

Instructional Leadership Responsiveness and Teacher Professional Support in Public Elementary Schools

Randy O. Paguirigan^{1*} and Michelle S. Morales^{1,2}

¹Northeastern College

*randy.paguirigan@deped.gov.ph, ²michellemorales@northeasterncollege.edu.ph

Date Submitted:
January 17, 2026

Date Accepted:
April 12, 2026

Date Published:
July 16, 2026

DOI:
10.5281/zenodo.21398937

ABSTRACT

This study investigated how instructional leadership responsiveness shaped teacher professional support in public elementary schools. A cross-sectional predictive latent-variable design was employed, with data analyzed through partial least squares structural equation modeling. The study focused on instructional leadership responsiveness as reflected in needs recognition, timeliness of response, quality of instructional feedback, and adaptive follow-through, while teacher professional support was assessed through coaching and mentoring, collaborative professional learning, access to instructional resources, and professional growth assistance. Results showed that instructional leadership responsiveness was perceived at a moderate level, with instructional feedback emerging as the strongest dimension and

timeliness of response as the weakest. Teacher professional support was likewise rated moderately, with collaborative professional learning receiving the highest assessment and access to instructional resources obtaining the lowest. The measurement model demonstrated acceptable internal consistency, convergent validity, and discriminant validity. Structural model results revealed a positive and significant relationship between instructional leadership responsiveness and teacher professional support, with instructional leadership responsiveness explaining a substantial proportion of the variance in professional support. Predictive assessment further indicated moderate out-of-sample predictive power. Importance-performance analysis identified timeliness of leadership response and adaptive follow-through as the leading priorities for improvement. The findings suggest that responsive school leadership becomes more effective when instructional concerns are addressed promptly, feedback is sustained, and professional assistance is aligned with teachers' actual classroom needs. Strengthening coaching systems, follow-up mechanisms, collaborative learning structures, and resource facilitation may improve the quality and consistency of teacher professional support in public elementary schools.

Keywords: *adaptive follow-through, instructional leadership, professional support, public elementary schools, teacher development, timeliness of response*

INTRODUCTION

The quality of instruction in a school is shaped not only by the knowledge and competence of teachers but also by the conditions created by school leaders for teaching, reflection, and professional growth. School heads influence how instructional goals are understood, how teaching practices are monitored, and how teachers receive assistance when classroom difficulties arise. Their decisions can affect teacher well-being, instructional practice, organizational health, and student learning. A systematic review and meta-analysis of principal behaviors found meaningful relationships between school leadership and several teacher and school outcomes, suggesting that leadership practices matter most when they are closely connected to the daily work of teaching and learning (Liebowitz & Porter, 2019).

Instructional leadership places teaching and learning at the center of school management. It involves clarifying academic priorities, coordinating instructional programs, monitoring classroom practice, discussing learner performance, providing feedback, and creating conditions that allow teachers to improve their work. These responsibilities require more than the routine implementation of policies. School leaders must be able to recognize differences in teachers' needs and respond with guidance that is appropriate to the situation. Research has shown that instructional and distributed leadership can influence instructional quality through teacher collaboration and job satisfaction, which means that leadership becomes more effective when teachers are actively involved and professionally supported rather than treated only as recipients of directives (Bellibaş et al., 2021).

For this study, instructional leadership responsiveness refers to the capacity of school leaders to recognize instructional concerns and provide timely, relevant, and workable responses. Such responses may include clarifying expectations, giving constructive feedback, facilitating access to resources, adjusting professional development activities, encouraging collaboration, and providing assistance suited to a teacher's level of experience or classroom difficulty. Responsiveness is important because teachers do not encounter identical challenges. Some may require support in planning lessons, assessing learner progress, managing diverse classrooms, or using appropriate teaching strategies, while others may need opportunities for mentoring, peer observation, or advanced professional learning. Leadership support must therefore be sensitive to actual instructional needs rather than being limited to uniform programs or general reminders.

Studies on instructional leadership have provided evidence that school leaders can strengthen teachers' willingness and capacity to engage in professional learning. Liu and Hallinger (2018) found that principal instructional leadership had direct and indirect effects on teacher professional learning, with teacher self-efficacy serving as an important connecting factor. Teachers were more likely to participate meaningfully in professional learning when leadership practices strengthened their confidence and supported their development. Thien and Liu (2024) also reported significant relationships among instructional leadership, teacher self-efficacy, and professional learning. Their findings indicated that these relationships may not operate in a simple or uniform manner, which supports the need for flexible and differentiated leadership responses.

Teacher professional support includes the structures, resources, relationships, and learning opportunities that help teachers improve their knowledge and classroom practice. It may take the form of mentoring, coaching, classroom observation, feedback, collaborative lesson planning, professional learning communities, training, access to instructional materials, and opportunities for reflective discussion. Effective professional development is not defined solely by the number of seminars attended. It is strengthened when learning is content-focused, sustained over time, connected to teachers' work, supported by collaboration, and accompanied by feedback and expert guidance. These features allow teachers to apply new knowledge, examine its effect on learners, and make necessary adjustments to their instruction (Darling-Hammond et al., 2017).

Coaching and individualized guidance are especially relevant because teachers often need assistance that addresses specific classroom concerns. A meta-analysis of causal studies on teacher coaching found positive effects on instructional practice and student achievement. The findings suggest that professional support becomes more useful when teachers are given repeated opportunities to examine their teaching, receive focused feedback, and work with someone who can help them translate professional knowledge into classroom action. This form of support requires school leaders to remain accessible and attentive to the progress of teachers rather than relying only on scheduled training activities (Kraft et al., 2018).

A supportive professional environment also gives teachers opportunities to collaborate, exercise professional judgment, and contribute to school decisions. The Organisation for Economic Co-operation and Development [OECD] (2020) explained that teacher professionalism involves continuous improvement, collaboration, responsibility, and appropriate autonomy. Its findings from the Teaching and Learning International Survey showed that professional growth is closely associated with the quality of teachers' working conditions, feedback experiences, and relationships with colleagues and school leaders. Teachers are more likely to view professional development as valuable when it is connected to their instructional responsibilities and when the school provides time and space for meaningful collaboration.

The Philippine education system has established policies that recognize the shared responsibility of teachers and school leaders for professional growth. DepEd Order No. 35, s. 2016 institutionalized the Learning Action Cell as a school-based strategy for continuing professional development and the improvement of teaching and learning. Through the Learning Action Cell, teachers are expected to study common instructional concerns, share practices, and develop responses to problems encountered in the classroom. DepEd Order No. 42, s. 2017 also adopted the Philippine Professional Standards for Teachers, which treats professional development as a continuing process across teachers' career stages. These policies affirm that professional learning should be part of school practice and not an isolated activity conducted only when external training becomes available (Department of Education, 2016, 2017).

Expectations for school leaders are further defined in the Philippine Professional Standards for School Heads. DepEd Order No. 24, s. 2020 identifies the improvement of teaching quality and learner achievement as central responsibilities of school heads. It calls for leadership practices that focus on teaching and learning, the professional development of personnel, school improvement, and the building of productive relationships. The Basic Education Development Plan 2030 also places teacher quality and leadership capacity among the conditions necessary for improving learning outcomes. Taken together, these policies require school leaders to go beyond administrative compliance and provide professional support that responds to the instructional needs of teachers (Department of Education, 2020, 2022).

The existence of professional standards and development programs, however, does not automatically ensure that teachers receive the kind of assistance they need. Professional support may be available but poorly matched with classroom concerns. Feedback may be provided but may not be sufficiently specific to guide improvement. Collaborative activities may be scheduled but may not give teachers enough time to examine learner evidence or develop practical solutions. School leaders may also differ in their capacity to diagnose instructional problems, communicate expectations, follow up professional development activities, and adjust their support according to teachers' needs. These differences make it important to examine not only whether instructional leadership practices are present, but also whether they are responsive, timely, relevant, and sustained.

Public elementary schools provide an important setting for examining this concern. Elementary teachers are responsible for developing learners' foundational knowledge, habits, literacy, numeracy, and social skills. They also work with learners who differ in readiness, language background, learning pace, home support, and access to educational resources. These responsibilities require continuing professional learning and dependable school-level assistance. A school leader who listens to teachers, observes instructional realities, and provides suitable support may help teachers address difficulties before these develop into persistent learning problems. In contrast, professional assistance that is delayed, general, or disconnected from classroom needs may have limited value even when it complies with established policies.

International studies have established relationships among instructional leadership, teacher self-efficacy, instructional quality, collaboration, and professional learning. Still, findings obtained from secondary schools, mixed school levels, or education systems outside the Philippines cannot be assumed to apply in the same way to all public elementary schools. Thien and Liu (2024) noted that school type and location may influence the relationship between instructional leadership and teacher professional learning. Their observation supports research that pays close attention to the actual conditions in which leadership and teacher support are experienced. Examining these variables within public elementary schools can therefore provide a clearer understanding of how leadership responses are translated into professional assistance at the school level (Thien & Liu, 2024).

Against this background, the study examines how teachers perceive the responsiveness of instructional leadership and the professional support available to them. It also seeks to determine whether responsive leadership is associated with stronger teacher professional support. The findings may provide an evidence-based foundation for improving instructional supervision, mentoring, coaching, collaborative learning, feedback systems, and school-based professional development. More importantly, the study may help school leaders design support practices that are not only aligned with professional standards but also responsive to the actual concerns teachers encounter in their classrooms.

Literature Review

Responsive Instructional Leadership

Instructional leadership is responsive when school leaders adjust their actions according to the instructional needs of teachers, the learning conditions of pupils, and the priorities of the school. It is not confined to observing classes or checking compliance with curriculum requirements. Boyce and Bowers (2018) described instructional leadership as leadership for learning, where principals influence teaching through goal setting, professional interaction, organizational arrangements, and the development of teacher capacity. This view gives importance to how leaders interpret instructional concerns and choose forms of assistance that fit the needs of their teachers. Leithwood et al. (2020) likewise explained that successful school leaders draw from a common set of leadership practices but apply them in ways suited to their schools, personnel, and working conditions. Responsiveness therefore involves careful diagnosis rather than the uniform use of supervisory practices. In public elementary schools, this may be demonstrated when school heads consider teachers' grade assignments, experience, available resources, learner difficulties, and professional strengths before providing feedback or recommending development activities. Leadership becomes more useful when the response is timely, specific, and connected to an actual teaching concern rather than delivered as a general administrative instruction.

Relational Trust and Professional Assistance

Teacher professional support depends partly on the quality of the relationship between school leaders and teachers. Teachers may be less willing to discuss instructional weaknesses, request assistance, or experiment with unfamiliar strategies when supervision is associated with blame or fault finding. Relational trust allows teachers to treat feedback and professional guidance as opportunities for improvement rather than as threats to their competence. Li et al. (2016), in their study involving 970 teachers from 32 primary schools, found that faculty trust mediated the relationship between principal leadership and teacher professional learning. Their findings indicate that leadership practices alone may not be sufficient when teachers do not trust the intentions, competence, and fairness of their school leaders. A supportive school head must therefore combine instructional expectations with respectful communication, consistency, confidentiality, and recognition of teachers' professional judgment. Trust does not remove accountability, but it enables teachers and leaders to discuss classroom problems more honestly. Within public elementary schools, this relationship may help teachers seek guidance on lesson planning, assessment, remediation, classroom management, and learner diversity without fear that their difficulties will automatically be treated as professional failure.

Professional Learning Communities and Collaborative Support

Professional support is strengthened when teacher learning is organized as a shared school responsibility rather than an individual undertaking. Professional learning communities provide spaces where teachers examine learner work, discuss instructional problems, observe practices, exchange materials, and develop common responses to learning needs. Zheng et al. (2019) found that instructional leadership significantly influenced the components of professional learning communities among elementary school teachers. Collaborative activity, reflective dialogue, attention to student learning, and the sharing of classroom practices were also associated with stronger teacher self-efficacy. These findings show that instructional leaders can support teachers by protecting time for professional dialogue and creating conditions where knowledge is shared across grade levels and subject areas. Admiraal et al. (2021) further reported that schools can support professional learning by promoting collaboration, inquiry, experimentation, shared responsibility, and school-level arrangements for teacher development. Meetings and learning sessions, however, do not automatically become professional learning communities. They must focus on genuine instructional questions and allow teachers to study evidence, test possible solutions, and reflect on results. School leaders play an important role in keeping these activities purposeful, safe, and connected to classroom practice.

Relevant and Practice-Based Professional Development

The usefulness of professional development depends on how closely it responds to what teachers need to learn and how well it supports the use of that learning in the classroom. Kennedy (2016) explained that professional development programs differ not only in content but also in the strategies used to help teachers incorporate new ideas into their existing practice. Information may be valuable, yet it may produce little change when teachers are not guided in applying it to actual lessons, pupils, and classroom situations. Sims and Fletcher-Wood (2021) also cautioned against assuming that a fixed list of program features will make every professional development activity effective. Their review showed that commonly recommended features, such as sustained duration, collaboration, subject focus, external expertise, teacher participation, and attention to practice, must be understood together with the mechanisms through which teacher learning occurs. This literature supports professional assistance that includes explanation, modeling, guided practice, feedback, repetition, reflection, and follow-up. For public elementary school teachers, support should therefore be selected according to identified instructional needs rather than based only on the availability of seminars. Responsive school leaders must also check whether teachers can apply what they learned and provide further assistance when implementation difficulties appear.

METHODS

Research Design

The study employed a cross-sectional predictive latent-variable design to examine the relationship between instructional leadership responsiveness and teacher professional support in public elementary schools. This design was selected because the two major variables represented multidimensional constructs that could not be measured adequately through a single item or observed score. Instructional leadership responsiveness was treated as a higher-order construct reflected by needs recognition, timeliness of response, instructional feedback, and adaptive follow-through. Teacher professional support was likewise treated as a higher-order construct represented by coaching and mentoring, collaborative professional learning, access to instructional resources, and professional growth assistance. The design allowed the researcher to evaluate the quality of the measurement instrument and the predictive relationship between the constructs within one analytical model. It did not claim that instructional leadership caused teacher professional support because the information was gathered at one period rather than through experimental manipulation or repeated measurement. Partial least squares structural equation modeling was selected because it supported the estimation of complex latent-variable relationships while emphasizing explanation and prediction (Hair et al., 2019; Hair et al., 2022).

A two-stage higher-order modeling procedure was applied. During the first stage, the scores for the specific dimensions of instructional leadership responsiveness and teacher professional support were estimated. During the second stage, these dimension scores served as indicators of the two broader constructs. This procedure allowed each variable to retain its conceptual dimensions while producing an overall estimate of the relationship between responsive instructional leadership and the professional support experienced by teachers.

Research Locale

The investigation was carried out in selected public elementary schools in the municipality of Gamu, Isabela. These schools operated under the Schools Division of Isabela and followed the policies, professional standards, and instructional supervision procedures prescribed by the Department of Education. The locale was chosen because it provided a suitable setting for examining how school-level instructional leadership was translated into professional assistance for elementary teachers.

Permission to conduct the study was obtained from the appropriate division and school authorities before the collection of data. Individual schools were not ranked or compared in the presentation of the findings. School

identities were replaced with identification codes during data processing to prevent the results from being interpreted as evaluations of particular school heads or institutions.

Participants and Sampling Technique

The participants consisted of teachers assigned to public elementary schools within the identified locale. To qualify for inclusion, a teacher had to be actively performing classroom teaching duties, had completed at least one full school year in the present school, and had experienced instructional supervision or school-based professional development under the current school leadership. School heads, non-teaching personnel, short-term substitute teachers, and teachers who had not yet completed one school year in their assigned schools were excluded because they might not have had sufficient exposure to the leadership and support practices being measured.

A proportionate stratified random sampling technique was used. Each participating school constituted a stratum, and the share of participants drawn from each school was determined according to its proportion of eligible teachers in the total sampling frame. After the required allocation for every school had been established, participants were selected through computer-generated random numbers. This procedure maintained representation across schools while giving every eligible teacher within each stratum an equal probability of selection. Sample adequacy was established through an a priori statistical power analysis based on the anticipated effect size, selected significance level, desired statistical power, and number of predictor relationships in the structural model. No demographic or employment profile information was requested because such information was not included among the objectives of the study.

Research Instrument

Data were collected through a researcher-developed questionnaire titled the *Instructional Leadership Responsiveness and Teacher Professional Support Scale*. The instrument contained two substantive sections and did not include a respondent profile section. The first section measured instructional leadership responsiveness through statements concerning the identification of teaching concerns, promptness of leadership action, usefulness of instructional feedback, accessibility of assistance, and continuity of follow-up. The second section assessed teacher professional support through items on coaching, mentoring, collaborative learning, instructional resources, professional development opportunities, and assistance in applying new practices.

Responses were recorded using a five-point agreement scale. A response of 5 represented strongly agree, 4 represented agree, 3 represented moderately agree, 2 represented disagree, and 1 represented strongly disagree. The items described observable school practices rather than general judgments about the personal qualities of school leaders. Statements were written in clear and direct language to reduce ambiguity and prevent reading difficulty from affecting the measurement of the intended constructs.

The initial item pool was reviewed by specialists in educational leadership, elementary education, research methodology, and measurement and evaluation. The validators examined each statement for relevance, clarity, alignment with the assigned construct, suitability for public elementary school teachers, and freedom from double meanings. The instrument obtained a scale-level content validity index of $S-CVI/Ave = .94$, indicating excellent agreement among the validators regarding the relevance and appropriateness of the items. The item-level content validity indices of the retained statements ranged from .83 to 1.00. Statements that did not meet the acceptable content validity criterion were revised, divided into more specific items, or removed before pilot administration.

Cognitive checking was conducted with public elementary school teachers who were not included in the pilot group or final sample. They were asked to explain their understanding of selected statements and response choices. Their feedback led to the replacement of unfamiliar terms, clarification of vague references, removal of repetitive wording, and simplification of statements that could be interpreted in more than one way. The process provided response-process evidence that the participants understood the items according to their intended meanings.

The revised questionnaire was pilot-tested among public elementary school teachers from a comparable setting outside the research locale. The teachers who participated in the pilot administration were excluded from

the main investigation. Responses were examined for missing data, restricted response variation, corrected item-total correlations, and internal consistency. The pilot test produced a Cronbach's alpha coefficient of $\alpha = .91$ for the Instructional Leadership Responsiveness Scale and $\alpha = .93$ for the Teacher Professional Support Scale. The complete instrument obtained an overall Cronbach's alpha of $\alpha = .95$, indicating excellent internal consistency. Corrected item-total correlations ranged from .48 to .79, showing that the retained items contributed adequately to their respective scales. Two statements with overlapping meanings were combined, while one item with a corrected item-total correlation below .30 was removed before final administration. Measurement quality was further examined in the main analysis through indicator loadings, composite reliability, ρ_A , average variance extracted, and discriminant validity rather than relying solely on Cronbach's alpha (Hair et al., 2020).

Data Gathering

The researcher first secured ethical clearance and written authorization from the offices responsible for the participating schools. After approval had been obtained, the official list of eligible teachers was requested solely for sampling purposes. Random selection was completed before the questionnaires were distributed. The school heads were informed about the schedule and general requirements of the study, but they were not given access to the identities of teachers who accepted or declined participation.

An independent school research coordinator or authorized focal person assisted in distributing the invitation letters, informed consent forms, questionnaires, and sealed return envelopes. This arrangement reduced the possibility that teachers would feel obligated to participate because of the researcher's leadership position. The consent form explained the purpose of the investigation, the expected time needed to answer the instrument, the voluntary nature of participation, the handling of data, and the participant's right to withdraw before submission.

The questionnaires were completed during an agreed non-instructional period. Participants placed their accomplished forms in unmarked sealed envelopes and deposited them in a designated collection container. The researcher did not collect individual questionnaires directly from teachers. After retrieval, the forms were assigned numerical codes, inspected for completeness, and entered into an electronic database. A second encoding check was conducted against the original questionnaires to identify and correct data-entry errors. Questionnaires with substantial missing responses were excluded according to the predetermined data-screening rule, while isolated missing values were managed using the procedure specified before analysis.

Data Analysis

The analysis was completed in several stages. Item responses were first examined through frequency distributions, medians, interquartile ranges, missing-value patterns, and measures of distributional shape. Medians and interquartile ranges were used for item-level summaries because the response options were ordinal. The analysis did not produce demographic comparisons because respondent profiles were not collected.

The measurement model was then evaluated through confirmatory composite analysis using partial least squares structural equation modeling. Indicator reliability was examined through outer loadings. Internal consistency was assessed through Cronbach's alpha, composite reliability, and ρ_A . Convergent validity was evaluated through the average variance extracted, while discriminant validity was examined through the heterotrait-monotrait ratio. Indicators with weak loadings were not removed automatically. Their theoretical importance, content coverage, and effect on reliability and validity were examined before a decision was made. This procedure prevented the statistical refinement of the scale from weakening its substantive meaning (Hair et al., 2020).

After the measurement requirements had been satisfied, the structural model was evaluated. Collinearity among predictor components was examined through variance inflation factors. The relationship between instructional leadership responsiveness and teacher professional support was estimated through the standardized path coefficient. Statistical inference was based on bias-corrected and accelerated bootstrap confidence intervals generated from 10,000 resamples. A relationship was considered statistically supported when its confidence interval did not include zero and its probability value was below .05.

The strength and practical meaning of the model were assessed through the coefficient of determination, effect size, and predictive relevance. The coefficient of determination showed the proportion of variance in teacher professional support accounted for by instructional leadership responsiveness. The effect-size statistic indicated how much explanatory contribution the leadership construct made to the outcome. Out-of-sample predictive performance was examined through PLSpredict, which compared the model's prediction errors with those produced by a linear benchmark model. This approach extended the analysis beyond statistical significance and determined whether the model had practical predictive value for observations not directly used in its estimation (Shmueli et al., 2019).

An importance-performance map analysis was conducted after the structural model had been accepted. This analysis identified which dimensions of instructional leadership responsiveness had strong importance for teacher professional support but showed comparatively lower performance scores. The results provided a basis for identifying leadership practices that required priority attention. Thus, the analysis did not stop at determining whether a significant relationship existed. It also identified areas in which improvement in leadership responsiveness could yield the greatest increase in professional support.

Ethical Consideration

The study proceeded only after approval had been obtained from the appropriate research ethics authority and education offices. Participation remained voluntary, and no teacher was penalized for refusing to participate, leaving items unanswered, or withdrawing before submitting the questionnaire. The consent process stated that participation would not affect teaching assignments, performance ratings, promotion opportunities, access to training, or relationships with school administrators.

No names, employee numbers, personal contact details, or respondent profile data were collected. Codes were used only for data organization and were not connected to the identity of any participant. School heads were not informed about who participated or how individual teachers answered. Findings were reported only in aggregated form, and results for groups that were too small to protect anonymity were combined with other data or withheld.

The researcher also addressed the possible influence arising from occupying a school leadership position. Recruitment and questionnaire collection were facilitated by an independent person, and teachers were not approached individually by the researcher. The study was not used to assess the performance of any school head, teacher, or school. Statements in the questionnaire focused on institutional practices and professional support experiences rather than accusations, complaints, or personal judgments.

Electronic data were stored in a password-protected and encrypted file, while printed questionnaires and consent documents were kept separately in locked storage. Access was limited to the researcher and authorized research personnel. Data were retained only for the period required by institutional policy and publication requirements, after which electronic files were securely deleted and paper forms were destroyed. These procedures followed the principles of lawful processing, transparency, proportionality, security, and protection of personal information under Republic Act No. 10173, otherwise known as the Data Privacy Act of 2012.

RESULTS AND DISCUSSION

Table 1. Perceived Level of Instructional Leadership Responsiveness

Dimension	Median	IQR	Mean	SD	Interpretation	Rank
Recognition of instructional needs	4.00	1.00	3.52	0.64	Agree	2
Timeliness of leadership response	3.00	1.00	3.18	0.72	Moderately Agree	4
Quality of instructional feedback	4.00	1.00	3.61	0.66	Agree	1
Adaptive follow-through	3.00	1.00	3.27	0.70	Moderately Agree	3
Overall instructional leadership responsiveness	3.50	0.75	3.40	0.58	Moderately Agree	

Scale interpretation: 4.21 to 5.00 = Strongly Agree; 3.41 to 4.20 = Agree; 2.61 to 3.40 = Moderately Agree; 1.81 to 2.60 = Disagree; 1.00 to 1.80 = Strongly Disagree.

Table 1 shows that instructional leadership responsiveness was generally perceived at a moderate level, with an overall mean of 3.40 and a median of 3.50. The result indicated that teachers recognized the presence of responsive leadership practices, but these practices were not experienced consistently across all areas. The overall score fell at the upper boundary of the moderately agree category, suggesting that school leaders had established useful instructional practices but had not yet achieved a uniformly responsive system.

The quality of instructional feedback obtained the highest mean of 3.61. Teachers generally agreed that school leaders provided comments, suggestions, and guidance that were related to classroom instruction. This finding suggested that instructional supervision was not limited to documenting compliance. Teachers appeared to receive feedback that helped them reflect on lesson delivery, assessment, classroom management, or learner performance. The result reflected the central role of instructional leaders in helping teachers examine their practice and clarify areas for improvement.

Recognition of instructional needs ranked second, with a mean of 3.52. This showed that school leaders were generally able to identify concerns encountered by teachers. Such recognition may have occurred through classroom observations, discussions during Learning Action Cell sessions, review of assessment results, informal consultations, or examination of instructional documents. Leadership for learning requires school heads to understand the actual conditions that influence teaching rather than relying only on general assumptions about teacher needs (Boyce & Bowers, 2018).

Despite these favorable areas, adaptive follow-through received only a moderately agree rating, with a mean of 3.27. This result indicated that assistance was not always sustained after initial feedback or intervention. Teachers may have received recommendations, but subsequent monitoring, coaching, or adjustment of support did not occur regularly. A single conference or observation may identify a concern, but professional improvement requires continued guidance and opportunities to apply, review, and refine the suggested practice.

Timeliness of leadership response obtained the lowest mean of 3.18. This finding revealed the most evident weakness in instructional leadership responsiveness. Teachers may have experienced delays in receiving materials, feedback, coaching, decisions, or assistance after raising instructional concerns. Delayed responses can lessen the usefulness of support, particularly when teachers are dealing with immediate problems involving learner remediation, assessment results, lesson implementation, or classroom behavior. Responsive leadership therefore requires not only accurate identification of needs but also action within a period when the assistance can still influence teaching.

The variation among the dimensions supported the view that effective school leadership is not simply the presence of instructional activities. Leadership practices must be adjusted to the needs, timing, and working conditions of teachers (Leithwood et al., 2020). The findings suggested that public elementary school leaders demonstrated strength in diagnosing concerns and giving feedback, but they needed to improve the speed and continuity of their responses.

Table 2. Perceived Level of Teacher Professional Support

Dimension	Median	IQR	Mean	SD	Interpretation	Rank
Coaching and mentoring	3.00	1.00	3.29	0.71	Moderately Agree	3
Collaborative professional learning	4.00	1.00	3.66	0.63	Agree	1
Access to instructional resources	3.00	1.00	3.12	0.75	Moderately Agree	4
Professional growth assistance	4.00	1.00	3.43	0.68	Agree	2
Overall teacher professional support	3.50	0.75	3.38	0.60	Moderately Agree	

Table 2 presents an overall mean of 3.38 for teacher professional support, interpreted as moderately agree. This result indicated that professional assistance was available in the participating schools, although its accessibility and usefulness varied across support areas. Teachers did not view professional support as absent, but the overall level suggested that the existing mechanisms did not yet respond fully to their instructional and developmental needs.

Collaborative professional learning obtained the highest mean of 3.66. Teachers agreed that opportunities were provided for professional discussion, sharing of practices, joint problem solving, and school-based learning. Learning Action Cell meetings, grade-level discussions, peer consultations, and collaborative preparation may have contributed to this result. Collaborative structures can help teachers examine learner work, exchange strategies, and address common classroom concerns. However, their value depends on whether the sessions focus on instructional problems and produce concrete actions rather than serving only as scheduled meetings.

Professional growth assistance ranked second, with a mean of 3.43. Teachers generally agreed that school leaders encouraged participation in learning activities and supported efforts to improve professional competence. This may have included recommendations for seminars, school-based training, learning sessions, or opportunities to perform leadership responsibilities. The result suggested that professional growth was recognized as an important school concern.

Coaching and mentoring received a mean of 3.29. The moderate result showed that teachers did not experience individualized developmental support consistently. Formal training and group activities may have been more common than sustained one-to-one guidance. Coaching is particularly important when a teacher is learning a new strategy, addressing a recurring classroom concern, or applying feedback obtained from observation. Its usefulness comes from repeated interaction, focused guidance, and follow-up rather than from a single conversation (Kraft et al., 2018).

Access to instructional resources received the lowest mean of 3.12. This finding indicated that teachers experienced limitations in obtaining materials, technology, references, assessment tools, or other resources needed to carry out instructional improvements. Professional advice may be difficult to apply when teachers lack the necessary materials or access to suitable learning resources. The result therefore pointed to a practical gap between professional expectations and the resources available for implementation.

The moderately agree overall rating showed that teacher professional support required improvement in both personal guidance and material assistance. The schools appeared to have stronger collaborative arrangements than individualized and resource-based support. Professional learning systems become more meaningful when collaboration is combined with access to materials, expert guidance, opportunities for practice, and sustained follow-up (Sims & Fletcher-Wood, 2021).

Table 3. Reliability and Convergent Validity of the Measurement Model

Construct	Number of Retained Indicators	Loading Range	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Recognition of instructional needs	4	0.72 to 0.85	0.82	0.83	0.88	0.65
Timeliness of leadership response	4	0.73 to 0.87	0.84	0.85	0.89	0.67
Quality of instructional feedback	4	0.76 to 0.88	0.86	0.87	0.90	0.69
Adaptive follow-through	4	0.71 to 0.84	0.80	0.81	0.87	0.62
Coaching and mentoring	4	0.74 to 0.88	0.85	0.86	0.90	0.68
Collaborative professional learning	4	0.77 to 0.89	0.87	0.88	0.91	0.72
Access to instructional resources	4	0.70 to 0.86	0.81	0.82	0.87	0.63
Professional growth assistance	4	0.73 to 0.87	0.84	0.85	0.89	0.67
Instructional leadership responsiveness	4-dimension scores	0.82 to 0.90	0.90	0.91	0.93	0.76
Teacher professional support	4-dimension scores	0.84 to 0.91	0.91	0.92	0.94	0.79

Table 3 shows that the measurement model satisfied the requirements for indicator reliability, internal consistency, and convergent validity. The standardized loadings ranged from 0.70 to 0.89 for the first-order constructs and from 0.82 to 0.91 for the higher-order constructs. These values indicated that the retained indicators represented their assigned dimensions adequately.

Cronbach's alpha coefficients ranged from 0.80 to 0.91, while rho_A ranged from 0.81 to 0.92. Composite reliability values ranged from 0.87 to 0.94. All coefficients exceeded the minimum acceptable level of 0.70, demonstrating that the indicators within each construct produced consistent scores. At the same time, none of the composite reliability coefficients exceeded 0.95, which suggested that the items were not excessively repetitive.

Average variance extracted values ranged from 0.62 to 0.79. These results exceeded the recommended value of 0.50, indicating that each construct explained more than half of the variance in its indicators. Convergent validity was therefore established. The measurement findings supported the treatment of instructional leadership responsiveness and teacher professional support as higher-order constructs composed of conceptually related but distinct dimensions.

The reliability and validity result also confirmed that the observed differences reported in Tables 1 and 2 were not merely products of unstable measurement. The instrument demonstrated adequate measurement quality, which provided a defensible basis for testing the structural relationship between the two major variables. Following confirmatory composite analysis, no indicator was removed solely to improve statistical results because all retained items met acceptable loading and content requirements (Hair et al., 2020).

Table 4. *Heterotrait-Monotrait Ratios among Closely Related Constructs*

Construct Pair	HTMT Ratio	Decision
Recognition of needs and timeliness of response	0.76	Established
Recognition of needs and instructional feedback	0.79	Established
Timeliness of response and adaptive follow-through	0.83	Established
Instructional feedback and adaptive follow-through	0.81	Established
Coaching and mentoring and collaborative learning	0.80	Established
Coaching and mentoring and professional growth assistance	0.84	Established
Access to resources and professional growth assistance	0.78	Established
Instructional leadership responsiveness and teacher professional support	0.79	Established

Table 4 presents the heterotrait-monotrait ratios for the pairs of constructs that were expected to be closely related. The values ranged from 0.76 to 0.84 and remained below the conservative threshold of 0.85. These results established discriminant validity, indicating that the dimensions measured related but distinguishable aspects of instructional leadership and professional support.

The distinction between instructional leadership responsiveness and teacher professional support was particularly important. Although the constructs were strongly associated, they did not measure the same concept. Instructional leadership responsiveness described how school leaders recognized and acted on instructional needs, while teacher professional support represented the assistance, opportunities, and resources experienced by teachers. The HTMT value of 0.79 confirmed that the two constructs could be analyzed separately without creating serious conceptual overlap.

The result also showed that coaching and mentoring could be distinguished from professional growth assistance. Coaching involved direct and individualized guidance, whereas professional growth assistance included broader opportunities for development. Similarly, timeliness and adaptive follow-through were related but separate. A response could be given promptly but not sustained, while a delayed response might still involve continuing assistance. The discriminant validity results therefore supported the multidimensional structure of the instrument.

Table 5. *Structural Model Results*

Structural Path	Standardized Beta	Standard Error	t-value	p-value	95% BCa Confidence Interval	f ²	Decision
Instructional leadership responsiveness → Teacher professional support	0.68	0.049	13.88	<0.001	0.58 to 0.77	0.85	Significant
Model Criterion	Value	Interpretation					
VIF	1.00	No collinearity concern					
R ²	0.46	Moderate explanatory power					
Adjusted R ²	0.45	Moderate explanatory power					
SRMR	0.063	Acceptable model fit					
Q ²	0.34	Predictive relevance established					

Table 5 shows that instructional leadership responsiveness had a positive and statistically significant relationship with teacher professional support. The standardized path coefficient was 0.68, with a t-value of 13.88 and a probability value below .001. The bias-corrected and accelerated confidence interval ranged from 0.58 to 0.77 and did not contain zero. The result therefore supported the proposed structural relationship.

The positive coefficient indicated that higher levels of instructional leadership responsiveness were associated with stronger teacher professional support. Teachers who perceived their school leaders as attentive, prompt, constructive, and consistent were also more likely to report better access to coaching, collaboration, resources, and professional growth assistance. The magnitude of the coefficient showed that the relationship was not only statistically significant but also substantial.

The coefficient of determination showed that instructional leadership responsiveness explained 46 percent of the variance in teacher professional support. This represented moderate explanatory power. Nearly half of the differences in professional support could be connected to variations in how school leaders recognized needs, responded to concerns, provided feedback, and conducted follow-up. The remaining variance may have been influenced by factors such as school funding, division-level programs, teacher initiative, workload, resource availability, staffing conditions, and external professional development opportunities.

The effect size of 0.85 indicated a large practical contribution. Removing instructional leadership responsiveness from the model would have substantially reduced the explained variance in teacher professional support. This finding demonstrated that leadership responsiveness was not a minor organizational factor. It served as a central condition through which teachers gained access to relevant professional assistance.

The result supported the argument that professional support is shaped not only by the presence of programs but also by the manner in which school leaders connect those programs to teacher needs. A school may have Learning Action Cell sessions, classroom observations, training activities, and available materials, yet teachers may still experience weak professional support when leadership responses are delayed, generic, or poorly followed up. Leadership influence becomes stronger when school heads understand the concern, act at the appropriate time, and continue assisting the teacher after an initial intervention.

The finding was consistent with research showing that instructional leadership contributes to teacher learning, collaboration, and professional confidence. Professional support becomes more meaningful when teachers trust their leaders and view assistance as developmental rather than punitive (Li et al., 2016). It also supported the view that leadership contributes to the development of professional learning communities by establishing expectations, structures, and opportunities for shared learning (Zheng et al., 2019).

The positive result did not mean that the current level of professional support was already sufficient. Tables 1 and 2 showed moderate ratings for timeliness, follow-through, coaching, mentoring, and instructional resources. The structural result instead indicated that improving responsive leadership practices could produce meaningful gains in these weaker areas. The strong relationship provided an empirical basis for prioritizing leadership development as part of teacher support improvement.

Table 6. *PLSpredict Assessment of Teacher Professional Support*

Outcome Dimension	Q ² predict	PLS-SEM MAE	Linear Model MAE	Error Difference	Predictive Assessment
Coaching and mentoring	0.31	0.54	0.58	-0.04	Moderate predictive power
Collaborative professional learning	0.28	0.49	0.52	-0.03	Moderate predictive power
Access to instructional resources	0.22	0.61	0.63	-0.02	Moderate predictive power
Professional growth assistance	0.29	0.55	0.58	-0.03	Moderate predictive power

Table 6 shows that all Q²predict values were greater than zero, indicating that the model had out-of-sample predictive relevance. The values ranged from 0.22 to 0.31. This meant that instructional leadership responsiveness contributed to the prediction of teacher professional support beyond the observations directly used in estimating the model.

The mean absolute errors produced by PLS-SEM were lower than those of the linear benchmark model for all four outcome dimensions. The differences were modest but consistent. Based on the predictive assessment criteria, the model demonstrated moderate predictive power. This result strengthened the structural findings because the model did not merely explain relationships within the available data. It also showed a reasonable capacity to predict professional support scores for comparable observations.

Coaching and mentoring obtained the highest Q²predict value of 0.31. This suggested that responsive leadership had particularly useful predictive value for individualized professional guidance. When leaders recognized instructional concerns, acted promptly, and followed up their recommendations, teachers were more likely to receive coaching and mentoring. Such support often depends heavily on the actions and availability of the school leader.

Access to instructional resources had the lowest Q²predict value of 0.22. Leadership responsiveness remained relevant, but resource access was likely affected by additional conditions outside the immediate control of the school head. These may have included school budgets, procurement procedures, availability of technology, supply allocation, and external resource support. The result explained why leadership responsiveness could improve resource assistance but could not account for all limitations in this area.

The predictive findings supported the practical use of the model for planning leadership interventions. The model may help school administrators identify areas where stronger responsiveness is likely to improve professional support. However, prediction should not be treated as certainty. School conditions and resource differences must still be considered when applying the findings to other settings (Shmueli et al., 2019).

Table 7. *Importance-Performance Map of Instructional Leadership Responsiveness Dimensions*

Leadership Dimension	Importance to Teacher Professional Support	Performance Score	Priority Index	Priority Rank
Timeliness of leadership response	0.29	54.80	13.11	1
Adaptive follow-through	0.27	56.40	11.77	2
Recognition of instructional needs	0.22	61.70	8.43	3
Quality of instructional feedback	0.20	66.30	6.74	4

Performance scores were rescaled from 0 to 100. Higher importance and lower performance indicated greater need for intervention.

Table 7 identifies timeliness of leadership response as the leading priority for improvement. It obtained the highest importance value of 0.29 but a performance score of only 54.80. This combination showed that timeliness exerted a strong influence on teacher professional support while remaining one of the less developed

leadership practices. Improvement in the speed of leadership response was therefore expected to generate the greatest gain in professional support.

The finding was consistent with the descriptive result in Table 1, where timeliness received the lowest mean. Teachers may have recognized the competence and willingness of school leaders to provide assistance, but the support may not always have arrived when it was most needed. A response given after the completion of a lesson sequence, assessment period, or intervention cycle may have limited instructional value. School leaders may therefore need clearer response procedures for urgent instructional concerns, scheduled feedback periods, accessible consultation channels, and quicker decisions regarding teaching resources.

Adaptive follow-through ranked second in priority. Its importance value was 0.27, while its performance score was 56.40. The result indicated that continued assistance after an initial response strongly influenced teachers' perception of professional support. Teachers needed more than recommendations. They also needed opportunities to report progress, raise further questions, receive additional feedback, and modify their practice based on learner response.

Recognition of instructional needs ranked third. Its performance was higher than those of timeliness and follow-through, but it still required attention. Leaders may have identified general concerns through observation and meetings, yet deeper diagnosis could be achieved by examining assessment evidence, learner outputs, lesson implementation difficulties, and teacher reflections. Accurate recognition is important because an incorrect diagnosis may lead to support that is available but not relevant.

Quality of instructional feedback received the highest performance score and the lowest priority index. This did not mean that feedback was unimportant. Its importance value of 0.20 showed that it still contributed to professional support. However, it was already the strongest-performing leadership dimension. The schools would gain more immediate benefit by maintaining the quality of feedback while directing additional improvement efforts toward timeliness and sustained follow-through.

The importance-performance map provided a practical interpretation of the structural model. The significant path coefficient showed that instructional leadership responsiveness mattered, while the map identified which leadership behaviors should be addressed first. The findings supported a targeted improvement plan rather than a broad program that treated all leadership dimensions as equally weak.

Table 8. Consolidated Results of the Study

Research Focus	Major Result
Instructional leadership responsiveness	Moderately responsive overall, with strength in instructional feedback and weakness in timeliness
Teacher professional support	Moderate overall, with strength in collaborative learning and weakness in access to instructional resources
Reliability and convergent validity	All constructs met accepted reliability and AVE requirements
Discriminant validity	All HTMT ratios were below 0.85
Structural relationship	Positive and significant relationship, $\beta = 0.68$, $p < .001$
Explanatory power	Instructional leadership responsiveness explained 46% of teacher professional support
Effect size	Large practical effect, $f^2 = 0.85$
Predictive performance	Moderate out-of-sample predictive power
Primary improvement priority	Timeliness of leadership response
Secondary improvement priority	Adaptive follow-through

The consolidated findings showed that the schools had functioning systems of instructional leadership and professional support, but these systems were not equally strong across all dimensions. Teachers generally received useful feedback and participated in collaborative professional learning. However, delays in leadership

response, insufficient follow-through, limited coaching, and inadequate access to resources reduced the overall strength of support.

The strongest result of the study was the substantial relationship between instructional leadership responsiveness and teacher professional support. Responsive leadership accounted for a meaningful proportion of professional support and demonstrated moderate predictive value. This result indicated that improving the way school leaders responded to instructional concerns could strengthen teacher development even when resource limitations remained.

The findings also showed that professional support should not be measured only by the presence of training, meetings, or supervisory activities. Teachers evaluated support according to whether assistance was relevant, accessible, timely, sustained, and applicable to their classroom responsibilities. For this reason, school improvement efforts should combine professional development programs with leadership systems that ensure prompt responses and continuing guidance.

The study therefore pointed to a clear practical direction. Public elementary school leaders needed to preserve their strengths in feedback and collaborative learning while improving response time, coaching arrangements, resource facilitation, and follow-up mechanisms. These improvements could make professional support more responsive to teachers' actual work and contribute to stronger instructional practice across the school.

CONCLUSION

Instructional leadership responsiveness played a substantial role in strengthening teacher professional support in public elementary schools. Teachers generally perceived school leaders as capable of recognizing instructional concerns and providing useful feedback, but weaknesses remained in the timeliness of responses, continuity of follow-up, individualized coaching, and access to instructional resources. The significant positive relationship between instructional leadership responsiveness and teacher professional support showed that teachers were more likely to experience meaningful professional assistance when school leaders acted promptly, provided relevant guidance, and sustained support after initial interventions. Based on these findings, school leaders should establish clearer response procedures for instructional concerns, schedule regular coaching and mentoring sessions, strengthen follow-up after classroom observations and professional development activities, and improve coordination in the provision of instructional materials. Learning Action Cell sessions should also be used for evidence-based problem solving, collaborative lesson improvement, and discussion of learner performance rather than for administrative matters alone. Schools should develop a structured professional support plan that identifies teacher needs, assigns appropriate assistance, sets realistic timelines, and monitors the application of recommended practices. Division and district offices should provide school heads with further training in responsive instructional supervision, coaching, resource management, and data-informed decision-making. Future studies may examine other factors that influence teacher professional support, use longitudinal or mixed-method approaches, and include schools from other districts or divisions to determine whether the findings remain consistent across different educational settings.

References

- Admiraal, W., Schenke, W., De Jong, L., Emmelot, Y., & Sligte, H. (2021). Schools as professional learning communities: What can schools do to support professional development of their teachers? *Professional Development in Education*, 47(4), 684–698. <https://doi.org/10.1080/19415257.2019.1665573>
- Bellibaş, M. Ş., Gümüş, S., & Liu, Y. (2021). Does school leadership matter for teachers' classroom practice? The influence of instructional leadership and distributed leadership on instructional quality. *School Effectiveness and School Improvement*, 32(3), 387–412. <https://doi.org/10.1080/09243453.2020.1858119>

- Boyce, J., & Bowers, A. J. (2018). Toward an evolving conceptualization of instructional leadership as leadership for learning: Meta-narrative review of 109 quantitative studies across 25 years. *Journal of Educational Administration*, 56(2), 161–182. <https://doi.org/10.1108/JEA-06-2016-0064>
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute. https://learningpolicyinstitute.org/sites/default/files/product-files/Effective_Teacher_Professional_Development_REPORT.pdf
- Department of Education. (2016). *The Learning Action Cell as a K to 12 Basic Education Program school-based continuing professional development strategy for the improvement of teaching and learning* (DepEd Order No. 35, s. 2016). <https://www.deped.gov.ph/2016/06/07/do-35-s-2016-the-learning-action-cell-as-a-k-to-12-basic-education-program-school-based-continuing-professional-development-strategy-for-the-improvement-of-teaching-and-learning/>
- Department of Education. (2017). *National adoption and implementation of the Philippine Professional Standards for Teachers* (DepEd Order No. 42, s. 2017). <https://www.deped.gov.ph/2017/08/11/do-42-s-2017-national-adoption-and-implementation-of-the-philippine-professional-standards-for-teachers-2/>
- Department of Education. (2020). *National adoption and implementation of the Philippine Professional Standards for School Heads* (DepEd Order No. 24, s. 2020). https://www.deped.gov.ph/wp-content/uploads/2020/09/DO_s2020_024-.pdf
- Department of Education. (2022). *Adoption of the Basic Education Development Plan 2030* (DepEd Order No. 24, s. 2022). https://www.deped.gov.ph/wp-content/uploads/2022/05/DO_s2022_024.pdf
- Hair, J. F., Jr., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101–110. <https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Hair, J. F., Jr., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research*, 86(4), 945–980. <https://doi.org/10.3102/0034654315626800>
- Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547–588. <https://doi.org/10.3102/0034654318759268>
- Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadership & Management*, 40(1), 5–22. <https://doi.org/10.1080/13632434.2019.1596077>
- Li, L., Hallinger, P., & Walker, A. (2016). Exploring the mediating effects of trust on principal leadership and teacher professional learning in Hong Kong primary schools. *Educational Management Administration & Leadership*, 44(1), 20–42. <https://doi.org/10.1177/1741143214558577>
- Liebowitz, D. D., & Porter, L. (2019). The effect of principal behaviors on student, teacher, and school outcomes: A systematic review and meta-analysis of the empirical literature. *Review of Educational Research*, 89(5), 785–827. <https://doi.org/10.3102/0034654319866133>
- Liu, S., & Hallinger, P. (2018). Principal instructional leadership, teacher self-efficacy, and teacher professional learning in China: Testing a mediated-effects model. *Educational Administration Quarterly*, 54(4), 501–528. <https://doi.org/10.1177/0013161X18769048>
- Organisation for Economic Co-operation and Development. (2020). *TALIS 2018 results, Volume II: Teachers and school leaders as valued professionals*. OECD Publishing. <https://doi.org/10.1787/19cf08df-en>
- Republic of the Philippines. (2012). *Republic Act No. 10173: Data Privacy Act of 2012*. https://lawphil.net/statutes/repacts/ra2012/ra_10173_2012.html
- Shmueli, G., Sarstedt, M., Hair, J. F., Jr., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Sims, S., & Fletcher-Wood, H. (2021). Identifying the characteristics of effective teacher professional development: A critical review. *School Effectiveness and School Improvement*, 32(1), 47–63. <https://doi.org/10.1080/09243453.2020.1772841>

-
- Thien, L. M., & Liu, P. (2024). Linear and nonlinear relationships between instructional leadership and teacher professional learning through teacher self-efficacy as a mediator: A partial least squares analysis. *Humanities and Social Sciences Communications*, 11, Article 7. <https://doi.org/10.1057/s41599-023-02500-5>
- Zheng, X., Yin, H., & Li, Z. (2019). Exploring the relationships among instructional leadership, professional learning communities and teacher self-efficacy in China. *Educational Management Administration & Leadership*, 47(6), 843–859. <https://doi.org/10.1177/1741143218764176>