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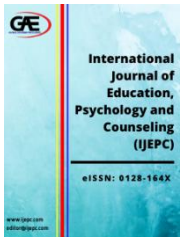

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INSTRUCTIONAL COACHING AS A CENTRAL MECHANISM LINKING MIDDLE LEADERSHIP AND TEACHER INNOVATIVE WORK BEHAVIOUR: A MULTILEVEL CONCEPTUAL FRAMEWORK

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Abstract:

This study examines how middle leadership influences teacher Innovative Work Behaviour (IWB) within educational settings. Despite growing interest in instructional innovation, existing literature remains fragmented in explaining the mechanisms through which leadership shapes teacher behaviour. This study adopts a conceptual paper design, using a structured, systematic conceptual synthesis approach to integrate theoretical and empirical literature on middle leadership, instructional coaching, and teacher innovation. The findings indicate that leadership influences IWB indirectly through instructional coaching as a central mechanism, supported by psychological mediators such as teacher autonomy and self-efficacy, as well as professional learning processes. These mechanisms enable teachers to internalise and enact innovative practices rather than respond to direct control. The study further demonstrates that innovation emerges through the interaction of structural, motivational, and contextual factors. By integrating leadership, coaching, and motivational theories, this study proposes a multilevel framework that provides a coherent explanation of instructional change. Overall, the findings contribute to educational leadership literature and offer practical insights for designing structured coaching systems to support sustained teacher innovation.

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Instructional Coaching; Middle Leadership; Teacher Innovative Work Behaviour; Educational Leadership; Professional Learning

Introduction

Teacher Innovative Work Behaviour (IWB) has become increasingly important in contemporary education systems, particularly in response to rapid changes in pedagogical practices and the growing demand for adaptive, student-centred learning. Teaching innovation is commonly viewed as an important contributor to educational quality and school development because it allows teachers to enhance instructional approaches and address the diverse needs of learners more effectively (Sharma et al., 2023; Șula, 2025). Despite its importance, existing research has provided limited insight into the mechanisms by which leadership translates into teacher IWB, particularly in the context of middle leadership in schools.

Previous studies consistently indicate that leadership plays an important role in influencing teachers' professional behaviour and instructional practices (Aydın et al., 2025; Highfield et al., 2024). However, much of the existing literature continues to view leadership as a direct influence, giving less attention to the indirect and multilevel processes through which leadership effects are enacted. Conceptually, it is unclear if teacher IWB is directly affected by leadership or if it is enabled through other processes, such as professional learning and instructional support (Paletta et al., 2021). This indicates the tendency to think of the leadership effects as linear and unmediated and not as dynamic processes within school contexts. This is also an indication of the change from hierarchical to distributed and facilitative leadership. Additionally, this shift emphasises cultivating IWB among educators, which is crucial for schools to adapt to societal and technological advancements and maintain high-quality education (Evers et al., 2023). Although earlier studies have acknowledged the importance of leadership for teacher, previous models have been mainly based on direct-effect relationships. As a result, little research has focused on how middle leaders can influence teacher IWB. This constraint prevents a full picture of the ways in which leadership impact is translated to innovative instructional practice in schools.

Instructional coaching has become an important link between leadership practices and teacher learning and teacher IWB. Previous research indicates that coaching can facilitate reflective practice, feedback, and professional development (Smith & Desimone, 2025; Witherspoon et al., 2021). At the same time, psychological factors such as autonomy and self-efficacy strongly influence teachers' readiness and capacity to engage in innovative practices (X. Li et al., 2025; Torres, 2025; Zuo et al., 2026). However, these factors have mostly been studied separately, and there is a lack of understanding of how they work together to create teacher IWB.

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Furthermore, little research has focused on the interplay between these factors in a multilevel system of leadership structures, interpersonal processes, and individual teacher factors. Consequently, the relationship between leadership, instructional coaching, psychological mechanisms and teacher IWB is still not fully synthesized in one explanation.

To overcome this limitation, the present study employs a conceptual approach that synthesises theoretical and empirical evidence to develop an integrated multilevel framework. Unlike previous conceptualisations that examine leadership, instructional coaching, and teacher IWB as largely independent constructs, the proposed framework integrates these elements within a unified multilevel structure. Specifically, instructional coaching is viewed as the primary pathway that enables middle leadership to foster teacher IWB via psychological and professional learning processes. The proposed explanation is informed by Job Demands-Resources (JD-R) theory and Self-Determination Theory (SDT) to clarify how middle leadership influences teacher IWB through instructional coaching as a central mechanism, supported by psychological and professional mediators (Evers et al., 2023; Tang et al., 2023; Xiumei et al., 2024). By moving beyond fragmented, direct effect perspectives, this study provides a process-based, multilevel explanation of instructional change. This offers a theoretically grounded model that can inform both research and practice. Specifically, this research investigates how psychological empowerment and professional learning communities function as intermediary factors within the relationships among middle leadership, instructional coaching, and teacher IWB (Bao, 2024a; Liu et al., 2021; Zhu et al., 2019). Several important insights emerge from this study in three ways. First, it positions instructional coaching as a primary pathway connecting leadership practices with teacher IWB. In line with this, it integrates JD-R theory and SDT within a multilevel leadership framework. Likewise, it provides a process-based explanation of instructional change, addressing fragmentation in prior research**.**

Materials and Methods

This present article is a conceptual paper design developed using a structured conceptual integration approach to create a multilevel framework of theory to explain the role of middle leadership on teacher IWB through instructional coaching. This conceptual paper aims at theory building and conceptual integration, not an exhaustive systematic review. This study is not intended as a comprehensive systematic review but rather uses a clear and systematic approach to identifying, screening, and synthesizing literature to inform the development of theory. In particular, the review focuses on practice-proximal leadership activities, especially instructional coaching processes, which have been consistently identified as critical mechanisms linking leadership practices to classroom-level instructional change (Abdullah et al., 2020; Collins et al., 2025; Sapian & Kamarudin, 2025). Relevant studies on educational leadership and teacher development were retrieved from three major academic databases, namely Scopus, Web of Science (WoS), and Google Scholar.

A structured keyword search strategy was used, combining the following terms: “instructional coaching,” “middle leadership,” “teacher innovative work behaviour,” “teacher autonomy,” and “self-efficacy,” which were identified for their conceptual relevance and previous research. Boolean operators were used to narrow and broaden the search to ensure that the studies obtained were both extensive and specific. The literature identification and screening process involved title screening, abstract evaluation, and a detailed review of complete articles against the predetermined selection criteria. After this process, 91 studies were left for conceptual

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synthesis and framework development. Only studies that showed direct relevance to middle leadership, instructional coaching, teacher innovative work behaviour, psychological empowerment or related instructional improvement processes were included. Table 1 shows the selection criteria.

Table 1. Criteria Used for Selecting Literature

Included Studies	Excluded Studies
Scholarly journal publications and review papers	Non-journal sources, including conference papers, book chapters, dissertations, and publications without peer review
Publications dated from 2010 to 2026	Publications before 2010
Studies conducted within educational settings	Studies outside educational contexts
Studies related to middle leadership, instructional coaching, teacher IWB, and related instructional improvement processes	Studies lacking direct relevance to leadership, coaching, teacher development, or innovation outcomes
Full-text articles available for review	Abstract-only or inaccessible publications

The studies selected were peer-reviewed empirical and review articles in educational settings that fulfilled the inclusion criteria. The reviewed literature was then conceptually synthesised to identify recurring explanatory mechanisms, theoretical convergences and conceptual gaps concerning middle leadership, instructional coaching and teacher innovative work behaviour. This process helped to embed relevant evidence in construction of the proposed framework.

The synthesis emphasized the identification of commonalities, theoretical connections, and conceptual gaps among the selected studies. The analysis in particular concentrated on the intermediary pathways, including autonomy, self-efficacy, and professional learning and contextual moderators (such as school culture, organisational ambidexterity and digital readiness). Next, an iterative comparative method was used to refine and categorize concepts into higher order categories to improve conceptual clarity and integrationThis process resulted in the development of a multilevel conceptual model, which brings together leadership inputs, coaching mechanisms, psychological mediators and contextual conditions in a coherent explanatory model. This analytical approach guarantees that the proposed framework is theoretically grounded, internally consistent, conceptually robust and open to empirical validation in future research.

Results

Theoretical Foundations

Leadership and Motivation Theories

From the literature reviewed it appears that integrated motivational and resource-based perspectives, specifically JD-R theory and SDT, best explain the influence of leadership on teachers' IWB. Instructional coaching, when viewed through the JD-R lens, serves as a valuable workplace resource to promotes teacher IWB by offering structured feedback, modelling, and

opportunities for professional growth (Durksen et al., 2017; Witherspoon et al., 2021; Zhou et al., 2024). To this end, SDT posits that coaching fulfils teachers' psychological needs for autonomy, capability, and social connectedness, which are commonly associated with greater innovative behaviours (Kaplan, 2022; Moorhouse & Kohnke, 2021; Proudfoot & Boyd, 2022; Şengül, 2025). All these views indicate that leadership is not a direct cause of innovation. Rather, it works by establishing enabling motivational and structural conditions. Instructional coaching should be thought of as a process that brings about innovation by mobilizing psychological and organizational resources instead of a support process. Generally, this theoretical alignment underscores the significance of examining the interplay between leadership styles, including coaching-oriented management practices and employee engagement at work, contribute to the development of IWBs (Viitala et al., 2023).

Distributed and Instructional Leadership

The selected studies show evidence that leadership in schools is becoming more practice-based and distributed, with middle leaders being key to instructional improvement. Conversely, distributed leadership theory proposes that leadership is performed by a variety of actors, leading to increased teacher collaboration and collective innovativeness (Lin, 2022; Nadeem, 2024; O'Shea, 2021; Zhao et al., 2025). In contrast, instructional leadership offers strategic alignment, clarity of goals, and organisational support that are crucial for improving teaching and learning quality (Hsieh et al., 2023; Jenssen & Paulsen, 2022; Mora-Ruano et al., 2021). The combination of these leadership types has been proven to foster synergy that positively impacts the quality of instruction and teacher innovation (AY & BOZ, 2022; Fitriani et al., 2025; Paletta & Alimehmeti, 2023; Shava, 2021). This means that middle leaders function as practice-proximal leadership function that connects the intent of leadership to actionable instructional processes. Conceptually, viewing middle leaders as change agents offers a more realistic and operational understanding of the impact of leadership on classroom practice.

Instructional Coaching as a Mechanism of Change

A consistent finding across the reviewed studies is that the instructional coaching process serves as the main mechanism through which leadership influence is translated into instructional change. In addition, research shows that structured coaching cycles, including pre-observation, observation, and feedback, facilitate ongoing teacher learning and improvement (Kho et al., 2020; Kraft & Gilmour, 2016; Witherspoon et al., 2021). Likewise, high leverage practices like modelling, co-planning and reflective dialogue foster deeper pedagogical change than superficial improvement (Brown & Friesen, 2023). In this regard, ongoing coaching demonstrates a substantial contribution to teaching and learning quality as well as the development of teacher IWB (Desimone & Pak, 2016; Duffy et al., 2023). However, it requires relational trust and clarity of roles, especially in separating its coaching from evaluative roles (Abbott et al., 2023; Smith & Desimone, 2025). Coaching is not just a technical intervention; it is a process of relationship and organisation. The results indicate that instructional coaching can be thought of as a way of enacting leadership influence at the classroom level.

Teacher Innovative Work Behaviour (IWB)

Previous studies show that teacher IWB is a multidimensional phenomenon that includes the development, sharing, and adoption of new teaching strategies. In the literature, IWB is conceptualised as a process through which individuals generate and apply new ideas within

organisational settings (Evers et al., 2023; Jong & Hartog, 2010; Lambriex-Schmitz et al., 2020). IWB is further shaped by collaborative professional contexts in which it is used in education, where innovative practices can be shared and institutionalised (Evers et al., 2023). There is also evidence that innovation is not just an individual skill; rather, it is a result of collective learning processes and organisational support structures (Bellibaş et al., 2025; Qin et al., 2025). This double vision emphasizes the systemic aspect of teacher innovation. Conceptually, IWB can be understood as a construct operating at an individual and collective dimension, offering a more holistic view of the process of sustaining innovation in schools. In essence, this conceptualisation underscores the need to analyse the interaction of teacher attributes and organisational conditions in fostering continuous pedagogical advancement (Bao, 2024c; Vermeulen et al., 2020).

Absorptive Mechanisms: Mediating Pathways

A synthesis of the reviewed studies identifies teacher autonomy, self-efficacy, and professional learning as key mediating mechanisms linking leadership practices to teacher innovation. Teacher autonomy provides the freedom needed to experiment and make instructional decisions (Lasrin et al., 2025; Üztemur et al., 2026). Similarly, self-efficacy strengthens teachers' confidence in implementing and sustaining innovative practices, with strong empirical evidence supporting its mediating role between leadership and instructional outcomes (Rusiana et al., 2024; Thien & Liu, 2024). Professional learning provides the pathway through which coaching contributes to changes in instructional practice via collaborative inquiry and feedback processes (Duffy et al., 2023; Goff et al., 2015; Nguyen & Ng, 2022). Interestingly, these mediators collectively enable teachers to internalise and apply new instructional knowledge. Theoretically, these variables may be thought of as absorptive mechanisms that convert leadership inputs into innovation outputs. This shows the need of psychological and professional processes in instructional change. The literature reviewed was synthesized to identify patterns and relationships in the light of the theoretical perspectives above.

Synthesis of Literature

The literature reveals a recurring theme regarding how middle leadership influences teacher IWB, expressed through multilevel processes that are connected. Leadership practices are often understood as indirect influences on instructional change, functioning as practice-proximal, rather than direct, influences on classroom teaching (Evers et al., 2023; Highfield et al., 2024). Current empirical evidence indicates that middle leaders play an important role in facilitating the implementation of organisational goals into instructional practice through coaching and collaborative processes (Haim Shaked, 2023; Lightner et al., 2020). This indicates that leadership impact is most likely to happen when it is close to teaching practice, not in a hierarchical position. These results support the view of leadership as a mediated and context sensitive process.

Instructional coaching is consistently identified as the key mechanism that connects leadership to instructional improvement and innovation. Structured coaching cycles with observation and feedback have been proven to promote ongoing teacher learning and instructional improvement (Almager et al., 2021; Saunders et al., 2021; Smith & Desimone, 2025). Furthermore, high leverage coaching strategies like modelling and reflective dialogue support deeper pedagogical change as opposed to superficial change (Cutrer-Párraga & Miller, 2022; Witherspoon et al.,

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2021). There is a clear link between sustained coaching and enhancing the quality of instruction and innovation capacity (McQueen, 2018; Witherspoon et al., 2021). Coaching, therefore, acts as a bridge that translates leadership intent to action in the classroom. Conceptually, coaching as a mechanism at the centre offers a more precise explanation of how instructional change takes place.

The current literature suggests that coaching contributes to teacher IWB through psychological and professional mechanisms. Teacher autonomy allows for the flexibility and freedom to experiment and adapt instruction (Torres, 2025; Witherspoon et al., 2021). Building on this, teacher self-efficacy boosts confidence in implementing new practices and has been proposed as a connecting mechanism between leadership and professional learning (X. Li et al., 2025; Santagata et al., 2023). Collaboration also serves as a social tool for the spread and embedding of new approaches (Büyükgöze et al., 2022; Meyer et al., 2020). In fact, innovation isn't a first order effect of coaching. Rather, it is a product of inner psychological and social mechanisms. These mediators can be thought of as absorptive mechanisms that transform leadership inputs into innovation outcomes.

These processes are also influenced by contextual moderators at organisational and technological levels. Organisational factors like school culture, trust, and role clarity have been consistently highlighted as enablers of effective coaching (Caneva et al., 2023; Collins et al., 2025). Meanwhile, technological factors such as digital readiness and Artificial Intelligence (AI)-mediated leadership impact the scalability and implementation of coaching practices (Blazar et al., 2023; Shvardak, 2021). Furthermore, there are indications that supportive contexts amplify the effects of coaching while misalignment and ambiguity dampen teacher engagement. The evidence indicates that effectiveness in coaching is dependent on the overall systemic conditions, not on isolated practices. In this proposed framework, these moderators serve as boundary conditions, which influence the success of instructional change. Therefore, teacher IWB is not a direct product of leadership but rather a result of the interplay of coaching processes, psychological mechanisms and contextual conditions at different levels.

Teacher IWB at the outcome level can be viewed as adynamic, multilevel construct shaped by the interplay between leadership, coaching and context. Of particular interest is how IWB is often thought of as comprising idea generation, promotion and implementation (Evers et al., 2023; Zainal & Matore, 2021). Evidence also suggests that innovation is a phenomenon that happens at the individual and collective level and is produced in collaborative professional settings (Gkontelos et al., 2025). This twofold view emphasizes the systemic aspect of innovation in schools. By defining the IWB as a relational and organisational outcome, it offers a more holistic view of sustaining innovation.

Conceptual Framework Development

This study draws on a synthesis of around 91 reviewed studies to suggest a multilevel conceptual framework to explicate the influence of middle leadership on teacher IWB. This is done by instructional coaching and related mediating and moderating mechanisms (Evers et al., 2023). This framework thus builds on existing models by explicitly incorporating leadership inputs, coaching mechanisms, psychological mediators, contextual moderators, and innovation outcomes in a single multilevel system. The proposed framework views instructional coaching as the primary translating mechanism for leadership influence to translate into teacher-level innovation outcomes. Thus, the framework provides a holistic and

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process-based account of instructional change in educational settings that helps to overcome the fragmentation found in previous research. Figure 1 shows the proposed model, including the mediating and moderating links between instructional coaching and teacher IWB. The framework defines relationships in the direction that can be empirically evaluated in future studies through multilevel analytical approaches.

Leadership Domain

Leadership is the main input into the system in the leadership domain. In all the studies examined, the influence of leadership is indirect, mediated through practice-proximal mechanisms, and not directly on classroom instruction. Instructional leadership and distributed leadership are complementary forms of influence that are integrated into the framework. In particular, instructional leadership offers strategic direction, goal alignment, and instructional focus, and distributed leadership distributes leadership functions to middle leaders. This includes department heads, instructional coaches, and teacher leaders (O'Shea, 2021; Şenol & Lesinger, 2018). Evidence also suggests that these leadership types work together, influencing the structural and motivational contexts for teacher learning and innovation (Brown & Friesen, 2023). The framework conceptualises leadership as exercised through proximity to classroom practice, through the role of middle leaders as key agents.

Coaching Domain

The coaching domain is the key mechanism that translates leadership into instructional change. Instructional coaching is a fundamental process that is consistently identified in the reviewed studies as a connection between leadership and teacher learning outcomes. The pre-observation, classroom observation, post-observation feedback and follow-up form a recurring pattern in studies (Kho et al., 2020), which is considered a canonical coaching cycle. In this cycle, high leverage practices like structured feedback, modelling, and collaborative reflection are consistently highlighted as a focus for teacher learning (Qu et al., 2025). Feedback that is timely, specific, and close to the practice allows teachers to improve their practice, and modelling offers clear examples of good pedagogy (Darling-Hammond et al., 2017; Hellman et al., 2025). These mechanisms operationalise leadership intentions into actionable instructional improvement processes. Moreover, instructional coaching, which involves collaborative problem-solving and personalized professional development, plays a crucial role in teacher professional development and satisfaction (He et al., 2024; Nguyen et al., 2024).

Psychological and Professional Domain

In the psychological and professional arena, the model includes a series of mediators that account for how coaching impacts teacher behavior. The mediators identified in these studies are some of the most consistent variables that have been identified in the literature that connect leadership practices to innovation outcomes. Similarly, these mechanisms can be classified as motivational (teacher autonomy), cognitive (self-efficacy), and professional (professional learning and workplace well-being). Therefore, teacher autonomy allows for instructional discretion and experimentation, and self-efficacy boosts teachers' confidence in implementing and maintaining innovative practices (X. Li et al., 2025; Lin, 2022; Santagata et al., 2023). In the meantime, professional learning serves as the conduit for gaining knowledge and skills and is frequently realized through coaching cycles and collective inquiry (X. Li et al., 2025). Furthermore, well-being and trust in relationships at work help to maintain engagement and

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receptivity to change (Ebby et al., 2024). In general, these mediators serve as absorptive mechanisms which allow teachers to internalize, adapt and use new ideas for instruction.

Contextual Domain

The contextual domain is the set of boundary conditions that affect the intensity and direction of the relationships in the model. Based on the reviewed studies, these moderators can be broadly classified as organisational and technological conditions. Organisational factors like school culture, role clarity, and collaborative norms consistently influence the effectiveness of coaching and leadership practices (Collins et al., 2025; Kim, 2026). Conversely, supportive school cultures amplify the impact of coaching, while role ambiguity and a mix of coaching and evaluation undermine relational trust and decrease teacher engagement. Technological conditions also moderate the model, as digital readiness and AI-mediated leadership impact the implementation and scalability of coaching processes (Kim, 2026). These are all boundary conditions which are important to consider when deciding when and how coaching can make a difference in meaningful instructional change.

Innovation Outcome Domain

The innovation outcome domain is the ultimate outcome of the multilevel system, with teacher IWB as the ultimate outcome. The literature synthesis reveals that IWB is always considered as a phenomenon of the individual and the collective, as a phenomenon of the creation, adaptation and implementation of new practices in teaching and learning (Evers et al., 2023; Gkontelos et al., 2025; Lambriex-Schmitz et al., 2020). In this context IWB is not perceived as a stand-alone individual feature. Instead, it is a product of leadership inputs, coaching processes, mediating factors and contextual factors. This domain is systemic in nature, with relational, organisational and psychological processes in schools influencing innovation. For example, teachers are more likely to be involved in innovative practices when they are supported by coherent leadership structures, involved in high quality coaching and empowered through strong psychological resources in enabling environments.

Model Characteristics: Multilevel, Dynamic, and Testable

Importantly, the proposed framework is conceptualised as multilevel, dynamic and testable. The model is multilevel, incorporating variables from leadership, interpersonal and individual levels. It is dynamic in recognising that relations between variables are iterative and possibly reciprocal. For instance, higher teacher innovation can further boost teacher self-efficacy, collaboration, and involvement in professional learning (Cai & Tang, 2021; Thien & Liu, 2024). Lastly, the model is testable; it provides clear causal pathways and mediating mechanisms that can be tested with advanced analytical methods like multilevel modelling, structural equation modelling, and longitudinal designs. Overall, this conceptual framework based on domains contributes to the literature in that it offers a theoretically integrated and empirically grounded model that explains the influence of middle leadership on teacher IWB via instructional coaching. The framework provides a comprehensive framework for future empirical testing and application in educational settings, as it integrates leadership theory, coaching processes, and psychological mechanisms at multiple levels.

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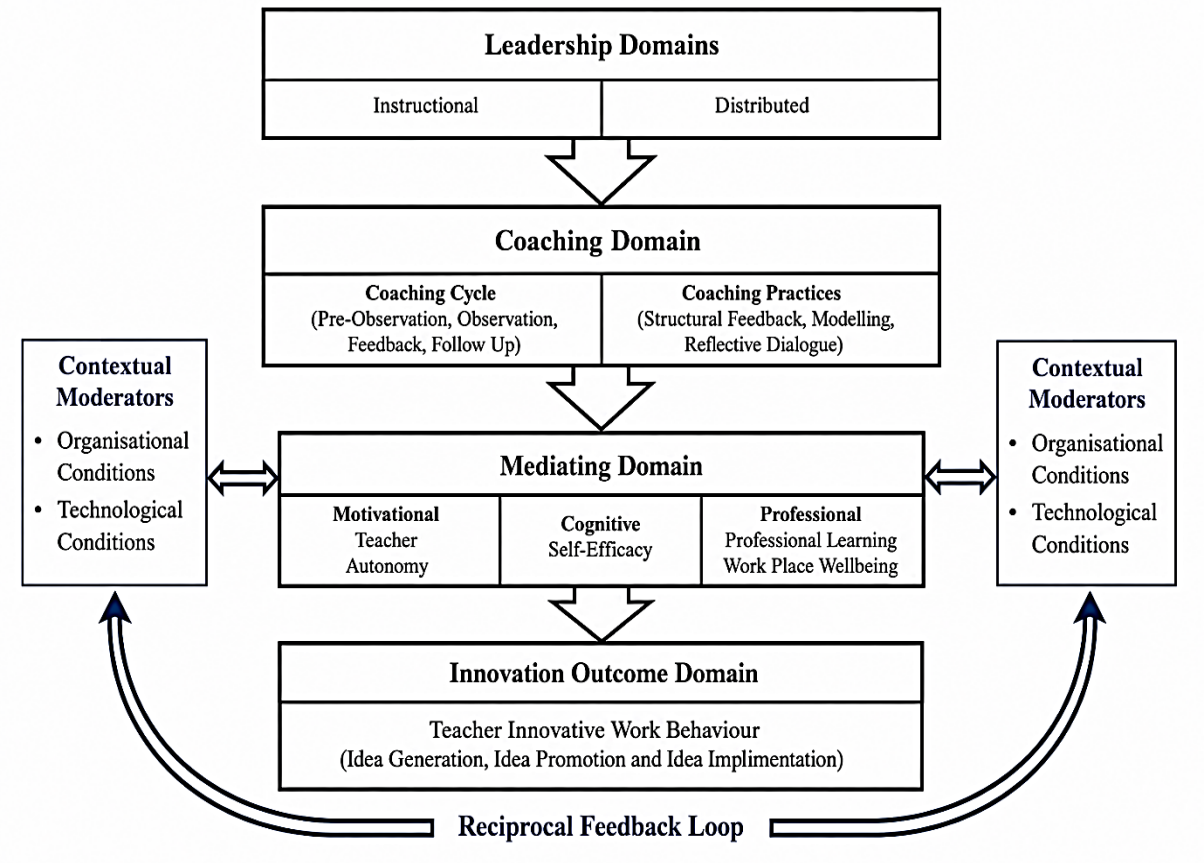

Figure 1. Conceptual Framework of Middle Leadership, Instructional Coaching, and IWB.

As depicted in Figure 1, the multilevel interactions between leadership, coaching mechanisms, mediating processes, and contextual conditions are emphasized in shaping teacher IWB. The framework posits that leadership influence is happening at multiple levels of the organisation, at the interpersonal level and at the individual level, reinforcing the multilevel nature of instructional change.

Discussion

The reviewed literature shows that middle leadership always exerts indirect and multilevel influences on teachers' IWB use. Leadership impact is not directly felt on instruction but rather through instructional coaching processes and psychological mechanisms (Aydın et al., 2025). This is an interesting finding because of the previous studies that highlight the role of leadership as a facilitator in enabling conditions that support teacher innovation (Aydın et al., 2025; Bao, 2024a; Bianconi & Larwin, 2025; Lin, 2022; Ma & Marion, 2019). Theoretically, this strengthens the notion of a mechanism-based understanding of leadership, which is based on how influence is exercised through a process rather than a hierarchy. This conceptualisation highlights the importance of middle leaders in creating an environment that supports innovation, through strategic implementation of coaching programs to enhance teacher agency and efficacy (Bao, 2024a). This also highlights that leadership influence is not exerted directly. Rather, it is implemented within formalized processes that influence teachers' motivation and practice.

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Instructional coaching becomes a key process in the transformation from leadership to instructional change and innovation. Consistent with previous studies, coaching provides structured opportunities for reflection, feedback, and practice refinement (He et al., 2024). Practice-proximal feedback is of high quality and improves teacher competence and instructional effectiveness (McQueen, 2018; Witherspoon et al., 2021), and sustained coaching enhances teachers' readiness to engage in innovative practices (Stuhlman et al., 2022; Witherspoon et al., 2021). These findings support that coaching is a catalytic process and not just a support to operationalise leadership influence at the classroom-level. That is, this means that the ability to deliver and maintain strong coaching programmes is closely related to the effectiveness of middle leaders in driving innovation. It also directly tackles teachers' professional development needs (Collins et al., 2025; Jensen et al., 2023).

In addition, psychological and professional mechanisms are important in determining the impact of coaching on teacher behaviour. In line with the literature, teacher autonomy and self-efficacy positively affect their motivation and confidence to adopt innovation (X. Li et al., 2025; Robertson et al., 2023). In the meantime, professional learning and collaboration offer a context in which to apply and refine new instructional practices (G. Li & Ma, 2025; X. Li et al., 2025). At the same time, these results indicate that innovation is not the result of being imposed from outside, but of a process of change within the company. Importantly, this builds on previous research to show that innovation through leadership requires the activation of psychological and professional resources. In particular, the distributed leadership can be realized by establishing collaborative mechanisms at the institutional level, such as the leaders of teaching-research groups, which can trigger resource gain spirals, improve teachers' engagement, and promote the sharing of knowledge that is essential for innovative practices (Zhao et al., 2025).

As a whole, these findings add to the existing body of literature on educational leadership by identifying instructional coaching as an important vehicle for connecting leadership and teacher innovation (Paletta et al., 2021). The findings also have significant implications for educational leadership and professional learning, especially in terms of establishing structured coaching systems to facilitate ongoing instructional innovation. Furthermore, this study highlights the importance of a leader's ability to create a culture that promotes intrinsic motivation and self-directed professional development of teachers and, therefore, improve IWB. In general, these findings support the idea that leadership is a mediated, multilevel process and not a direct cause of instructional change.

Conclusions

This study demonstrates that middle leadership influences teachers' use of IWBs primarily through indirect, multilevel mechanisms. In particular, instructional coaching is identified as the central process through which leadership practices are translated into instructional change (Highfield et al., 2024). Additionally, psychological mediators such as autonomy and self-efficacy enable teachers to engage in innovative practices, reinforcing the view that leadership effectiveness lies in empowering rather than controlling teachers (Bao, 2024a). Accordingly, this study contributes to the literature by integrating leadership, coaching, and motivational theories into a unified multilevel framework. Thus, by bridging previously fragmented research, the framework provides a coherent explanation of how innovation emerges through the interaction of structural, psychological, and contextual factors. Concurrently, integrating

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JD-R and SDT further strengthens the theoretical foundation and provides a testable model for future research.

Implications

Practical Implications

The findings of this study highlight the critical role of instructional coaching as a structured mechanism for fostering teacher IWB. First, schools should institutionalise instructional coaching as a core component of professional development rather than treating it as an ad hoc practice. For instance, when coaching is integrated into organisational practices, it becomes more consistent and facilitates continuous instructional improvement (Saunders et al., 2021). Second, middle leaders and instructional coaches need to be developed in specific ways. But coaching demands specific skills such as giving feedback on practice, engaging in reflective conversations, and demonstrating instructional practices, and without these skills, coaching can be superficial and less effective (Duffy et al., 2023). Third, the schools need to be structurally supported in terms of time allocation, organisational alignment and role differentiation between coaching and evaluation. These conditions are necessary to support coaching processes and teacher autonomy, self-efficacy, and ongoing professional learning. These measures, in combination, allow middle leaders to be more effective in converting leadership into instructional innovation. Meanwhile, these findings indicate that instructional coaching should not be viewed as an add-on leadership practice, but rather as a strategic leadership practice that needs to be institutionalized.

Research Implications

The present study points to a number of avenues for future research. First, longitudinal studies are required to account for the dynamic nature of teacher IWB that is created through iterative cycles of coaching, learning and practice (Hosseini & Shirazi, 2021). Second, future studies need to use multilevel analytical approaches to explore the relationship between leadership, coaching processes, and individual teacher factors (Bao, 2024b). Hierarchical linear modelling and multilevel structural equation modelling are especially appropriate to test the proposed framework. Third, the development of standardised and validated measurement instruments for key constructs such as instructional coaching quality, teacher autonomy and IWB (Leijen et al., 2024) is needed. Importantly, this will increase the consistency of measurement, which will make it more comparable across studies and provide stronger empirical evidence. Fourth, a study on the interaction between instructional leadership and other teacher level variables in different school contexts would provide more definitive findings on their effects on teacher and student outcomes (Nguyen et al., 2020).

Limitations

This study has a number of limitations. First, it is a conceptual paper with no empirical data to support the proposed framework. The relationships are based on a systematic synthesis of the literature and empirical testing is needed to validate the relationships. Secondly, the study relies on the literature reviewed in terms of the scope and quality. The study is based on major databases (Scopus, WoS, Google Scholar), but the results may be affected by potential biases, such as publication bias and unequal representation of contexts. Conceptual differences in the definition of integration and different ways of measuring integration also create difficulties.

Thirdly, the applicability of the framework may differ in educational contexts. After this, organisational factors like school culture, policy contexts and digital readiness can impact the effectiveness of instructional coaching and leadership practices. Hence, care must be taken in transferring the results to different environments. In general, these constraints point to the need for further studies to validate and refine the proposed framework empirically. Future research should then explore how the framework can be applied in other educational settings to further generalise its use.

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