

**INTERNATIONAL JOURNAL OF
EDUCATION, PSYCHOLOGY
AND COUNSELLING
(IJEPC)**

www.ijepc.com



**THE ROLE OF INSTRUCTIONAL LEADERSHIP, TEACHER
EFFICACY, AND COLLABORATIVE PRACTICES IN SHAPING
TEACHER DEVELOPMENT AND WELL-BEING: A
SYSTEMATIC REVIEW OF CURRENT EDUCATIONAL
RESEARCH**

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Article Info:

Article history:

Received date: 25.09.2025

Revised date: 20.10.2025

Accepted date: 24.11.2025

Published date: 07.12.2025

To cite this document:

Azmi, N., & Musa, K. (2025). The Role of Instructional Leadership, Teacher Efficacy, And Collaborative Practices in Shaping Teacher Development and Well-Being: A Systematic Review of Current Educational Research. *International Journal of Education, Psychology and Counseling*, 10 (61), 657-679.

DOI: 10.35631/IJEPC.1061046

Abstract:

This work is a Systematic Literature Review (SLR) about the interrelated roles of instructional leadership, teacher efficacy and collaborative practices in supporting teacher development and well-being. This study seeks to bring together the separate spheres of research on the relationship between leadership, collaboration, and teacher outcomes, acknowledging the critical importance of effective leadership and collaboration in education. Applying the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, a holistic search was performed via Scopus and ERIC databases, which led to the extraction of 28 key pieces of research pertaining to this analysis. Findings are systematically categorized according to three primary themes: (1) instructional leadership and teacher efficacy (2) teacher professional development and collaboration; and (3) broader leadership and education practices. This amalgamation of themes reflects strong interconnections between leadership styles, collaborative efforts, and teacher professional and personal growth. Other than that, it emphasizes that aligned strategies in leadership are essential for redesigning education systems that support teacher performance and well-being. This could also help inform the teachers themselves, helping policymakers, school leaders, and educators to make the most of the investment in teacher development strategies. Finally, they call for additional research to help close the knowledge gaps and increase the practical execution of this knowledge across various educational systems.

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Keywords:

Instructional, Leadership, Teacher Self-efficacy

Introduction

Another area of research that relates to educational leadership and teacher development is the association between Principal Instructional Leadership (PIL) and Teacher Self-Efficacy (TSE) (Chen & Rong, 2023; Khan et al., 2024; Liu & Hallinger, 2018) (Liu & Hallinger, 2018). The practice and conduct of school leaders to improve teaching and learning (or PIL) has emerged as a key factor that can enhance school effectiveness, as well as promote student learning. Meanwhile, TSE — the belief in the ability of teachers to achieve student learning and to overcome adversity in the classroom — plays a significant role in roles and results in the classroom (Khan et al., 2024; Liu & Hallinger, 2018). PIL ties back to TSE. By developing the teachers as an instructional leader, you can empower a teacher, which ensures that the teacher is competent and brings on resiliency. This relationship is particularly salient in the contemporary educational landscape, where the context of schools is increasingly complex and where accountability, equity and responsiveness to change become increasingly prominent concerns. Understanding how principals' leadership practices shape teachers' self-efficacy is a salient aspect of designing interventions that support teacher effectiveness and, ultimately, student performance (Bellibas & Liu, 2017; Liu et al., 2022; Siriparp et al., 2022).

Research has hardly improved the vague relation between PIL and TSE, but interest in this area has grown. Although the relationship between supportive leadership practices and higher levels of teacher confidence has been documented, the mechanisms connecting the two have been less explicitly theorized (Bellibaş & Liu, 2017; Zhou & Aziz, 2023). Moreover, the range of cultural, institutional, and contextual factors complicates the patchwork understanding of these dynamics. For example, a number of studies promote certain leadership practices, such as giving instructional feedback and providing professional development. In contrast, others where this is mediated through broader organizational conditions such as school climate in regards to leadership on teacher outcomes. To address this gap, this study explores the specific pathways through which PIL influence TSE. Correspondingly, it aims to contribute to the growing body of knowledge on educational leadership and the policy, practice and future research direction from that knowledge (Isa et al., 2018; Liu & Hallinger, 2018)

Literature Review

School effectiveness and teacher performance will also undoubtedly impact student outcomes. Therefore, the intersection of the PIL-TSE dynamic provides a focus for this article within education research as researchers and practitioners explore the implications of such relationships. PIL is important in TSE across various educational environments. As principals develop rich instructional practices and policies that enable students to excel, they also build a collaborative school culture where both staff and students thrive (Chang et al., 2022). Nevertheless, numerous research efforts provide evidence for the impact of PIL on enhancing TSE through establishing a collaborative atmosphere among teachers and facilitating their professional development (Chang et al., 2022; Chen & Rong, 2023; Ma & Marion, 2021). In one of them, PIL positively influenced teacher collaboration in school, improving TSE. Similarly, instructional leadership positively affected TSE among Chinese teachers, especially

in schools where the collegiality degree is high. This shows a tendency to create a culture of collaboration and support in the school to take advantage of instructional leadership's impact on TSE.

Given the educational contexts and specific roles of teachers, PIL might impact TSE differently. For example, Siriparp et al. (2022) determined that the effect of instructional leadership on TSE was moderated by the role of the teacher (i.e., managerial and non-managerial roles) in a private school in Thailand, with the managerial role teachers feeling more strongly that instructional leadership had an effect on their TSE compared to the non-managerial role teacher. Moreover, within Chinese schools, the impact of instructional leadership on TSE was mediated by Professional Learning Communities (PLCs) and faculty trust (Liu et al., 2024; Ma & Marion, 2021). These results demonstrate the necessity of context and highlight the potential effectiveness of tailored approaches to leadership for increasing TSE. Consequently, insights into the significance of a collaborative and supportive school environment that impacts TSE and the role of PIL as one of the driving forces behind it are exhibited in some research (Chen & Rong, 2023; Cheng et al., 2024; Goddard et al., 2015; Ma & Marion, 2021). This literature review summarizes the evidence from multiple studies examining this association and highlights important mediators and moderators of this relationship.

Direct Relationship Between PIL and TSE

Notably, few studies have established a direct positive relationship between PIL and TSE. A meta-analytical synthesis of 24 studies concluded that there was an overall moderate relationship between PIL and TSE, with the overall effect tending to indicate that PIL behaviors may foster TSE beliefs that may lead to advancing student achievement (Alanoglu, 2022). In the same vein, there was another research using the Teaching and Learning International Survey, which highlighted that PIL enhances TSE in regard to classroom management, instruction and student engagement (Bellibas & Liu, 2017).

Mediating Factors

One of the important mediators between PIL and TSE is the concept of teacher collaboration and PLCs. A study found that the relationship between teacher-perceived principal leadership and TSE is mediated by teachers' collaborative environment, with teaching experience acting as a moderating factor (Xie et al., 2022). Meanwhile, another study determined that PLCs and TSE acted as serial mediators that collectively accounted for a considerable amount of variance in teacher well-being (Liu et al., 2024). Moreover, TSE emerged as the mediator between PIL and teacher professional learning, which further suggests an implication for effective instructional leadership to create conditions that are conducive to professional growth (Thien et al., 2023; Thien & Liu, 2024).

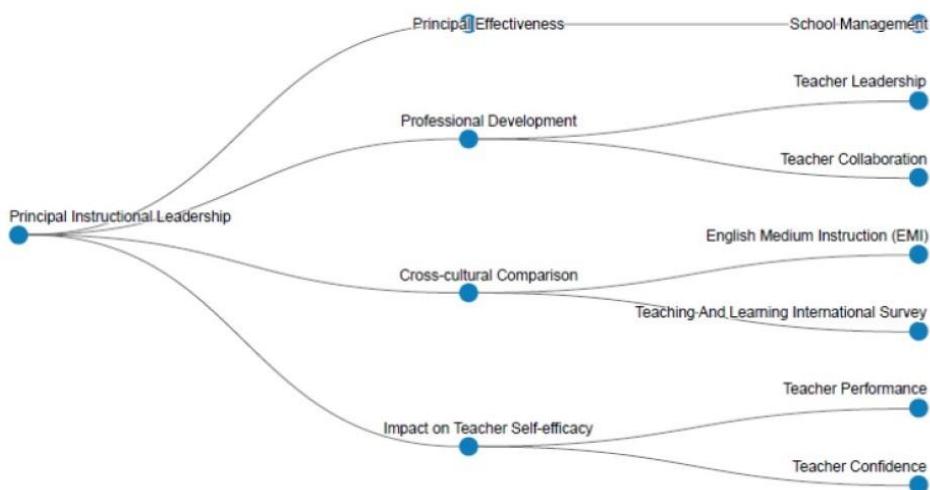
Moderating Factors

Teacher collegiality and role within the school also play crucial moderating roles. Research indicates that high levels of teacher collegiality strengthen the positive effect of instructional leadership on TSE, while low collegiality weakens it (Chen & Rong, 2023). Furthermore, the role of teachers (managerial vs. non-managerial) moderates the relationship, with managerial roles amplifying the indirect effects of PIL on TSE through collective teacher efficacy (Siriparp et al., 2022).

Contextual and Demographic Influences

The relationship between PIL and TSE is consistent across various contexts and demographic factors. A study involving a large dataset from multiple countries found that the relationship holds regardless of the country or publication type, suggesting the universal applicability of the findings (Alanoglu, 2022). Moreover, teachers' perceptions of their self-efficacy are notably shaped by their gender, experience, and formal in-service training, indicating a clear demand for customized instructional leadership practices (Bellibas & Liu, 2017).

The reviewed literature emphasizes the informative function of PIL in TSE content. Through this review, we discovered that in addition to its direct effect on TSE, instructional leadership promotes TSE through other mediating factors, namely, teacher collaboration and PLCs. This relationship is moderated by collegiality, role, and other factors. Such findings have major implications for policymakers and education leaders interested in establishing an environment conducive to effective teaching.



Research Question

Research Questions (RQs) are an integral part of a Systematic Literature Review (SLR) as they provide a foundation and a direction for literature inceptions. These can be helpful in narrowing the parameters of the SLR and in making decisions regarding which studies to include or exclude to keep the review relevant to the topic of interest. A well-formed RQ ensures that the literature search is concurrent and systematic. Hence, important studies addressing central questions of the subject are included. This also minimizes bias and enables a comprehensive synthesis of available evidence. Other than that, RQs can help sort and structure information in order to analyze results to a point that may allow conclusions to be drawn from the included studies. They enhance clarity and focus, preventing vagueness, making sure that the review is getting down to specific issues and keeping the findings more relevant and more actionable. Furthermore, pertinent, well-formulated review questions contribute to the transparency and reproducibility of the review, allowing researchers to replicate the procedure to verify the findings or expand the review in a relevant context. RQs provide focus, ensuring that the review meets the overall goals of the study, whether that be

identifying gaps in the literature, evaluating the efficacy of interventions or identifying trends in a particular area. Thus, they are the backbone of a rigorous, focused and relevant SLR.

The most critical activity at the planning stage, but also the one fundamental part of any SLR, is specifying the RQs, which would drive the whole review methodology (Kitchenham, 2007). Note that our goal of the SLR is to examine and assess the state of the art. PICo is a mnemonic type of RQs, particularly for qualitative research proposed by (Lockwood et al., 2015), which was employed in this research. PICo stands for Population, Interest, and Context. Here is what each component means:

1. Population (P): This refers to the group or participants of interest in the study. It specifies who the research is focused on, such as a specific demographic, patient group, or community.
2. Interest (I): This represents the main focus or phenomenon of interest in the study. It could be a particular experience, behavior, intervention, or issue that the research aims to explore or understand.
3. Context (Co): This defines the setting, environment, or specific context in which the population and interest are situated. It might refer to geographical location, cultural or social settings, or any other relevant backdrop for the research.

Using the PICo framework helps structure RQs clearly and systematically by breaking down the key elements of the study into these three components. This approach ensures that the research is focused and the questions are well-defined, making searching for relevant literature or designing a study easier. This study achieved three RQs as below:

1. How do instructional leadership practices influence teacher self-efficacy among primary and secondary school teachers in diverse educational contexts?
2. What is the impact of school leadership on teacher collaboration and collective efficacy in fostering professional development within multicultural school settings?
3. How do teachers' beliefs about play-based learning affect their well-being and teaching practices in early childhood education?

Material And Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) technique is a commonly used standard for conducting SLRs that ensures openness, accuracy, and consistency. Following PRISMA recommendations, which offer instructions on how to methodically find, screen, and incorporate studies in their review, can help researchers increase the precision and rigor of their analysis. The approach also highlights the importance of randomized trials, noting their ability to minimize bias and provide the strongest possible evidence for the review. This study leveraged two main databases, Scopus and ERIC, which have broad coverage and strength.

The four central stages of the PRISMA method are data abstraction, eligibility, testing, and identification. The identification step involves examining databases to find all relevant studies. The next step in the screening process is to compare these studies against predetermined standards to weed out low- or irrelevant-quality research. The remaining studies are scrutinized to ensure they meet the inclusion criteria during the eligibility phase. Finally, data abstraction focuses on retrieving and combining information into the final studies, which is essential for

making credible and meaningful findings. Such a systematic process ensures that the systematic review is executed in a rigorous manner, resulting in reliable findings that can inform future research and practice.

Identification

Essential phases of the systematic review process were used in this study to gather a substantial amount of pertinent literature. Keyword selection was the first step in the procedure, followed using dictionaries, thesauri, encyclopedias, and prior research to find similar terms. As indicated in Table 1, all pertinent phrases were established, and search strings were created for the ERIC and Scopus databases. Out of the two databases, 469 papers pertinent to the study issue were determined at this first stage of the systematic review.

TABLE 1

Scopus	TITLE-ABS-KEY (leaders* AND instructional AND "SELF-EFFICACY") AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2024))
	Date of Access: December 2024
ERIC	leaders* AND instructional AND "SELF-EFFICACY"
	Date of Access: December 2024

Screening

In the screening process, potentially relevant research items are evaluated to ensure they support the predefined research topic or questions. During this phase, TSE and instructional leadership are commonly used to select study topics. Correspondingly, duplicate documents are removed at this stage. Following the first rejection of 359 publications, 110 papers were retained for further examination based on specific inclusion and exclusion criteria (see Table 2). Since the literature is the main source of practical guidance, it was the first criterion. This comprises books, information analyses, tests, questionnaires, dissertations, theses, and research reports not covered in the most recent year's study. The review was limited to English-language materials published between 2021 and 2024. A total of seven publications were rejected due to duplication.

Table 2
The Selection Criterion Is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2021 – 2024	< 2021

Literature type	Journal (Article)	Dissertation/theses, Report-Research, Test, Report - Descriptive, Information Analyses
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Eligibility

Here, 103 papers were ready for review in the third step, which is referred to as the eligibility phase. All articles' titles and main points were thoroughly reviewed at this point to make sure they satisfied the requirements for inclusion and complemented the ongoing research goals. As a result, 75 articles were disqualified because they were out of the field, had an irrelevant title, an abstract unrelated to the study's goal, and limited full-text access based on empirical data. Consequently, 28 are left for the next evaluation.

Data Abstraction and Analysis

An integrative analysis was used as one of the assessment strategies in this study to examine and synthesize a variety of research designs (quantitative methods). The goal of the competent study was to identify relevant topics and subtopics. The data collection stage was the first step in developing the theme. Figure 2 illustrates how the authors meticulously analyzed a compilation of 28 publications for assertions or material relevant to the topics of the current study. Consequently, the authors evaluated the current significant studies related to instructional leadership and TSE as shown in Table 3. The methodology used in all studies, as well as the research results, are being investigated. Next, the author collaborated with other co-authors to develop themes based on the evidence in this study's context. A log was kept throughout the data analysis process to record any analyses, viewpoints, riddles, or other thoughts relevant to the data interpretation. Finally, the authors compared the results to see if there were any inconsistencies in the theme design process. It is worth noting that if there are any disagreements between the concepts, the authors discuss them amongst themselves

Table 3: Number And Details Of Primary Studies Database

No	Authors	Title	Year	Source Title	Scopus	ERIC
1	Yin & Guo	A Person-Centered Analysis Of Hong Kong Kindergarten Teachers' Emotion Regulation: Profiles, Characteristics And Relations	2024	European Journal Of Education	/	
2	Hsieh, Chen, et al.,	Impact Of School Leadership On Teacher Innovativeness: Evidence From Multilevel Analysis Of Taiwan TALIS 2018	2024	Asia Pacific Journal Of Education	/	
3	Khan et al.	Examining The Relationships Between Instructional Leadership, Teacher Self-Efficacy And Job Satisfaction: A Study Of Primary Schools In India	2024	Journal Of Educational Administration	/	
4	Ninković & Knežević Florić.	School Leadership And Teaching Practice: A Systematic Review Of Studies Of The Indirect Effects	2024	Journal Of Educational Administration	/	
5	Herawati et al.	Does Teacher's Willingness To Change Enhance Professional Competence?	2022	European Journal Of Educational Research	/	
6	Hammad et al.	Exploring The Link Between Principal Instructional Leadership And Differentiated Instruction In An Understudied Context: The Role Of Teacher Collaboration And Self-Efficacy	2024	International Journal Of Educational Management	/	
7	Bellibaş et al.	Principal Leadership Typologies And Their Relationship With Teacher Self-Efficacy And Commitment: A Latent Profile Mediation Analysis	2024	Educational Management Administration And Leadership	/	
8	Sindhvad et al..	Factors Influencing Instructional Leadership Capacity In Baku, Azerbaijan	2022	Educational Management Administration And Leadership	/	

No	Authors	Title	Year	Source Title	Scopus	ERIC
9	Omar & Miralay	A Behavioural Intention Analysis Of Kurdish Teachers' Perspectives On Play-Based Learning In Kindergarten Schools During COVID-19	2023	Sustainability (Switzerland)	/	
10	Çoban et al.	Trust In Principals, Leaders' Focus On Instruction, Teacher Collaboration, And Teacher Self-Efficacy: Testing A Multilevel Mediation Model	2023	Educational Management Administration And Leadership	/	
11	Pan et al.	Teacher Professional Development And Practice Of Project-Based Learning In Taiwan: The Moderating Effect Of Self-Efficacy	2022	Asia Pacific Journal Of Education	/	
12	Thien et al.	Investigating A Multiple Mediated-Effects Model Of Instructional Leadership And Teacher Professional Learning In The Malaysian School Context: A Partial Least Squares Analysis	2023	Educational Management Administration And Leadership	/	
13	Jasman et al.	How Does Principal's Instructional Leadership Shape Teacher Performance Mediated By Teacher Self-Efficacy In Indonesian Education Context?	2024	Frontiers In Education	/	
14	Liu et al.	The Effects Of Instructional Leadership On Teacher Well-Being: The Mediating Roles Of Professional Learning Community And Teacher Self-Efficacy	2024	Educational Studies	/	
15	Mukhtar & Razak	Principal Instructional Leadership And Teacher Self-Efficacy As A Mediating Variable Between Teacher Leadership And Teacher Professional Learning Practices In Secondary Schools In Kelantan	2024	Malaysian Online Journal Of Educational Management	/	
16	Yuan et al.	The Relationship Between Instructional Leadership Practices, Teachers Self-Efficacy And Teachers Performance At Schools In Shanghai, Post Covid-19 Pandemic	2024	Eurasian Journal Of Educational Research	/	

No	Authors	Title	Year	Source Title	Scopus	ERIC
17	Chen & Rong .	The Moderating Role Of Teacher Collegiality In The Relationship Between Instructional Leadership And Teacher Self-Efficacy	2023	SAGE Open	/	
18	Hsieh et al.	Perceived Instructional Leadership And Teacher Self-Efficacy Of Online Teaching In Taiwan: Mediating Effects Of Teacher Professional Community	2023	KEDI Journal Of Educational Policy	/	
19	Hsieh, Chen, et al.,	Impact Of School Leadership On Teacher Professional Collaboration: Evidence From Multilevel Analysis Of Taiwan TALIS 2018	2024	Journal Of Professional Capital And Community	/	
20	Bozkurt et al.	How Leadership, School Culture, Collective Efficacy, Academic Self-Efficacy, And Socioeconomic Status Affect Student Achievement	2021	Egitim Ve Bilim	/	
21	Shengnan & Hallinger.	Unpacking The Effects Of Culture On School Leadership And Teacher Learning In China	2021	Educational Management Administration And Leadership	/	
22	Siriparp et al.	The Effects Of Principal Instructional Leadership, Collective Teacher Efficacy And Teacher Role On Teacher Self-Efficacy: A Moderated Mediation Examination	2022	Kasetsart Journal Of Social Sciences	/	
23	Ryan & Mathews	Teacher Self-Efficacy Of Primary School Teachers Working In Irish ASD Classes	2022	European Journal Of Special Needs Education	/	
24	Ridwan et al..	Instructional Leadership And Teacher Self-Efficacy On Job Satisfaction: The Mediating Effect Of School Climate In Indonesian Islamic Senior High Schools	2024	Jurnal Ilmiah Ilmu Terapan Universitas Jambi	/	
25	Yin et al..	What Facilitates Kindergarten Teachers' Intentions To Implement Play-Based Learning?	2022	Early Childhood Education Journal	/	

No	Authors	Title	Year	Source Title	Scopus	ERIC
26	Thien & Liu	Linear And Nonlinear Relationships Between Instructional Leadership And Teacher Professional Learning Through Teacher Self-Efficacy As A Mediator: A Partial Least Squares Analysis	2024	Humanities And Social Sciences Communications	/	
27	Zheng & Luo (2024)	How Do Departmental Professional Learning Communities And Teacher Leadership Matter For Teacher Self-Efficacy? A Multi-Level Analysis	2024	Journal Of Professional Capital And Community	/	/
28	Jones et al.	Principals May Inflate Teacher Evaluation Scores To Achieve Important Goals	2022	Educational Assessment, Evaluation And Accountability	/	/

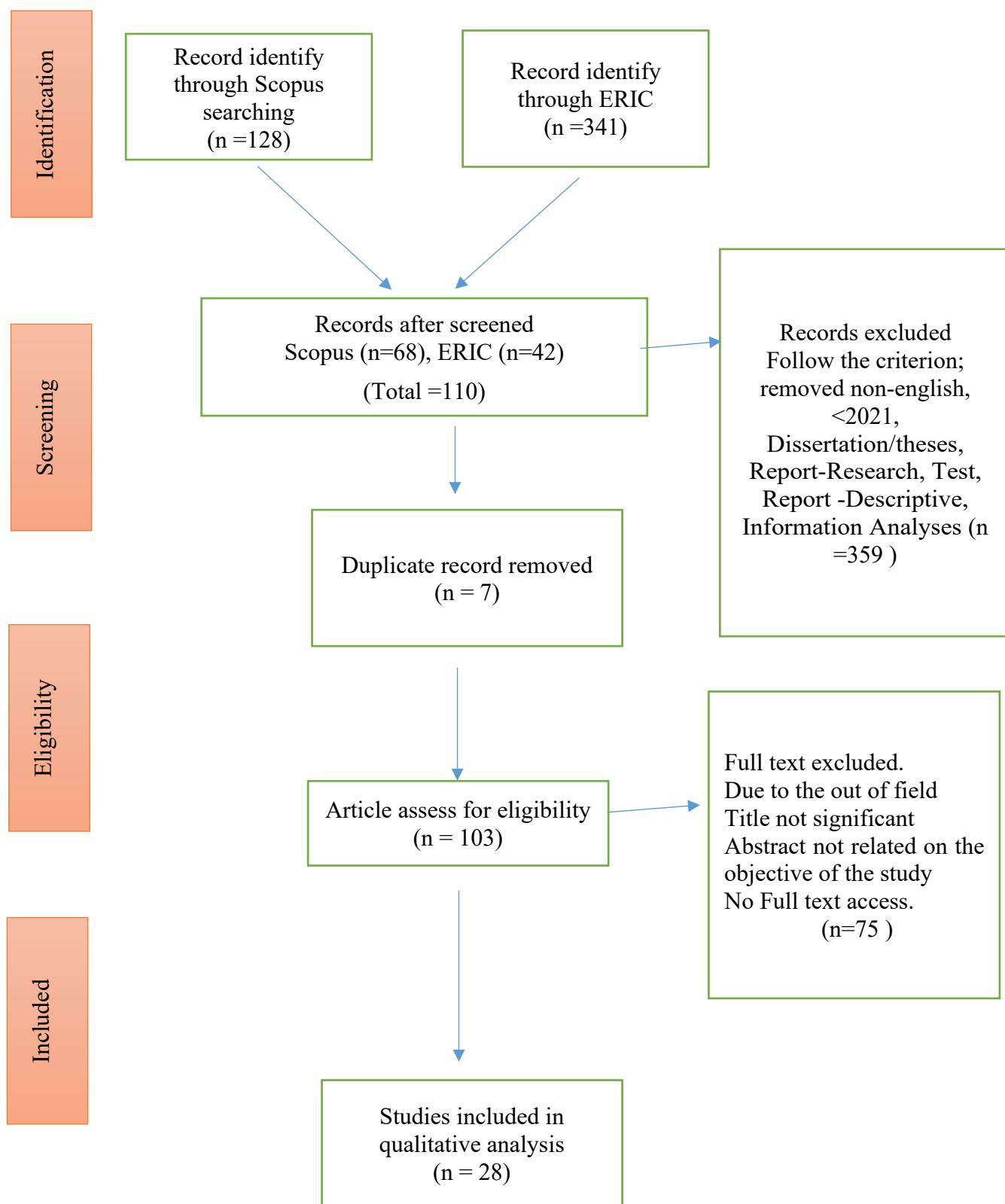


Figure 2. Flow Diagram Of The Proposed Search Study [1]

Quality Of Appraisal

According to the guidelines proposed by Kitchenham and Charters (Kitchenham, 2007), the primary studies (*primary studies refer to the original research articles, papers, or documents that are directly included in the systematic review after the initial selection process. These studies are considered the primary sources of evidence that are analyzed, assessed for quality, and compared quantitatively or qualitatively to answer the RQs defined for the review*) assess the quality of the research they present and quantitatively compare them. In this study, we apply Quality Assessment (QA) from Anas Abouzahra et al. (Abouzahra et al., 2020), comprising six QAs for our SLR. The scoring procedure for evaluating each criterion involves three possible ratings: "Yes" (Y) with a score of 1 if the criterion is fully met, "Partly" (P) with a score of 0.5 if the criterion is somewhat met but contains some gaps or shortcomings, and "No" (N) with a score of 0 if the criterion is not met at all.

- QA1. Is the purpose of the study clearly stated?
- QA2. Is the interest and the usefulness of the work clearly presented?
- QA3. Is the study methodology clearly established?
- QA4. Does the study have a clearly stated purpose?
- QA5. Is the work compared and measured with other similar work?
- QA6. Are the limitations of the work clearly mentioned?

The table provides a QA process applied to the study according to consideration elements. Three experts evaluate the study according to the list of criteria, scoring each criterion in terms of "Yes" (Y), "Partly" (P), or "No" (N). Here is how it works in detail:

1. Does the study have a clearly stated purpose?

- This criterion determines whether the study objectives have been clearly described. A research purpose provides a clear direction and scope of research.

2. Does the work clearly present the interest and use?

- This criterion relates to the clarity and possible significance of the work. It measures the relevance and impact of the research.

3. Is the study methodology clearly established?

- This assesses whether the research methodology is well-defined and appropriate for achieving the study's objectives. Clarity in methodology is crucial for the study's validity and reproducibility.

4. Are the concepts of the approach clearly defined?

- This criterion looks at whether the theoretical framework and key concepts are clearly articulated. Clear definitions are essential for understanding the study's approach.

5. Is the work compared and measured with other similar work?

- This evaluates whether the study has been benchmarked against existing research. Comparing with other studies helps position the work within the broader academic context and highlights its contributions.

6. Are the limitations of the work clearly mentioned?

Each expert independently assesses the study according to these criteria, and the scores are then totaled across all experts to determine the overall mark. For a study to be accepted for the next process, the total mark, derived from summing the scores from all three experts, must exceed 3.0. This threshold ensures that only studies meeting a certain quality standard proceed further.

Result And Finding

For the background of the selected study, based on QA, Table 4 shows the result of assessment performance for selected primary studies. The QA of the 28 papers reveals a strong adherence to the evaluation criteria, with most papers scoring 83.33% or higher. The papers generally excelled in clearly stating their purpose (QA1), presenting the interest and usefulness of the work (QA2), and establishing the study methodology (QA3). These strengths suggest that the studies are well-designed, with clear objectives and appropriate research methods. Additionally, the concepts and approaches (QA4) were mostly well-defined, ensuring a solid understanding of the theoretical foundations and research focus.

However, there were noticeable gaps in two areas: comparison with similar work (QA5) and limitations (QA6). Many papers provided partial discussions in these areas, with limitations being acknowledged but not thoroughly explored. It implies that some studies may need a bit more comparative closeness to the work they discuss in their lit reviews to place their findings in the broader body of knowledge. Furthermore, a more in-depth discussion of limitations could increase the credibility of the studies by acknowledging any potential weaknesses or contextual factors that could impact their findings.

Overall, while most of the publications were of high quality, future work should focus on improving the depth of comparisons to existing literature and discussing study limitations in greater detail. By tackling these characteristics, the collective validity and applicability of these insights will be strengthened and ultimately benefit the field of education research. Correspondingly, the QA assessment of the selected papers is given as follows:

Table 4: Quality Of Appraisal For Primary Study

PS	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	Percentage (%)
PS1	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS2	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	5.50	91.67%
PS3	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS4	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	5.50	91.67%
PS5	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	Y (1)	5.00	83.33%
PS6	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS7	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	N (0)	4.50	75.00%
PS8	Y (1)	P (0.5)	P (0.5)	Y (1)	P (0.5)	N (0)	3.50	58.33%
PS9	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS10	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS11	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	5.50	91.67%
PS12	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS13	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	Y (1)	5.50	91.67%
PS14	Y (1)	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	5.50	91.67%

PS15	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	Percentage (%)
PS16	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS17	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS18	Y (1)	P (0.5)	5.50	91.67%				
PS19	Y (1)	P (0.5)	5.50	91.67%				
PS20	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS21	Y (1)	P (0.5)	5.50	91.67%				
PS22	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS23	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS24	Y (1)	P (0.5)	5.50	91.67%				
PS25	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS26	Y (1)	P (0.5)	5.50	91.67%				
PS27	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%
PS28	Y (1)	Y (1)	Y (1)	Y (1)	P (0.5)	P (0.5)	5.00	83.33%

The produced themes were eventually tweaked to ensure consistency. The author and co-author walked through the issues to identify which were relevant and valid for analysis phase selection. Domain and structure validity is established through clear, relevant, and appropriate descriptions of each subtheme, confirmed during expert review prior to data collection. The authors also compared the findings to sub-categorize any differences that may have occurred in the development of the themes. If there are any inconsistencies in the themes, the authors address them and learn from one another. Lastly, the finalized themes were adjusted to confirm their consistency. Establishing domain validity in this phase ensured the clarity, importance, and adequacy of each identified sub-theme. Changes were implemented at the author's discretion, considering the feedback and comments from the domain expert.

Instructional Leadership and Teacher Efficacy

This table summarizes various studies investigating associations between PIL and TSE and associated outcomes in different educational environments. A study by Khan et al. (2024) explored the mediating role of TSE on instructional leadership and teacher job satisfaction in India, where teachers work in primary schools. Findings revealed a strong correlation between the dimensions of instructional leadership, self-efficacy and job satisfaction using a mediation model with data from 320 teachers. Likewise, Hammad et al. (2024) explored the effects of PLCs on differentiation in Omani schools and found that collaboration and self-efficacy mediated the effect, helping increase self-efficacy.

Bellibaş et al. (2024) studied Turkey to examine the impact of different leadership styles on TSE and commitment. They found that integrated leadership profiles had the most positive impact. In Malaysia, for instance, Thien & Liu (2024) explored the role of instructional leadership in enhancing teachers' professional learning, as mediated by self-efficacy and trust in principals employing structural equation modeling. Meanwhile, Jasman et al. (2024) explored the combined effect of instructional leadership on teacher performance in relation to learning in the Indonesian Merdeka Belajar context, revealing the mediating role of TSE.

In contrast, Liu et al. (2024) recently stated that, instructional leadership, teacher well-being, PLC, and self-efficacy play important mediating roles in Chinese schools. Through the influence of PIL and TSE on teacher leadership and professional learning practices in Malaysia, Mukhtar & Razak (2024) highlighted the notion of creating a positive climate in one's professional development. On the other hand, Chen & Rong (2023) evaluated the moderation of teacher collegiality in the association of instructional leadership and self-efficacy, highlighting the need for collaborative contexts to improve leadership excellence.

Lastly, Siriparp et al. (2022) and Thien et al. (2023) examined moderated and mediated relationships among instructional leadership, collective teacher efficacy, and professional learning. Their results also showed the complexity of these relationships, which had both linear and nonlinear effects. In these studies, authors highlight the centrality of instructional leadership potential through mediators such as self-efficacy, collaboration, trust, and PLCs in enhancing teachers' outcomes while also confirming some regional specificity of educational contexts.

Teacher Professional Development and Collaboration

Interestingly, these abstracts, taken together, highlight the importance of the dynamic relationships between leadership styles, TSE, collaboration, and professional development in influencing education outcomes. Works in this area, as per Hsieh, Tai, et al. (2024) and Çoban et al. (2023), underscore the critical nature of instructional and distributed leadership in developing professional collaboration between teachers. In simple terms, these leadership styles support teacher innovativeness and develop collective responsibility, where instructional leadership directly influences professional collaboration. In contrast, the influence of distributed leadership exists in the middle of both, enhancing innovativeness and collaborative role in turn. Building upon these findings, Yin & Guo (2024) demonstrate the role of supportive school climates, through leadership practices and trust between colleagues, in boosting teachers' emotional regulation strategies and self-efficacy. Yuan et al. (2024) add another layer by underscoring the mediating role of self-efficacy in enhancing teacher performance and collaboration post-COVID-19.

Professional development stands out as a key theme, with Luo et al.'s (2024) study establishing the dynamics within departmental PLCs as well as their effect on TSE. Results show that characteristics within smaller organizational units and close interpersonal bonds, such as reflective conversation and shared responsibility, are strong predictors of self-efficacy. Likewise, Pan et al. (2022) demonstrate that self-efficacy serves as a crucial moderator in the relationship between professional development and teachers reporting innovative pedagogy, such as Project-Based Learning (PBL). This establishes the necessity of experiential learning opportunities in conjunction with supportive teaching environments to sustain teachers' motivation. This perspective is further expanded by Herawati et al. (2022), who argue that teachers' willingness to transform (i.e., implement digital learning) corresponds to their professional competence development. Their study highlights instructional leadership's effect on promoting this adaptability.

The aggregate body of evidence highlights the complex interplay between leadership, collaboration, and teacher development. Studies such as Ryan & Mathews (2022) and Hsieh, Tai, et al. (2024) emphasize the role of leadership support, trust, and innovation in the improvement of TSE. These outcomes can be so important to provide evidence around targeted

plans to help sustain teacher development with respect to diverse educational situations. At its core, there are connections between leadership, emotional regulation, and professional collaboration, which have a direct impact on TSE and performance. This also directly affects the educational experience. References include Yin & Guo (2024), Hsieh, Chen et al. (2024), Herawati et al. (2022), Çoban et al. (2023), Yuan et al. (2024), Pan et al. (2022), Zheng & Luo (2024) and Ryan & Mathews (2022).

Broader Leadership and Educational Practices

Research on school leadership and instructional practices demonstrates strong links between leadership styles and teaching quality. One such sub-theme that emerged quite prominently across a number of studies is the impact of instructional leadership on the quality of teacher practices and self-efficacy. To illustrate, as per Ninković & Knežević Florić (2024), the impact of school leadership on instructional practices takes place indirectly, as the variables identified are teacher collaboration, professional learning, and TSE. Studies by Bozkurt et al. (2021) and Shengnan & Hallinger (2021) align with the view that instructional leadership is a strong variable in how it influences school culture and how effective teachers teach. Such studies point to the possibility of school leaders creating a positive ripple effect for teaching by supporting professional development and collaborative spaces.

Moreover, the impact of leadership on TSE is crucial to the educational environment. Research by Sindhavad et al. (2022) and Hsieh et al. (2023) emphasizes the significance of time management and interaction with teachers as factors that contribute to the development of a sense of self-efficacy. Instructional leadership makes teachers become better professionals by increasing their self-efficacy, provided they first feel supported by it. For instance, Hsieh et al. (2023) revealed that Taiwanese teacher professional communities serve as a mediator between instructional leadership and TSE. This link highlights the need for school leaders to support teachers with resources and emotional and professional guidance that will help them feel confident in their teaching ability.

Additionally, the studies of Omar & Miralay (2023) and Shengnan & Hallinger (2021) illustrate that the impact of instructional leadership is moderated by contextual and cultural factors, suggesting that the socio-cultural context of the school informs how leadership translates into teacher practice. For example, in Azerbaijan, Sindhavad et al. (2022) discovered that principals' time spent on instructional leadership tasks is linked to their ability to improve teacher effectiveness. Similarly, Cheng et al. (2024) identified that challenges teachers face in multicultural classrooms (especially STEM) are correlated with the leaders within the school and the curriculum offered to the students. The implication is that effective leadership is not a 'one size fits all' approach but must be tailored to the needs and contexts of the teachers and students to optimize its influence on educational outcomes. References include Ninković & Knežević Florić (2024), Bozkurt et al. (2021), Shengnan & Hallinger (2021), Sindhavad et al. (2022), Hsieh et al. (2023), Omar & Miralay (2023), and Cheng et al. (2024).

Conclusion and Finding

The studies reviewed strongly support the beneficial role of instructional leadership in facilitating the TSE as well as other factors related to TSE, such as teacher development and job satisfaction across various educational contexts. This indicates that PIL is critical for the enhancement of TSE, which further leads to higher job satisfaction, better teaching practices, and better teacher quality. PIL has been discovered in most countries to be mediated to a

significant extent – by factors such as collaboration between teachers, trust in school leaders, and the presence of PLCs. TSE consistently appears as a mediator variable due to its role in stimulating effective teaching practices and teachers' confidence.

School culture, marked by trust and collegiality, strengthens the impact of instructional leadership on teachers' professional growth as per the studies. In addition, the positive relationship between collaborative leadership profiles identified in studies from Turkey and the moderating role of teacher collegiality in several regions further demonstrates that effective leadership can be derived from a leader who fosters a collaborative and inclusive environment. Therefore, these leadership practices are significant for developing TSE and have implications for differentiated instruction, teacher well-being, and commitment to professional development. All of these indicate that effective leadership is multi-dimensional and demands consideration of the needs of individuals and collectives within schools. These factors are contextualized based on the different regions of the world. Many conversations achieve the relationship between leadership and teacher outcomes with different cultural and educational contexts affecting how instructional leadership is deployed and its effectiveness.

Findings underscore the importance of leadership, teacher collaboration, and professional development in teacher performance and self-efficacy while showing that the styles of leadership are most influential. Two fundamental elements, instructional and distributed leadership, are key to promoting professional collaboration among teachers (Harris, 2005). Instructional leadership affects collaboration between teachers in the classroom, and distributed leadership supports both collaboration and innovation. When paired with a supportive school climate and the trust of colleagues, these leadership styles lift emotional regulation strategies and promote TSE. In addition, the results highlight the mediating effects of self-efficacy, especially in post-COVID-19 educational environments, on teacher performance and collaboration. The data also showed that professional development, especially within departmental PLCs, was a central component in developing teachers and that reflective dialogue about instruction and shared responsibility for student success were the strongest predictors of TSE. The implications of these findings suggest that self-efficacy can be generated in smaller units of organizational units through collaborative and reflective practice.

It further emphasizes the significance of PBL, self-efficacy and experiential learning as core components in maintaining teachers' motivation to implement new pedagogical approaches. These analyses likewise highlight a need for adaptability, particularly in terms of a new phenomenon like the shift to digital learning, where leading instructional improvement is key in situating the adjustment characteristics for a teacher in developing professional efficacy (or vice versa). Overall, these studies echo the complex interconnections between leadership practices, collaboration among teachers, emotional regulation, and professional learning as both contexts and outcomes of school improvement. They propel effectiveness in education as they amplify instructor efficiency, self-efficacy and lifelong professional advancement. The materials identify the centrality of leadership support, trust and innovation in creating the conditions for sustaining teacher development. They offer nuanced insights for shaping approaches that address the different needs of teachers across different contexts and life and career stages.

The research on school leadership and teaching practices indicates that effective leadership improves teacher practices, and, as a result, teaching and learning. One common finding across these studies was that the role of instructional leadership exerted significant influence over TSE and collaboration improvement. Leaders of schools that prioritize purposeful professional learning help develop more effective teaching by creating collaborative environments. The evidence clearly indicates that the instructional leadership role of the school leader affects school culture and teacher contributions through a foundational process of collaboration between teachers and the school leader in development plans. Moreover, the link between leadership and TSE is highly salient for positive educational outcomes. When a teacher is properly supported by the leadership team, they invigorate their confidence, which leads to the betterment of their professional skill set.

Again, this relationship is mediated by the presence of strong PLCs that facilitate the development of a teachers' sense of self-efficacy. Furthermore, leadership's effects on teaching are not only in the social context but also contingent on other important factors. For example, a leader's influence on teacher performance is clearly contingent on other situational factors—in particular, the socio-cultural context of a school and the challenges faced by teachers in providing effective instruction. Research verifies that principals who devote time and energy to these kinds of instructional leadership activities tend to enhance teacher effectiveness. Nonetheless, effective leadership must be adjusted to the needs of the education environment throughout the classroom, particularly in multiethnic and diverse environments. Overall, the study highlights the role of instructional leadership in providing critical support for teacher professional development but suggests that voice, agency, context, and culture would play an important role in determining the ways in which instructional leadership strategies impact teacher practice and educational outcomes.

Collectively, these findings point to the complexities of instructional leadership and their significant implications for the development of teachers, as well as the importance of prioritizing self-efficacy, collaboration, and trust in educational outcomes.

Acknowledgment

I would like to convey my deepest gratitude to Associate Professor Dr. Khalip bin Musa, my PhD supervisor and co-author, for his invaluable guidance, continuous encouragement, and profound expertise throughout the preparation of this work. I also extend my sincere appreciation to the reviewers for their thoughtful comments and constructive insights, which have significantly enhanced the quality of this article. In addition, my heartfelt thanks go to Global Academic Excellence Sdn. Bhd. for their support and for ensuring a smooth and efficient publication process.

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