analyses, with limited evidence from Sub-Saharan African schools. The reviewed literature also varies considerably in theoretical orientation, measurement, research design, and educational context, and many of the recent studies are correlational. Consequently, the proposed framework should not be interpreted as a universally validated intervention model.

The framework represents a theoretically informed synthesis that requires further empirical testing. Future research should investigate its implementation across different school systems and examine whether the proposed mechanisms produce sustained changes in teacher practice and student learning.

5.5 Conclusion

This review proposes that instructional leadership and supervision are most valuable when they operate as connected processes rather than isolated administrative responsibilities. Leadership establishes instructional direction and creates the conditions for professional learning, while supervision provides the evidence, feedback, and professional dialogue through which classroom practice can improve.

The main contribution of the review is the proposition that the relationship between leadership and student learning should be examined through the professional and instructional processes that connect them. The leadership–supervision nexus and the five-component framework derived from it are proposals based on a narrative synthesis. They have not been tested in schools and should not be read as an established model.

The emphasis of the proposal is not on increasing surveillance or multiplying administrative procedures but on creating a coherent system in which evidence informs professional learning, supervision supports development, leadership builds collective capacity, and teachers have sustained opportunities to improve their practice. If testing supports it, supervision would become more than observation, leadership more than direction-setting, and professional learning more than training.

By synthesizing evidence across instructional leadership, supervision, coaching, and teacher professional learning, the review contributes a coherent framework that may guide future research and inform school-based efforts aimed at strengthening instructional quality and learning outcomes.

5.6 Recommendations for Future Research

Future research should test the framework in four linked ways. First, studies should test the mediating and moderating pathways in Propositions 1 and 3 (components 2, 3, and 5) using longitudinal, mediated, and moderated designs, as called for by Hallinger, Liu, Aung, and Yan (2025) and building on Mavi et al. (2025). Second, the targeted interventions in Table 3, especially differentiated supervision and instructional coaching cycles (Propositions 2 and 5; components 1 and 3), should be evaluated through controlled or quasi-experimental designs. Third, the conditions for effective distribution of instructional leadership (Proposition 4; component 4) should be examined in schools that differ in teacher-leader preparation, authority, and time. Fourth, context should be treated as a moderator (Proposition 6; component 5), drawing on Hallinger, Liu, and Niu (2025) and Pietsch et al. (2025), with deliberate inclusion of Sub-Saharan African school systems, where the evidence reviewed here is thinnest.

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