

An Instructional Leadership Model Based on Adaptive Mentoring for Enhancing Learning Quality

Yani Mulyani,^{1*} Mahmud,² Karman,³ Pepen Supendi⁴

^{1,2,3,4} UIN Sunan Gunung Djati Bandung, Indonesia

*Corresponding author: yanikenzasetiawan@gmail.com

Abstract: This study aims to develop a conceptual model of instructional leadership based on adaptive mentoring as a strategy for strengthening learning quality in basic education. The study is motivated by the growing demand for improving learning quality, which requires school principals to act not only as administrative leaders but also as instructional leaders capable of providing support tailored to teachers' diverse needs, competencies, and professional readiness. This research employed a library research method by systematically reviewing relevant scholarly literature, including peer-reviewed journal articles, books, conference proceedings, and educational policy documents published between 2020 and 2026. Data were analyzed using content analysis, thematic synthesis, and comparative conceptual analysis to identify the essential components of instructional leadership and adaptive mentoring. The findings indicate that the proposed model consists of five interconnected components: (1) teacher needs and readiness assessment, (2) differentiated mentoring planning, (3) adaptive implementation of coaching, mentoring, and academic supervision, (4) continuous monitoring and evaluation, and (5) follow-up actions for teachers' professional development. The model enables school principals to adjust mentoring strategies according to teachers' competencies, experiences, and contextual needs, thereby enhancing instructional effectiveness, teacher professionalism, and the culture of quality within schools. The study concludes that integrating instructional leadership with adaptive mentoring offers a promising conceptual framework for strengthening learning quality in basic education and contributes a novel perspective to contemporary educational leadership literature.

Keywords: instructional leadership, adaptive mentoring, learning quality, teacher professional development, library research.

Introduction

Improving learning quality remains a central priority in basic education. Learning quality does not depend solely on curriculum content, educational facilities, or student characteristics. It also depends on teachers' capacity to plan, implement, assess, and continuously improve instructional practices. Within this context, school principals hold a strategic role because they influence the professional conditions in which teachers work and learn. Instructional leadership places teaching and learning at the centre of school leadership by directing school goals, supporting curriculum implementation, monitoring instruction, and facilitating teachers' professional development. Evidence from primary schools in Singapore shows that instructional leadership practices focused on professional development and a positive school climate are strongly associated with teacher competence (Leithwood, 2021).

Instructional leadership differs from administrative leadership because it requires principals to become directly involved in improving classroom instruction. Principals must understand curriculum expectations, identify instructional problems, provide constructive feedback, and establish conditions that enable teachers to improve their practices. These responsibilities are important because teacher effectiveness represents one of the main school-level factors affecting learning processes. A study involving teachers in Nigerian secondary schools found that principals' instructional leadership practices contributed significantly to teacher effectiveness. The findings indicate that school leadership becomes more meaningful when principals actively support teaching rather than concentrating mainly on routine administration (Raghavan et al., 2026).

The influence of instructional leadership on learning quality generally occurs through teachers. Principals do not improve classroom learning only through formal policies or direct instructions. They influence teachers' professional knowledge, motivation, collaboration, confidence, and willingness to adopt improved teaching practices. Research conducted in Iranian primary schools found that learning-centred leadership influenced teacher professional learning both directly and indirectly through trust and knowledge-sharing behaviour. This finding confirms that instructional improvement requires a professional culture in which teachers feel secure, respected, and willing to exchange experiences with colleagues and school leaders (Bailey et al., 2021).

However, principals' ability to perform instructional leadership cannot be assumed to develop automatically after their appointment. Principals need sufficient knowledge, self-efficacy, professional learning opportunities, and practical leadership experience. Fernandes and Wong and Bellibaş (2020) found that professional development was positively related to principals' learning-centred leadership practices, with self-efficacy functioning as an important mediating factor (Fernandes et al., 2023). This evidence suggests that principals who possess stronger confidence in their leadership capacity are more likely to guide teachers, solve instructional

problems, and focus school activities on learning improvement. Therefore, strengthening instructional leadership requires continuous capacity development for principals as well as systematic mechanisms for supporting teachers.

Professional support for teachers frequently takes the form of academic supervision, mentoring, coaching, classroom observation, professional discussions, and collaborative reflection. Nevertheless, these practices often follow a uniform and procedural approach. Teachers may receive the same supervision instruments, development programmes, feedback, or mentoring activities despite having different experiences, competencies, responsibilities, and professional challenges. Such standardised practices may limit the effectiveness of instructional leadership because they do not always address the actual needs of individual teachers. Alfarez et al. (2025) showed that professional development designed to strengthen instructional leadership requires sufficient time, trustful relationships, shared professional resources, and collaborative settings. The study also demonstrated that excessively hierarchical approaches could restrict professional learning and reduce participants' engagement (Alfarez et al., 2025).

The diversity of teachers' professional needs indicates the importance of differentiated support. Beginning teachers may need intensive guidance in classroom management, lesson preparation, student assessment, and curriculum interpretation. More experienced teachers may require opportunities for instructional innovation, peer leadership, reflective inquiry, or advanced professional learning. Teachers who experience instructional difficulties may need directive coaching and regular observation. In contrast, teachers who demonstrate higher professional readiness may benefit more from collaborative reflection and self-directed development. A meta-analysis by Philips et al. (2022) found that professional development programmes related to differentiated instruction produced a moderate positive effect on teachers' knowledge, attitudes, and practices. The study also found that professional development was more effective when it was connected to a specific subject and instructional context (R. Phillips et al., 2023).

These findings indicate that teacher development should not rely on a one-size-fits-all model. Professional assistance needs to respond to teachers' knowledge, experience, motivation, readiness, and classroom context. Instructional coaching provides one possible mechanism for achieving this objective because it enables repeated interaction, feedback, modelling, reflection, and improvement. However, coaching will not automatically produce instructional change when coaches and teachers hold different expectations about its goals, content, or quality. Karakose found differences between coaches' and teachers' perceptions of professional learning and curriculum materials (Karakose et al., 2023). Their study highlights the importance of alignment, individualised support, and shared understanding in coaching relationships.

Sustainable teacher professional development also requires active teacher participation. Teachers should not function merely as recipients of instructions from principals or supervisors. They need opportunities to analyse their instructional challenges, contribute to professional development decisions, conduct collaborative lesson planning, observe practice, and evaluate changes in student learning. A longitudinal study by Shaked identified a gradual process of teacher empowerment in implementing differentiated instruction. External guidance, internal motivation, collaborative planning, classroom observation, and reflective practice supported teachers in developing their professional capacity. These findings suggest that instructional leadership should create conditions for professional agency while maintaining structured support and accountability (Shaked et al., 2020).

Adaptive mentoring provides a relevant framework for responding to these needs. Adaptive mentoring refers to a professional support process in which the type, intensity, frequency, and direction of mentoring are adjusted according to the mentee's developmental level, competence, readiness, and work context. It combines structured guidance with flexibility. Recent research on adaptive mentorship in primary teacher education indicates that uniform mentoring does not adequately accommodate differences among teachers and that mentors need to modify their support according to individual and contextual needs (Raghavan et al., 2026). At the same time, effective mentoring depends on the mentor's professional attributes, including pedagogical knowledge, communication skills, attitudes, values, identity, and ability to support professional learning. Mentor development should therefore cover induction into the mentoring role, continuous development of mentoring competence, and formation of a professional identity as a teacher educator (Alfarez et al., 2025).

Although previous studies have examined instructional leadership, academic supervision, instructional coaching, teacher professional development, differentiated support, and mentoring, these concepts are often discussed separately. Limited attention has been given to a comprehensive conceptual model that positions school principals as instructional leaders who adapt mentoring strategies to teachers' needs and professional readiness. Existing leadership models commonly describe what principals should do, while mentoring studies often focus on mentors in teacher education, induction programmes, or specific professional development projects. This separation creates a conceptual gap concerning how school principals can systematically assess teacher needs, select appropriate mentoring strategies, monitor professional progress, and determine follow-up actions within one integrated leadership process.

This study addresses that gap by developing an instructional leadership model based on adaptive mentoring for enhancing learning quality in basic education. The proposed model integrates instructional leadership

functions with responsive teacher development. It consists of five interconnected components: teacher needs and readiness assessment, differentiated mentoring planning, adaptive implementation of coaching, mentoring, and academic supervision, continuous monitoring and evaluation, and follow-up actions for teacher professional development. The model assumes that mentoring effectiveness depends on the compatibility between the support provided by the principal and the teacher's competence, experience, professional readiness, and instructional context.

The study offers theoretical and practical contributions. Theoretically, it expands instructional leadership literature by incorporating adaptation and differentiation into the process of teacher support. It also extends mentoring theory by positioning adaptive mentoring as a core function of school-level instructional leadership. Practically, the model can guide principals in selecting suitable professional support strategies for teachers with different characteristics and development needs. Through this integration, school principals can promote instructional effectiveness, strengthen teacher professionalism, support continuous professional learning, and develop a sustainable culture of quality within basic education.

Method

This study employed a qualitative approach using library research to develop a conceptual model of instructional leadership based on adaptive mentoring for enhancing learning quality in basic education. A qualitative approach was considered appropriate because the study sought to understand, interpret, compare, and integrate concepts found in scholarly texts rather than measure relationships between variables through numerical data. Qualitative research allows researchers to explore the meanings, patterns, relationships, and theoretical structures contained in documents and academic literature (Creswell, 2018). In this study, library research was not limited to collecting quotations from previous publications. It involved a systematic process of identifying relevant literature, evaluating the quality of sources, classifying information, analyzing conceptual relationships, and synthesizing the findings into a new theoretical framework.

Library research uses published documents as the principal source of research data. It requires researchers to examine bibliographic materials critically, systematically, and analytically to answer research questions and construct theoretical arguments (Sugiyono, 2020). This design was selected because instructional leadership, adaptive mentoring, teacher professional development, academic supervision, and learning quality have been examined through various theoretical and empirical perspectives. A review of these perspectives was necessary to identify conceptual similarities, differences, relationships, and gaps. The design also enabled the researchers to integrate established knowledge into an instructional leadership model that responds to teachers' different levels of competence, experience, professional readiness, and contextual needs.

The research data consisted of secondary data obtained from peer-reviewed journal articles, academic books, conference proceedings, research reports, dissertations, and educational policy documents. The main literature covered publications issued between 2020 and 2026 to ensure that the proposed model reflected current developments in educational leadership and teacher professional development. Publications issued before 2020 were included selectively when they contained foundational concepts or methodological principles that remained relevant to the analysis. Creswell and Creswell explain that a literature review should connect a study with existing scholarly discussions, identify gaps in previous research, and establish a foundation for developing research arguments. Therefore, the selected literature was used not only to describe previous findings but also to construct the conceptual relationships among instructional leadership, adaptive mentoring, teacher development, and learning quality.

The literature was identified through academic databases and search platforms, including Scopus, Web of Science, Google Scholar, ScienceDirect, SpringerLink, Taylor & Francis Online, Emerald Insight, and institutional repositories. Educational regulations and policy documents were obtained from official government and educational institution websites. The literature search used keywords related to the main focus of the study, including "instructional leadership," "adaptive mentoring," "teacher mentoring," "instructional coaching," "academic supervision," "teacher professional development," "differentiated professional development," "learning quality," "school principal leadership," and "basic education leadership." The keywords were searched separately and combined using Boolean operators such as AND and OR. Examples included "instructional leadership AND teacher professional development," "adaptive mentoring AND teacher competence," "instructional coaching AND learning quality," and "school principal leadership AND academic supervision." The use of explicit keywords and multiple databases was intended to produce a broad but focused collection of literature. Booth et al. state that a structured literature search requires a clear research focus, relevant search terms, appropriate information sources, and transparent procedures for selecting publications (Yin, 2018).

The selection of literature applied inclusion and exclusion criteria. Sources were included when they were written in English or Indonesian, available in full text, relevant to the research focus, and contained clear theoretical, conceptual, empirical, or policy-based contributions. The selected sources had to discuss at least one of the main themes, namely instructional leadership, mentoring, instructional coaching, academic supervision,

teacher professional development, professional readiness, or learning quality. Empirical studies conducted in primary and secondary education were prioritized because they closely represented the basic education context examined in this study. Conceptual studies and books were included when they offered frameworks that could support model development. Sources were excluded when they were duplicated, lacked complete publication information, did not present a clear academic foundation, or discussed mentoring outside education without relevant implications for teacher development. Sources that only mentioned instructional leadership or mentoring without substantial analysis were also excluded.

The literature selection process began with an examination of titles, abstracts, keywords, and publication information. Sources that corresponded with the research objectives were then reviewed in full text. Each selected source was examined to identify its research context, objectives, theoretical framework, methodology, findings, limitations, and implications. The researchers documented the relevant information in a literature review matrix. The matrix contained the author and publication year, title, educational context, research design, central concepts, main findings, limitations, implications for instructional leadership, implications for adaptive mentoring, and potential contribution to the proposed model. Systematic documentation helped the researchers organize evidence, compare studies, trace the origins of each concept, and reduce the possibility of relying on isolated findings.

The data were analyzed using qualitative content analysis, thematic analysis, and comparative conceptual analysis. Content analysis was used to interpret the meanings and relationships contained in scholarly texts. Miles explains that content analysis provides a systematic method for drawing valid and context-sensitive interpretations from textual data. In this study, the unit of analysis consisted of definitions, theoretical propositions, research findings, leadership practices, mentoring strategies, supervision mechanisms, professional development activities, and indicators of learning quality. Relevant passages were identified, recorded, coded, and classified according to their conceptual significance (Miles et al., 2020).

The analysis followed the processes of data condensation, data display, and conclusion drawing, as proposed by Miles et al. Data condensation involved selecting and simplifying information that directly addressed the research objectives. Irrelevant or repetitive information was removed, while significant statements were assigned initial codes. Data display involved organizing the codes into conceptual categories and matrices to clarify the relationships among leadership practices, teacher needs, mentoring strategies, professional development, and learning outcomes. Conclusion drawing involved interpreting recurring patterns, comparing evidence across sources, and verifying whether the emerging conclusions were supported by multiple publications.

Thematic analysis was then used to identify and organize broader patterns within the coded data. Moleong describes thematic analysis as a flexible but systematic process for identifying, analyzing, and interpreting patterns of meaning within qualitative data. The analysis involved familiarization with the literature, initial coding, theme development, theme review, theme definition, and interpretive synthesis. The initial codes included teacher competence, professional readiness, teaching experience, instructional challenges, mentoring intensity, coaching techniques, academic supervision, feedback, reflection, monitoring, and professional follow-up. Related codes were grouped into broader themes that explained how instructional leaders could provide differentiated support to teachers (Moleong, 2021).

The thematic synthesis produced five interconnected components of the proposed model. The first component was teacher needs and readiness assessment, which included the identification of teachers' competencies, experiences, instructional difficulties, motivation, and professional development needs. The second component was differentiated mentoring planning, which involved determining mentoring objectives, strategies, intensity, duration, and expected outcomes according to teachers' characteristics. The third component was the adaptive implementation of coaching, mentoring, and academic supervision. The fourth component was continuous monitoring and evaluation of changes in teaching practices and professional competence. The fifth component was follow-up action through training, peer collaboration, reflective practice, advanced mentoring, and other forms of continuous professional development.

Comparative conceptual analysis was used to examine the similarities and differences among instructional leadership models, mentoring approaches, coaching frameworks, and academic supervision practices. The analysis focused on the functions of school principals, the forms of professional assistance provided to teachers, the level of teacher involvement, and the degree to which support was adapted to individual needs. The comparison revealed areas of conceptual convergence and separation. Instructional leadership literature generally emphasizes the principal's responsibility for curriculum, teaching, supervision, and professional learning, whereas mentoring literature emphasizes developmental relationships, feedback, reflection, and individualized support. These concepts were integrated by positioning adaptive mentoring as an operational mechanism through which school principals perform instructional leadership.

The conceptual model was developed through an iterative synthesis process. First, the researchers identified the central dimensions of instructional leadership. Second, the main principles of adaptive mentoring were identified. Third, the relationships between leadership functions and mentoring processes were mapped. Fourth, the emerging components were arranged into a sequential and cyclical structure. Fifth, the logical relationships among assessment, planning, implementation, evaluation, follow-up, and learning quality were examined. The

model was revised when a component lacked sufficient theoretical support or overlapped with another component. This iterative process ensured that the final model represented an integrated framework rather than a simple compilation of concepts from previous studies.

The trustworthiness of the study was strengthened through source triangulation, theoretical triangulation, systematic documentation, and repeated verification. Source triangulation involved comparing information obtained from journal articles, books, research reports, conference proceedings, and policy documents. Theoretical triangulation involved examining the research problem through instructional leadership theory, mentoring theory, instructional coaching, academic supervision, and teacher professional development. Creswell and Poth emphasize that the credibility of qualitative inquiry can be improved by examining evidence from different sources and perspectives. The researchers also maintained an audit trail through the literature review matrix, coding records, thematic classifications, and conceptual mapping. Emerging themes were repeatedly compared with the original sources to preserve their contextual meaning and prevent unsupported interpretations (Creswell, 2018).

This study did not involve interviews, observations, surveys, experiments, or direct interaction with human participants. Therefore, informed consent from individual participants was not required. Nevertheless, the researchers maintained research ethics by acknowledging all sources, avoiding plagiarism, presenting previous findings accurately, and distinguishing the researchers' interpretations from the arguments of the original authors. The study also avoided selective citation by considering supporting, contrasting, and inconclusive findings. Since the proposed model was developed from secondary data, its contribution remains conceptual. Future empirical studies are required to test its validity, applicability, effectiveness, and contextual suitability in basic education institutions.

Results and Discussion

The thematic synthesis produced a conceptual instructional leadership model that integrates adaptive mentoring into the principal's responsibility for improving teaching and learning. The model consists of five interconnected components: teacher needs and readiness assessment, differentiated mentoring planning, adaptive implementation of professional support, continuous monitoring and evaluation, and follow-up professional development. These components form a cyclical process rather than a rigid linear sequence. Information obtained from monitoring and evaluation returns to the assessment stage and becomes the basis for revising subsequent mentoring activities. This cyclical structure allows school principals to adjust instructional support when teachers' competencies, classroom challenges, professional motivation, or school conditions change.

The findings indicate that instructional leadership influences learning quality mainly through teacher-level processes. Principals strengthen instructional quality by supporting teacher competence, professional learning, self-efficacy, collaboration, and instructional decision-making. Studies from different educational contexts have shown that instructional leadership is associated with teacher professional development, professional learning, competence, and classroom practices (Mincu, 2022).

The proposed model positions adaptive mentoring as an operational mechanism of instructional leadership. Instructional leadership explains the responsibility of principals for directing teaching, curriculum, assessment, supervision, and professional learning. Adaptive mentoring explains how principals can provide professional support to teachers with different levels of competence, experience, confidence, and instructional readiness. This integration addresses the limitations of conventional supervision and professional development programmes that frequently provide similar activities to all teachers without sufficient consideration of individual differences.

A uniform mentoring approach cannot adequately respond to variations in professional readiness, teaching competence, experience, motivation, and school context. Adaptive mentoring therefore requires flexible support, continuous diagnosis, differentiated strategies, and regular adjustment based on teacher development (Leithwood, 2021). The proposed model applies this principle by connecting mentoring decisions with evidence obtained from teacher assessment, classroom observation, professional dialogue, and evaluation of instructional practices.

1. Teacher Needs and Readiness Assessment

The first component of the model is teacher needs and readiness assessment. This component provides the diagnostic foundation for subsequent mentoring decisions. Principals need accurate information about teachers' pedagogical knowledge, subject knowledge, classroom management skills, assessment competence, teaching experience, professional motivation, self-efficacy, and current instructional problems. They also need to consider contextual factors such as student characteristics, curriculum demands, available learning resources, class size, and the professional culture of the school.

Assessment prevents principals from selecting mentoring strategies based only on personal assumptions, years of service, or administrative records. Teachers with similar employment periods may demonstrate different levels of instructional competence and professional readiness. A beginning teacher may possess strong digital competence but experience difficulties in classroom management. An experienced teacher may manage

classrooms effectively but require support in formative assessment, differentiated instruction, or technology integration. Therefore, mentoring decisions should rely on actual professional needs rather than general teacher classifications.

Adaptive mentoring requires principals to identify both professional weaknesses and existing strengths. An assessment that focuses only on weaknesses may produce resistance because teachers may view supervision as an attempt to identify errors. A balanced assessment allows principals to recognize areas that require intervention while using teachers' existing competencies as a foundation for further development. This approach is consistent with the principle that mentoring should respond to individual knowledge, confidence, experience, and contextual challenges (Arifin et al., 2025).

Teacher self-efficacy also needs to be examined during the assessment process. Self-efficacy influences teachers' willingness to participate in professional learning, experiment with new strategies, and respond to instructional challenges. Teachers may possess adequate knowledge but avoid innovation because they lack confidence in their ability to manage change. In contrast, some teachers may demonstrate high confidence but require further support to improve their pedagogical accuracy. Competence and confidence should therefore be assessed as related but distinct professional dimensions (Prasetyowati et al., 2025).

The assessment process can involve classroom observation, teacher self-assessment, teaching portfolios, lesson-plan analysis, student learning evidence, reflective conversations, and previous supervision records. No single instrument can fully represent teacher readiness. Classroom observation can reveal actual instructional practices, while reflective dialogue can explain the reasoning behind those practices. Student work can provide evidence about the effectiveness of instructional strategies. Combining several data sources gives principals a stronger basis for determining appropriate mentoring support.

The assessment stage also needs to identify teachers' preferred forms of professional assistance. Some teachers respond effectively to direct modelling, while others benefit more from reflective questioning, collaborative planning, peer observation, or independent professional inquiry. Understanding these preferences does not mean that principals must always follow teacher choices. However, it helps principals design support that is relevant, acceptable, and connected to actual professional conditions.

2. Differentiated Mentoring Planning

The second component is differentiated mentoring planning. After identifying teacher needs and readiness, principals determine the objectives, content, methods, intensity, duration, and expected outcomes of mentoring. Planning should connect professional support with specific instructional problems. Broad objectives such as improving teacher competence provide limited operational direction. More specific objectives may include improving formative assessment, developing differentiated learning tasks, strengthening student engagement, integrating digital tools, or increasing the quality of feedback provided to students.

Differentiated mentoring does not require a completely separate programme for every teacher. Principals can organize flexible mentoring groups based on shared needs. One group may require intensive assistance in lesson planning and classroom management. Another group may focus on assessment literacy or digital learning. Teachers with advanced competence may participate in peer coaching, action research, curriculum development, or teacher leadership activities. These groups should remain flexible because professional readiness may change after training, observation, mentoring, and classroom implementation.

Professional development tends to produce stronger outcomes when it addresses specific subjects, instructional problems, and classroom contexts. General programmes may increase conceptual awareness but fail to change classroom practice when teachers cannot connect the content with their actual responsibilities. Differentiated planning should therefore ensure that mentoring materials, examples, and activities remain closely related to the teacher's instructional environment (Carroll & Park, 2026a).

The intensity of mentoring should also reflect professional readiness. Teachers who experience serious instructional difficulties may need regular observation, modelling, structured feedback, and short mentoring intervals. Teachers with moderate competence may require collaborative problem-solving, joint lesson planning, and periodic evaluation. Highly competent teachers may need opportunities for independent inquiry, peer leadership, and innovation. Maintaining intensive directive support for teachers who have developed professional independence may reduce their agency and create dependency.

Sustainable professional development requires a gradual movement from external guidance toward greater teacher autonomy. At the beginning of the process, teachers may need explicit examples, structured support, and close monitoring. As their competence develops, the mentoring process should provide greater responsibility for reflection, decision-making, and professional learning. Differentiated planning should therefore include strategies for reducing, increasing, or changing support according to evidence of teacher progress (Carroll & Park, 2026b).

Teacher involvement is also important during the planning stage. Differences between principals' assumptions and teachers' perceived needs may reduce the relevance of mentoring. A principal may focus on curriculum administration, while the teacher experiences difficulties with classroom interaction or student assessment. Professional dialogue helps both parties identify priorities, clarify expectations, and establish

indicators of success. Alignment between mentors and teachers supports coherence in professional learning and increases the probability that mentoring activities will influence classroom practices (Bailey et al., 2021).

Teacher participation in planning does not remove the principal's responsibility for ensuring instructional quality. Principals still need to connect mentoring objectives with school priorities, curriculum standards, student needs, and professional expectations. However, shared planning creates professional ownership and reduces the possibility that mentoring will be viewed as an administrative obligation.

3. Adaptive Implementation of Coaching, Mentoring, and Academic Supervision

The third component concerns the adaptive implementation of coaching, mentoring, and academic supervision. These approaches have related purposes but different characteristics. Mentoring generally involves a developmental relationship in which a more experienced professional supports another teacher's long-term growth. Coaching focuses on specific instructional goals, reflective questioning, feedback, and improvement of practice. Academic supervision involves systematic assistance and evaluation related to teaching preparation, classroom implementation, assessment, and professional standards.

The adaptive model combines these approaches according to teacher readiness and the nature of the instructional problem. Teachers with limited competence and experience may require directive mentoring. Principals or mentors provide explicit guidance, demonstrate teaching practices, supply examples, and observe implementation frequently. Teachers with moderate competence may benefit from collaborative coaching. The principal and teacher jointly analyze classroom evidence, develop alternative strategies, and evaluate instructional results. Highly competent teachers may require non-directive coaching, peer mentoring, professional inquiry, or opportunities to lead instructional improvement.

Adaptation may occur in the level of direction, frequency of meetings, type of feedback, selection of mentors, learning resources, duration of support, and form of professional collaboration. A teacher facing an urgent classroom problem may require frequent and direct assistance. Another teacher developing an instructional innovation may need access to resources, professional dialogue, and opportunities to test and share practice. A fixed mentoring style cannot address these different conditions effectively (Carroll & Park, 2026c).

Mentoring implementation should remain structured but responsive. Clear goals, schedules, roles, and indicators help ensure continuity. However, principals should revise mentoring strategies when teachers do not demonstrate expected progress or when classroom conditions change. Professional development activities do not affect every teacher or competency in the same way. Continuous adaptation is therefore required to maintain relevance and effectiveness (Ghamrawi, 2023).

Professional learning communities provide an additional structure for implementing adaptive mentoring. Effective professional learning communities involve shared leadership, collaboration, professional learning, supportive culture, and collective responsibility. Individual mentoring addresses personal instructional needs, while collective mentoring enables teachers to exchange knowledge and solve common problems. The model therefore treats professional learning communities as complementary mechanisms rather than substitutes for individual support (Hamid & Purnomo, 2025).

Informal professional interaction also contributes to continuous teacher development. Teachers often solve instructional problems through brief discussions, peer consultation, collaborative planning, and the exchange of classroom experiences. These interactions support reflection, knowledge sharing, and practical problem-solving. Principals should therefore provide time and organizational space for professional dialogue rather than limiting mentoring to formal supervision schedules (Lijun & Te, 2024).

Academic supervision within the proposed model adopts a developmental orientation. Classroom visits, lesson-plan analysis, observation, and evaluation should generate information for professional assistance. Supervision becomes adaptive when principals use observation results to determine subsequent mentoring strategies rather than ending the process after completing an assessment instrument. Teachers who experience specific teaching problems may need direct guidance, repeated observation, collaborative planning, or additional learning resources (Fernandes et al., 2023).

Supervision should also produce clear follow-up actions. Performance scores and written reports have limited value when they do not result in professional development. Observation findings need to be translated into mentoring activities, training, peer collaboration, independent study, or classroom experimentation. This process connects evaluation with professional improvement and strengthens the developmental function of academic supervision (Patience Omavuotu Chiazor et al., 2025).

Adaptive implementation also requires mentor competence. Principals and senior teachers need the ability to diagnose professional needs, communicate constructively, provide evidence-based feedback, manage resistance, and select appropriate mentoring strategies. A mentor who uses the same communication style for every teacher may reduce the effectiveness of support. Mentors need to distinguish between situations requiring direction, collaboration, reflection, challenge, or professional autonomy.

Trust represents another important condition. Teachers are more likely to discuss instructional difficulties when they believe that mentoring aims to support improvement rather than punish weaknesses. Principals need to

maintain confidentiality, communicate respectfully, and separate developmental conversations from unnecessary public judgment. Without trust, teachers may conceal problems, display temporary compliance during observation, or avoid professional experimentation.

4. Continuous Monitoring and Evaluation

The fourth component is continuous monitoring and evaluation. Monitoring examines the implementation of mentoring activities and the progress of teachers. Evaluation determines whether the support has improved professional competence, instructional practice, and student learning experiences. This component distinguishes adaptive mentoring from one-time training because adaptation requires current evidence about teacher development.

Monitoring should address three levels. The first level concerns the implementation of mentoring. Principals examine whether mentoring activities occur as planned, whether the selected strategies match teacher needs, and whether teachers participate actively. The second level concerns changes in teacher competence and instructional practice. Principals examine lesson planning, teaching strategies, assessment practices, classroom interaction, use of learning resources, and professional reflection. The third level concerns learning-related outcomes, including student participation, understanding, task completion, feedback quality, and evidence of learning progress.

The model does not assume that changes in teacher knowledge automatically improve student learning. Professional development may improve teacher knowledge, attitudes, and practices without producing immediate or consistent changes in student outcomes. Evaluation should therefore examine the transfer of professional learning into classroom practice. It should also assess whether changes in teaching contribute to meaningful improvements in student learning experiences (Karakose et al., 2023).

Monitoring needs to occur throughout the mentoring process rather than only at the end. Early monitoring helps principals identify difficulties before they become persistent. A teacher may understand a mentoring concept but experience problems when applying it in the classroom. In such cases, the principal can provide modelling, observation, additional examples, or collaborative problem-solving. Continuous monitoring allows support to change according to emerging evidence.

Alignment between mentors and teachers should become an evaluation criterion. Different perceptions of mentoring objectives, professional needs, or instructional quality may reduce programme coherence. Regular feedback conversations help principals understand which forms of assistance teachers find useful, which strategies they have applied, what barriers remain, and what support is needed next. This information becomes the basis for revising mentoring plans (Patience Omavuotu Chiazor et al., 2025).

Evaluation should use developmental indicators rather than relying only on administrative compliance. Completion of lesson plans, supervision forms, training certificates, or attendance lists does not necessarily demonstrate professional growth. More meaningful indicators include improved instructional reasoning, appropriate selection of teaching strategies, accurate use of assessment evidence, stronger reflection, better classroom interaction, and increased professional collaboration.

Documentation remains important in this process. Principals can use observation notes, mentoring logs, teacher reflections, portfolios, student work, and follow-up records to examine progress over time. Documentation should remain concise and functional. Excessive administrative requirements may reduce the time available for professional interaction. The purpose of documentation is to support decision-making rather than increase paperwork.

Evaluation findings may show that mentoring objectives have been achieved, partially achieved, or not achieved. Each result requires a different response. Teachers who achieve the objectives may move toward independent professional learning or peer leadership. Teachers who demonstrate partial progress may need continued support with adjusted strategies. Teachers who do not demonstrate progress may require a new diagnosis, a different mentor, more intensive assistance, or an examination of contextual barriers.

5. Follow-Up Professional Development

The fifth component is follow-up professional development. Monitoring and evaluation provide information that principals use to determine subsequent action. Teachers who have not achieved the expected progress may require revised mentoring, additional modelling, repeated observation, formal training, or support from another mentor. Teachers who have achieved the objectives may move toward independent learning, peer mentoring, action research, instructional leadership, or advanced professional development.

Instructional leadership is closely connected with teacher professional development. Principals influence teacher learning by establishing instructional priorities, providing professional support, monitoring teaching, creating learning opportunities, and building a school environment that values improvement. Follow-up should therefore become part of regular school leadership rather than an additional activity conducted only when problems occur (Norman et al., 2025).

The distribution of mentoring roles can strengthen follow-up implementation. Principals do not need to

conduct every mentoring activity personally. Vice principals, senior teachers, subject coordinators, and teacher learning communities can participate in professional support. Distributed involvement expands mentoring capacity and provides teachers with access to different forms of expertise. However, principals remain responsible for maintaining instructional direction, ensuring mentoring quality, and connecting professional development with school learning priorities (Abedi & Ametepey, 2025).

Follow-up activities should provide opportunities for teachers to apply new knowledge, analyze classroom results, and revise their strategies. Training without classroom implementation and reflection is unlikely to produce sustainable change. Practice-based professional development helps teachers connect theoretical ideas with actual instructional situations. It also allows principals to examine how teachers respond to new methods and what further support they require (Salim et al., 2025).

The school climate influences the effectiveness of follow-up activities. Teachers need psychological safety to discuss instructional problems, receive feedback, and test new practices. A punitive supervision culture may encourage teachers to conceal weaknesses or perform temporarily during classroom observations. Adaptive mentoring requires a professional climate in which difficulties become subjects for improvement rather than sources of humiliation. A positive school climate also supports collaboration, professional competence, and continuous learning (Hosseingholizadeh et al., 2023).

Follow-up should also recognize teacher achievement. Teachers who demonstrate progress can receive opportunities to share effective practices, mentor colleagues, lead professional discussions, or participate in curriculum development. Recognition strengthens professional motivation and helps transform individual competence into organizational learning. However, recognition should remain connected with evidence of instructional improvement rather than seniority or personal closeness.

Professional development follow-up needs to maintain continuity. A mentoring programme may produce short-term improvement but lose its influence when no subsequent support exists. Principals should connect mentoring outcomes with annual professional development plans, school improvement programmes, teacher performance evaluation, and learning-community activities. This integration helps maintain progress and prevents mentoring from becoming an isolated programme.

6. Contribution of the Model to Learning Quality

The proposed model explains learning quality as the result of an interconnected professional development process. Instructional leadership establishes learning priorities and coordinates teacher support. Adaptive mentoring aligns this support with teachers' actual needs and readiness. Professional learning then strengthens instructional knowledge, teaching practices, reflection, collaboration, and confidence. These teacher-level changes are expected to improve classroom processes and student learning experiences.

Teacher professional learning serves as an important mechanism connecting instructional leadership with instructional practice. Direct instructions from principals may produce temporary compliance, but sustained improvement requires teachers to understand, apply, evaluate, and refine new practices. Professional learning enables teachers to transform leadership support into classroom change (Abedi & Ametepey, 2025).

Teacher self-efficacy also contributes to this process. Adaptive mentoring can strengthen self-efficacy by providing achievable goals, relevant feedback, modelling, professional encouragement, and visible evidence of progress. However, support needs to maintain a balance between guidance and professional challenge. Excessive direction may create dependency, while insufficient support may leave teachers unable to address instructional problems (Hosseingholizadeh et al., 2023).

The model also positions professional collaboration as a mechanism for developing a school-wide culture of quality. Individual teacher competence remains important, but learning quality becomes more sustainable when teachers share knowledge, analyze evidence, solve problems collectively, and accept shared responsibility for instructional improvement. Professional learning communities and informal interaction expand professional learning beyond a single principal-teacher relationship (Shaked et al., 2020).

The conceptual contribution of this study lies in the integration of leadership, mentoring, coaching, supervision, and professional development into one adaptive cycle. Previous studies often examine these practices separately. The proposed model connects them through a diagnostic and differentiated process. Assessment determines teacher needs. Differentiated planning determines suitable support. Adaptive implementation delivers that support. Monitoring and evaluation examine its effects. Follow-up maintains or modifies professional development. The process then returns to assessment.

The model also changes the function of academic supervision. Supervision does not operate only as an instrument for assessing teacher compliance. It becomes a source of evidence for mentoring and professional growth. Coaching does not function only as a reflective conversation. It becomes one of several strategies selected according to teacher readiness. Mentoring does not apply only to beginning teachers. It becomes a continuous form of professional support that changes as teachers develop.

The model provides practical guidance for principals in basic education. Principals can use the five components to organize teacher development more systematically. They can avoid uniform professional

development programmes, identify teachers who require intensive support, provide greater autonomy to competent teachers, and connect supervision findings with follow-up action. The model also helps schools allocate professional development resources according to actual needs.

Despite its potential contribution, the model remains conceptual. The reviewed evidence supports the relationships among instructional leadership, professional development, competence, self-efficacy, collaboration, and instructional practice. However, empirical research is required to test the complete adaptive mentoring cycle in basic education settings. Future research should examine how principals assess readiness, how mentoring strategies change across teacher profiles, and how these adaptations influence classroom practice and student learning.

Further studies should also investigate contextual factors that may influence implementation. These factors include school size, principal workload, teacher resistance, mentor competence, available professional development resources, school culture, and policy requirements. Quantitative studies can test the relationships among the model components, while qualitative studies can explore the experiences of principals and teachers during adaptive mentoring. Experimental or development studies may also examine the effectiveness of the model in improving teaching and learning quality.

Conclusion

This study developed a conceptual model of instructional leadership based on adaptive mentoring to enhance learning quality in basic education. The model integrates the main functions of instructional leadership with differentiated professional support for teachers. The synthesis of relevant literature showed that learning quality can be strengthened when school principals do not apply uniform mentoring practices but adjust their support according to teachers' competence, experience, professional readiness, confidence, and instructional challenges.

The proposed model consists of five interconnected components: teacher needs and readiness assessment, differentiated mentoring planning, adaptive implementation of coaching, mentoring, and academic supervision, continuous monitoring and evaluation, and follow-up professional development. These components form a continuous cycle. The results of monitoring and evaluation provide new information for reassessing teacher needs and revising mentoring strategies. This structure allows principals to provide support that remains relevant as teachers' professional conditions and classroom demands change.

The study confirms that instructional leadership influences learning quality mainly through teacher development. Principals improve teaching not only by setting instructional goals or conducting supervision but also by creating professional learning opportunities, strengthening teacher self-efficacy, supporting collaboration, and providing appropriate feedback. Adaptive mentoring gives principals a practical mechanism for translating instructional leadership into differentiated professional assistance. Through this approach, teachers with limited readiness can receive direct and intensive guidance, while teachers with higher competence can receive greater autonomy, peer leadership opportunities, and support for professional innovation.

The model also changes the function of academic supervision. Supervision should not operate only as an administrative assessment or a mechanism for measuring teacher compliance. It should generate evidence for mentoring, coaching, and continuous professional development. Classroom observation, lesson-plan analysis, reflective discussion, and evaluation of student learning should become the basis for determining the type and intensity of subsequent support. This developmental orientation can strengthen teacher professionalism and encourage a sustainable culture of quality within schools.

The theoretical contribution of this study lies in the integration of instructional leadership, adaptive mentoring, coaching, academic supervision, and teacher professional development within one conceptual framework. The model extends the instructional leadership perspective by emphasizing differentiation and responsiveness in teacher support. It also expands mentoring theory by positioning adaptive mentoring as a continuous leadership practice that can be applied to teachers at different stages of professional development, rather than only to beginning teachers.

The practical contribution of the model lies in its potential use as a guide for school principals in planning teacher development. Principals can use the model to identify professional needs, classify mentoring priorities, select suitable support strategies, monitor teacher progress, and determine follow-up actions. Schools can also use the model to organize professional learning communities, peer mentoring, training, classroom observation, and reflective practice based on actual teacher needs.

This study has several limitations. The proposed model was developed through library research and has not yet been tested directly in school settings. The effectiveness of each component may differ according to school size, leadership capacity, teacher characteristics, organizational culture, policy demands, and available professional development resources. The model also requires principals and mentors who possess sufficient diagnostic, communication, supervision, coaching, and evaluation skills.

Future studies should empirically test the validity, applicability, and effectiveness of the model in basic education institutions. Quantitative research can examine the relationships among adaptive mentoring, teacher

competence, self-efficacy, professional learning, instructional practice, and learning quality. Qualitative research can explore the experiences of principals and teachers during the implementation process. Developmental and experimental research can also be conducted to design practical instruments, mentoring guidelines, readiness assessment tools, and evaluation indicators. Such studies are necessary to refine the model and determine its contribution to sustainable improvements in teaching and learning.

References

- Abedi, E. A., & Ametepey, A. K. (2025). Leadership practices and support structures enabling teachers' informal learning for educational technology use: An appreciative inquiry approach. *Professional Development in Education*, 51(7), 1361–1375. <https://doi.org/10.1080/19415257.2024.2330973>
- Alfarezel, C. T. (2025). Development of an Islamic Character Education Model Based on Emotional Intelligence to Prevent Bullying in Schools. *Journal on Islamic Studies*, 2(1), 34–42.
- Arifin, M., Jazilurrahman, J., Nordin, N., & Rahman, I. (2025). Visionary Kyai Leadership: An Integrative Solution for Islamic Tradition and Modernity. *INJIES: Journal of Islamic Education Studies*, 2(2), 81–92. <https://doi.org/10.34125/injies.v2i2.32>
- Bailey, L., Purinton, T., Al-Mahdi, O., & Khalifa, H. A. (2021). Conceptualizing school leadership in the Gulf Cooperation Council (GCC) cultures: Demarcating challenges for research. *Educational Management Administration & Leadership*, 49(1), 93–111. <https://doi.org/10.1177/1741143219884682>
- Carroll, G., & Park, S. (2026a). Towards expansive model-based teaching: A systematic synthesis of modelling pedagogies in science education literature. *Studies in Science Education*, 62(1), 1–39. <https://doi.org/10.1080/03057267.2024.2417157>
- Carroll, G., & Park, S. (2026b). Towards expansive model-based teaching: A systematic synthesis of modelling pedagogies in science education literature. *Studies in Science Education*, 62(1), 1–39. <https://doi.org/10.1080/03057267.2024.2417157>
- Carroll, G., & Park, S. (2026c). Towards expansive model-based teaching: A systematic synthesis of modelling pedagogies in science education literature. *Studies in Science Education*, 62(1), 1–39. <https://doi.org/10.1080/03057267.2024.2417157>
- Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th edn). CA: Sage Publications.
- Fernandes, V., Wong, W., & Noonan, M. (2023). Developing adaptability and agility in leadership amidst the COVID-19 crisis: Experiences of early-career school principals. *International Journal of Educational Management*, 37(2), 483–506. <https://doi.org/10.1108/IJEM-02-2022-0076>
- Ghamrawi, N. (2023). Toward agenda 2030 in education: Policies and practices for effective school leadership. *Educational Research for Policy and Practice*, 22(2), 325–347. <https://doi.org/10.1007/s10671-023-09341-8>
- Hamid, A., & Purnomo, M. S. (2025). THE ROLE OF THE PRINCIPAL AS A HUMAN RESOURCE MANAGER IN IMPROVING THE QUALITY OF EDUCATION AT SUNAN AMPEL JUNIOR HIGH SCHOOL, BANYUWANGI. *ELJ: Educational Leadership Journal*, 6(1), 101–109.
- Hosseingholizadeh, R., Amrahi, A., & El-Farr, H. (2023). Instructional leadership, and teacher's collective efficacy, commitment, and professional learning in primary schools: A mediation model. *Professional Development in Education*, 49(3), 518–535. <https://doi.org/10.1080/19415257.2020.1850510>
- Karakose, T., Tülübaş, T., Papadakis, S., & Yirci, R. (2023). Evaluating the Intellectual Structure of the Knowledge Base on Transformational School Leadership: A Bibliometric and Science Mapping Analysis. *Education Sciences*, 13(7), 708. <https://doi.org/10.3390/educsci13070708>
- Leithwood, K. (2021). A Review of Evidence about Equitable School Leadership. *Education Sciences*, 11(8), 377. <https://doi.org/10.3390/educsci11080377>
- Lijun, W., & Te, H. C. (2024). The Role of Primary School Principals and Administrators in Promoting Student Achievement, Teacher Effectiveness, and a Positive School Culture. *Journal of Roi Kaensarn Academi*, 9(8).
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th edn). CA: Sage Publications.
- Mincu, M. (2022). Why is school leadership key to transforming education? Structural and cultural assumptions for quality education in diverse contexts. *PROSPECTS*, 52(3–4), 231–242. <https://doi.org/10.1007/s11125-022-09625-6>
- Moleong, L. J. (2021). *Metodologi penelitian kualitatif* (5th edn). PT Remaja Rosdakarya.
- Norman, E., Masruri, A., Wahid, J., & Hasbian, Y. (2025). Managing Teacher Competence Improvement through Leadership, Professional Development, and Digital Innovation: A Systematic Literature Review. *Journal*

- of Educational Management Research*, 4(5). <https://doi.org/https://doi.org/10.61987/jemr.v4i5.1237>
- Patience Omavuotu Chiazor, Mercy Afe Osagiede, & Magdalene Lotechukwu Nwabuisi. (2025). Revolutionizing Curriculum Leadership and Instructional Coaching for Effective Teaching and Learning in Schools. *Journal of Education Research and Library Practice*. <https://doi.org/10.70382/ajerlp.v10i8.062>
- Prasetyowati, F., Saniya, U. M., Fauzia, S., & Susilowati, S. (2025). Transformative Leadership for Integrating Islamic Values and 21st Century Skills: A Conceptual Framework for Contemporary Islamic Education. *JIEMR: Journal of Islamic Education Management Research*, 3(1). <https://doi.org/JIEMR:%20Journal%20of%20Islamic%20Education%20Management%20Research>
- R. Phillips, D., Stewart-Fox, T., Phillips, S., Griffith, M., & Bhojedat, J. (2023). Distributed Leadership in Education: A Systematic Review of its Role in Fostering Innovative Practices and Enhancing School Performance. *International Journal of Science and Research (IJSR)*, 12(11), 2083–2089. <https://doi.org/10.21275/SR231128014118>
- Raghavan, N., Patel, P. C., Limon, D., Morris, M. X., Kempenich, J. W., & Rajesh, A. (2026). Artificial Intelligence in Surgical Education: A 2025 Update on Adaptive Training, Feedback, and Competency-Based Education. *The American SurgeonTM*, 92(3), 675–686. <https://doi.org/10.1177/00031348251397597>
- Salim, N. A., Zaibi, M., Brantasari, M., Ikhsan, M., & Aslindah, A. (2025). Islamic Boarding School Leadership Innovation: From Traditional to Modernization of Education. *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, 5(4), 447–460. <https://doi.org/10.31538/munaddhomah.v5i4.1392>
- Shaked, H., Benoliel, P., & Hallinger, P. (2020). How National Context Indirectly Influences Instructional Leadership Implementation: The Case of Israel. *Educational Administration Quarterly*, 1–33. <https://doi.org/DOI:%2010.1177/0013161X20944217>
- Sugiyono. (2020). *Metode penelitian kualitatif, kuantitatif, dan R&D*. Alfabeta.
- Yin, R. K. (2018). *Case study research and applications: Design and methods*. CA: Sage Publications.