

Structured Professional Support System and Driver of Pedagogical Growth of Instructional Supervisors

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Abstract

This study employed a descriptive correlational research design to examine the relationship between structured professional support systems and pedagogical competence of instructional supervisors. The respondents consisted of 83 Master Teachers from Lopez East (26) and Lopez West (57) Districts, selected through total enumeration. The study focused on structured technical assistance and learning and development (L&D) as components of professional support, with professional reflective practice examined as a mediating variable. Findings revealed that structured technical assistance was highly experienced, while L&D initiatives were highly effective in supporting professional growth. Instructional supervisors demonstrated distinguished pedagogical competence and highly proficient reflective practices. Results further indicated significant positive relationships between professional support systems and pedagogical competence. Professional reflective practice partially mediated the relationships between technical assistance, L&D, and pedagogical competence. Based on the findings, inputs for an enhanced learning and development plan were generated, emphasizing strengthened technical assistance, aligned L&D systems, and institutionalized reflective practice to further improve instructional supervision and teaching quality.

Keywords: master teachers; structured professional support; technical assistance; L&D

1. Introduction

Education plays a critical role in nation-building. It is universally recognized as a key driver of sustainable development. To achieve this, every component of the educational system should work harmoniously towards the realization of this national goal. To ensure quality education for every learner, continuous professional development and technical support for teachers are prioritized to meet the demands of 21st-century learning. Effective teacher professional development and technical support are essential for improving learning outcomes in the 21st century (OECD, 2021). Despite these mechanisms and efforts, many education systems across nations still encounter problems in ensuring that teachers receive adequate support, mentoring, coaching, and training to improve instructional competence.

The Philippines faces similar challenges, as highlighted by the Second Congressional Commission on Education (EDCOM 2). Its report revealed a foundational learning crisis, where many learners fail to master basic literacy and numeracy by Grade 3, creating long-term achievement gaps. Additional issues include teacher workload burdens, misalignment between teacher specialization and classroom assignments, and leadership shortages in schools. These findings underscore the urgent need for reforms that strengthen

teacher competence and professional development.

To address these concerns, the Department of Education (DepEd) has issued policies emphasizing teacher competence and professional development. DepEd Order No. 024, s. 2025 introduced the Expanded Career Progression System for Teachers and School Heads, promoting continuous learning and development ([DepEd, 2025a). DepEd Memorandum No. 001, s. 2025 provided operational guidelines for supporting schools to improve learning outcomes (DepEd, 2025b) and launched professional development programs aimed at building teacher expertise in content and pedagogy (DepEd, 2025c).

Strengthening teacher competence requires more than classroom experience. It depends on structured professional support systems such as technical assistance and learning and development (L&D) programs. Technical assistance (TA) refers to structured support provided to teachers through coaching, mentoring, and instructional supervision to improve teaching practices. DepEd has institutionalized TA through various policies. Recent studies emphasized that teacher effectiveness is significantly shaped by the quality of professional development opportunities provided. Barrera and Cabal (2025) found that sustained technical assistance through mentoring and coaching significantly improved instructional quality and teacher performance in elementary schools. Similarly, Cachuela (2025) reported that technical assistance provided by school leaders positively influenced teacher performance and curriculum implementation.

Learning and development (L&D) encompasses structured professional development programs aimed at enhancing teachers' knowledge, skills, and attitudes. DepEd has issued several policies to institutionalize L&D. DepEd Order No. 001, s. 2020 outlines professional development priorities for teachers and school leaders, emphasizing continuous upskilling and reskilling aligned with the Philippine Professional Standards for Teachers (PPST) (DepEd, 2020). The PPST, established through DepEd Order No. 42, s. 2017, serves as the basis for all L&D programs, ensuring that teachers meet competency standards across seven domains (DepEd, 2017). Recent guidelines on In-Service Training (INSET) for SY 2023–2024 also reinforce the role of school-based and division-based training in addressing teachers' learning needs (DepEd, 2024). Similarly, L&D initiatives that integrate pedagogy, content mastery, and technology use have been recognized as central to strengthening teaching competence and responsiveness to 21st-century learning needs (Mariscal et al., 2023). These findings highlight that teaching excellence emerges not solely from individual expertise but also from systems that nurture and refine teachers' professional practices.

Professional reflective practice has also gained increasing recognition as a driver of pedagogical growth. Reflection enables teachers to critically examine their experiences, assess the effectiveness of strategies, and adjust methods for future instruction. Research shows that teachers engaging in reflective thinking processes demonstrate higher pedagogical competence and more effective instructional decision-making. Similarly, reflective engagement enhances the integration of professional learning into classroom contexts, fostering adaptability and innovative practice (Dumaguin & Yango, 2023). This suggests that reflection strengthens teachers' ability to maximize the benefits of technical assistance and L&D activities. International studies support the view that the integration of structured professional development and reflective practice directly contributes to pedagogical competence. Programs that combine technical support with reflective dialogue enhance teachers' capacity in lesson planning, classroom management, and differentiated instruction (El-Hamamsy et al., 2024). Likewise, digital education initiatives supported by professional development and reflective adaptation have helped teachers respond to rapid changes in curriculum delivery, further emphasizing the complementary role of reflection in professional growth (Mariscal et al., 2023).

In the local context, growing evidence confirms the importance of targeted assistance and reflective practice in sustaining teacher quality. Teachers who engage in professional development activities on

assessment, inclusion, and technology integration exhibit stronger pedagogical skills, while those who practice continuous reflection are more effective in aligning instructional approaches with learner needs (Dumaguing & Yango, 2023). These insights suggest that reflective practice not only amplifies the effects of external support but also serves as a catalyst for sustained teacher growth.

Despite this emerging body of research, there remain gaps in understanding how technical assistance and L&D jointly influence pedagogical competence, particularly among Master Teachers who serve as instructional leaders. Master Teachers play a fundamental role in modeling effective practice, guiding colleagues, and leading curriculum innovations, yet limited studies have examined how reflective practice mediates the link between the support they receive and the competence they demonstrate. Addressing this gap is essential for informing evidence-based policies and programs that strengthen classroom instruction and leadership practices.

This study therefore seeks to examine the influence of technical assistance and L&D activities on the pedagogical competence of Master Teachers, while also determining the mediating role of professional reflective practice. By integrating international and local findings, the study aims to contribute to a deeper understanding of how professional support systems and reflective engagement intersect to enhance teacher effectiveness and leadership in education.

2. Methodology

Critical to the achievement of the objectives of the study is the appropriate research design to guide and carry out the process. In this academic undertaking, the researcher employed descriptive correlational research design as its main framework. As a specific form of quantitative research, descriptive correlational research design identifies relationships between variables and can be used for predictive purposes (Putri, et al., 2025). This design is a methodological approach analyzing relationship between two or more variables without manipulating these variables.

Since the researcher wanted to examine the relationship between the given technical assistance (TA) and the learning & development (L&D) to the demonstrated pedagogical competence of master teachers in Lopez East and West Districts of the Department of Education – Division of Quezon, the correlational research design is the most suited in this work. Getting the relationship among these variables are critical in understanding how to improve provision of TA and L&D for master teachers in making education services at the school level succeed.

Aside from these variables, the professional reflective practice, serving as its mediating variable, is also considered in choosing the most appropriate design. The research design is also used to understand associations between variables, find multicollinearity, and analyze the mediating or moderating effects in regression models (Senthilnathan, 2019). Hence, making this design the most appropriate in this academic undertaking.

The locale of the study is situated in Lopez, Quezon. There are two (2) schools districts in the said municipality, represented by Lopez East and Lopez West. These school districts belong to the Schools Division Office (SDO) of Quezon Province of the Department of Education (DepEd). These districts are the largest in SDO Quezon, with the greatest number of schools totaling to seventy-two (72). There are fifty-seven (57) elementary schools, while the secondary schools are composed of fourteen (14). Each district has equal distribution of thirty-six (36) schools. Lopez East District has 437 teaching and non-teaching personnel, while Lopez West District has 754. A total of 1,191 teaching and non-teaching personnel serve the said locality.

Among these personnel, there are twenty-six (26) Master Teachers serving Lopez East while fifty-seven (57) are from Lopez West District. Hence, a total of eighty-three (83) master teachers providing instructional support, teaching-learning services, and overall curriculum supervision in the districts. This data set was used by the researcher in determining the appropriate number of samples who will serve as the respondents of this dissertation. The data are taken from the profile of the districts based on its DMEPA Report for SY 2024-2025.

This academic undertaking followed the three-phase approach in conducting a study, beginning with the conceptualization, implementation, and data analysis phases. Ethical considerations shall be embedded across the identified procedure in the conduct of this study. With this, the procedure can be objectively carried out guided by the standards in conducting an academic work.

The researcher considered the main research ethics required from this type of study. These ethical considerations include: (1) informed-consent and voluntary participation; (2) confidentiality and anonymity; (4) non-maleficence and beneficence; and, (5) transparency and integrity.

Since DepEd is a highly complex bureaucracy, the researcher also considered context-specific ideals involving: (1) securing division-level approval; (2) respecting institutional hierarchies; and (3) considering cultural sensitivity. These matters helped the researcher ensure objective approach in the communication and data gathering processes.

It is critical to understand how data were processed and analyzed. This helped the researcher answered the point of inquiry and conclude meaningful information out of the data analyzed. Appropriate statistical treatment of data is significant in answering the presented research questions.

To identify the level of provided technical assistance (TA) and given learning and development (L&D) activities to master teachers, the researcher used descriptive analysis using mean, standard deviation, frequency, and percentage. The same statistical tool was employed in the second question focused on the level of pedagogical competence.

To analyze the relationship between the TA and pedagogical competence, as well as the L&D and pedagogical competence, the researcher utilized inferential analysis through Pearson R correlation. This statistical analysis used in the relationship analysis is a non-parametric test that works with ordinal data and does not require normality.

For the mediation analysis, considering professional reflective practice in TA and pedagogical competence, and L&D and pedagogical competence, the researcher used Mediation Analysis Using Regression through Baron & Kenny Method. The purpose is to determine if reflective practice mediates the TA-competence and L&D-competence relationships (e.g., $TA \rightarrow RP \rightarrow PC$; $L\&D \rightarrow RP \rightarrow PC$).

3. Results and Discussions

The findings suggest that while the structured professional support system effectively fosters a culture of research, innovation, and continuous improvement among master teachers, there is a need to further strengthen support in documenting and presenting research and innovation outputs. Enhancing technical assistance in this area may help ensure that innovative practices are not only implemented but also systematically shared and utilized for broader instructional improvement.

The results show an overall mean of 3.66 on the summary of the extent of the structured professional support system as to technical assistance across the five major areas. This indicates that the respondents generally perceive the structured professional support system as highly evident and effectively implemented.

Among the areas, Curriculum Implementation and Pedagogical Content Knowledge obtained the highest mean score of 3.74, suggesting that technical assistance is strongest in supporting teachers' curriculum alignment and deepening of pedagogical content knowledge. This reflects effective guidance in connecting curriculum requirements with appropriate instructional approaches.

Table 1

Summary Table on the Experienced Technical Assistance in a Structured Professional Support System

Indicators	Mean	SD	VI
1. Instructional Coaching and Mentoring	3.69	0.38	HE
2. Lesson Planning and Differentiated Instruction Support	3.63	0.44	HE
3. Classroom Observation and Feedback Approaches	3.65	0.42	HE
4. Curriculum Implementation and Pedagogical Content Knowledge	3.74	0.40	HE
5. Research, Intervention, and Innovation Support	3.59	0.43	HE
Overall	3.66	0.41	HE

Legend: 4.00-3.50 Highly Experienced (HE), 3.49-2.50 Experienced (E), 2.49-1.50 Slightly Experienced (SE), 1.49-1.0 Not Experienced (E)

On the other hand, Research, Intervention, and Innovation Support registered the lowest mean score of 3.59. Although this is still interpreted as Highly Experienced, it indicates that support in research and innovation, while present, may be less emphasized compared to other areas of technical assistance.

Overall, the consistently high mean scores across all areas affirm that the structured professional support system provides comprehensive technical assistance, particularly in instructional, curriculum, and supervisory practices, thereby supporting the professional growth and instructional competence of master teachers.

Table 2

Summary Table on the Extent of Effectiveness of the Structured Professional Support System as to Learning and Development (L&D)

Indicators	Mean	SD	VI
1. Pedagogical Enhancement and Content Mastery	3.64	0.44	HE
2. Leadership and Instructional Supervisory Skills Development	3.67	0.42	HE
3. Assessment, Outcomes, and Data Analysis Use	3.69	0.40	HE
4. Curriculum Implementation and D. Inclusive Education and Learner Diversity Training	3.70	0.43	HE
5. Digital Pedagogy and Technology Integration	3.66	0.44	HE
Overall	3.67	0.43	HE

Legend: 4.00-3.50 Highly Effective, 3.49-2.50 Effective, 2.49-1.50 Slightly Effective, 1.49-1.0 Not Effective

Table 15 presents a summary of the extent of effectiveness of the structured professional support system as to learning and development across five major areas. The findings show an overall mean score of 3.67 which is interpreted as Strongly Agree. This indicates that the respondents generally perceive the structured professional support system as highly effective in addressing their learning and development needs.

Among the L&D areas, Curriculum Implementation and Inclusive Education and Learner Diversity Training obtained the highest mean score of 3.70, suggesting that learning and development interventions are most effective in supporting curriculum responsiveness and inclusive teaching practices. This reflects strong emphasis on aligning instruction with curriculum requirements while addressing learner diversity.

On the other hand, Pedagogical Enhancement and Content Mastery registered the lowest mean score of 3.64. Despite being the lowest among the areas, this result is still interpreted as Strongly Agree, indicating that professional development initiatives remain effective in strengthening teachers' pedagogical skills and subject matter expertise, though with potential room for further enhancement.

Overall, the consistently high ratings across all learning and development areas affirm that the structured professional support system provides comprehensive and effective interventions. These interventions contribute significantly to enhancing teachers' pedagogical competence, leadership capacity, assessment literacy, inclusivity, and technology integration, thereby supporting continuous professional growth and instructional improvement.

The summary results show that master teachers consistently demonstrate a Distinguished Level of pedagogical competence across all domains. Among the indicators, Learner-Centered Instructional Design obtained the highest mean score (3.53), reflecting strong competence in planning and implementing instruction responsive to learners' needs. In contrast, Differentiated Instruction and Support Interventions registered the lowest mean score (3.34); however, this still falls within the Distinguished Level.

Table 3

Summary Table on the Pedagogical Competence (PC) Demonstrated by Instructional Supervisors

Statement	Mean	x	VI
Learner-Centered Instructional Design	3.53	0.50	D
Use of Assessment for Learning	3.42	0.49	HP
Pedagogical Content Knowledge	3.41	0.54	HP
Differentiated Instruction and Support Interventions	3.34	0.56	HP
Collaborative Learning and Collegial Dialogues	3.39	0.53	HP
Overall	3.42	0.52	HP

Legend: 4.00-3.50 Distinguished (D), 3.49-2.50 Highly Proficient (HP), 2.49-1.50 Proficient (P), 1.49-1.0 Beginning (B)

Overall, the consistently high ratings across all pedagogical competence domains indicate that master teachers exhibit advanced instructional, collaborative, and leadership practices that support effective teaching and continuous professional improvement.

Table 4

Professional Reflective Practice Demonstrated by Instructional Supervisors

Indicators	Mean	SD	VI
1. reflect on my teaching performance and student learning outcomes to identify strengths and opportunities for improvement.	3.02	1.05	HP
2. use feedback from school heads, colleagues, and learners to refine my instructional practices.	3.01	0.94	HP
3. document and evaluate my classroom experiences to inform future lesson planning and pedagogical decisions.	3.07	0.87	HP

4. make immediate instructional adjustments when I notice learners are struggling to understand a lesson.	2.99	0.94	HP
5. use real-time observations of student engagement to adapt my teaching strategies on the spot.	2.95	1.07	HP
6. monitor my classroom interactions and modify my approach to ensure a positive learning environment.	3.10	0.89	HP
7. develop personal improvement plan anchored on my reflective practice and professional learning.	3.06	0.87	HP
8. analyze the effectiveness of L&D activities I attend and apply my learning through JEL-WAP.	3.13	0.76	HP
9. design improvement plans based on reflective insights and performance coaching and mentoring.	3.17	0.78	HP
10. engage in learning communities and collegial discussions with peers to deepen my reflective practice.	3.12	0.85	HP
Overall	3.06	0.81	HP

Legend: 4.00-3.50 Distinguished (D), 3.49-2.50 Highly Proficient (HP), 2.49-1.50 Proficient (P), 1.49-1.0 Beginning (B)

The overall results indicates that master teachers demonstrate a Highly Proficient Level of professional reflective practice, as reflected by an overall mean score of 3.06 and a standard deviation of 0.81. This suggests that reflective processes are consistently practiced improving instruction, professional growth, and learning outcomes.

The highest mean score of 3.17 was obtained by the indicator “design improvement plans based on reflective insights and performance coaching and mentoring.” This result indicates that master teachers are most effective in translating reflective insights into concrete improvement plans supported by coaching and mentoring. This finding is supported by Rapanta et al. (2020), who emphasized that reflective teaching becomes most impactful when teachers systematically use reflection to inform planning and instructional decision-making. Similarly, Thompson (2021) highlighted that reflective practices anchored in coaching and mentoring strengthen teachers’ capacity for continuous professional improvement.

In contrast, the lowest mean score of 2.95 was recorded by the indicator “use real-time observations of student engagement to adapt my teaching strategies on the spot.” Although still interpreted at the Highly Proficient Level, this result suggests that immediate, in-the-moment reflective adjustments may be more challenging compared to structured post-lesson reflection. Rapanta et al. (2020) highlighted that real-time reflective decision-making requires sustained practice and support, particularly in dynamic classroom environments.

The findings suggest that while master teachers demonstrate strong reflective competence in planning and professional growth, additional developmental support may be directed toward strengthening real-time reflective decision-making during instruction. Emphasizing reflective strategies that enhance in-the-moment instructional responsiveness may further elevate professional reflective practice from highly proficient to distinguished levels.

Relationship between the Structured Professional Support System as to Technical Assistance and the Demonstrated Pedagogical Competence

An examination of the correlation coefficients reveals significant relationships between the structured professional support system as to technical assistance and the demonstrated pedagogical

competence of master teachers across several domains. The results indicate that increases in technical assistance are generally associated with higher levels of pedagogical competence, although the strength of relationships varies across indicators.

Among the technical assistance dimensions, research, intervention, and innovation support shows the strongest and most consistent relationships with pedagogical competence. It demonstrates a very significant positive relationship with learner-centered instructional design (0.445), use of assessment for learning (0.413), and collaborative learning and collegial dialogues (0.410). These findings indicate that stronger support in research- and innovation-related activities is associated with higher levels of instructional design quality, assessment use, and collaborative practice among master teachers.

Similarly, classroom observation and feedback approaches exhibit a significant positive relationship with learner-centered instructional design (0.411) and use of assessment for learning (0.331). This suggests that observation and feedback mechanisms play an important role in strengthening instructional planning and assessment practices.

Curriculum implementation and pedagogical content knowledge support also show significant correlations with multiple pedagogical competence areas, particularly with learner-centered instructional design (0.336), use of assessment for learning (0.253), pedagogical content knowledge (0.238), and differentiated instruction and support interventions (0.282). These results indicate that curriculum-focused technical assistance contributes meaningfully to various aspects of teaching competence.

Table 5

Test of Significant Relationship between the Structured Professional Support System as to technical Assistance and the Demonstrated Pedagogical Competence

Structured Professional Support System as To Technical Assistance	Pedagogical Competence				
	Learner-Centered Instructional Design	Use Of Assessment for Learning	Pedagogical Content Knowledge (PCK)	Differentiated Instruction and Support Interventions	Collaborative Learning and Collegial Dialogues
instructional coaching and mentoring	0.326**	0.244*	0.194	0.21	0.206
lesson planning and differentiated instruction support	0.296**	0.234*	0.19	0.133	0.218*
classroom observation and feedback approaches	0.411***	0.331**	0.271*	0.197	0.268*
curriculum implementation and pedagogical content knowledge	0.336**	0.253*	0.238*	0.282**	0.264*

research, intervention, and innovation support	0.445***	0.413***	0.306**	0.323**	0.41***
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Note. * $p < .05$, ** $p < .01$, *** $p < .001$

On the other hand, some relationships were found to be not statistically significant, particularly between instructional coaching and mentoring and pedagogical content knowledge (0.194) as well as differentiated instruction and support interventions (0.210). This suggests that while coaching and mentoring support instructional design and assessment practices, their direct association with content-specific pedagogical competence may be less pronounced.

Overall, the pattern of correlations indicates that the strongest associations occur when technical assistance is practice-oriented, research-informed, and innovation-driven, while more general or supervisory forms of support show weaker or selective relationships. The strong and significant relationships in particularly between research, intervention, and innovation support and multiple areas of pedagogical competence are consistent with findings reported by Darling-Hammond et al (2020). Their synthesis of effective professional development found that practice-embedded, inquiry-based, and collaborative professional support is strongly associated with improvements in instructional design, assessment practices, and pedagogical knowledge.

The results indicate a significant positive relationship between the structured professional support system as to technical assistance and the pedagogical competence of master teachers in most areas. This implies that enhanced technical assistance particularly in research, innovation, observation, feedback, and curriculum implementation is associated with stronger instructional design, assessment practices, pedagogical knowledge, and collaborative competence. The findings support the rejection of the null hypothesis and affirm that structured technical assistance contributes meaningfully to the development of pedagogical competence among master teachers.

Relationship between the Structured Professional Support System as to Learning and Development (L&D) and the Demonstrated Pedagogical Competence

The correlation results shows that the structured professional support system as to learning and development (L&D) is significantly and positively related to the demonstrated pedagogical competence of master teachers across all domains. The findings indicate that higher levels of L&D effectiveness are consistently associated with higher levels of pedagogical competence.

Among the L&D dimensions, pedagogical enhancement and content mastery exhibited the strongest relationships with pedagogical competence, particularly with learner-centered instructional design (0.520, $p < .001$), use of assessment for learning (0.389, $p < .001$), and pedagogical content knowledge (0.396, $p < .001$). These results suggest that L&D initiatives focused on strengthening pedagogy and content mastery are strongly associated with improved instructional planning, assessment practices, and content-pedagogy integration. This pattern is consistent with the synthesis of Darling-Hammond et al (2020), who found that professional development emphasizing deep content understanding and pedagogy produces substantial improvements in instructional design, assessment practices, and pedagogical reasoning.

Similarly, assessment, outcomes, and data analysis use demonstrated highly significant positive relationships with all pedagogical competence domains, including learner-centered instructional design

(0.479, $p < .001$) and collaborative learning and collegial dialogues (0.337, $p < .01$). This indicates that teachers who receive effective L&D support in assessment and data use tend to exhibit stronger instructional decision-making and collaborative practices. This aligns with Mandinach and Gummer (2021), who demonstrated that teachers with strong data-literacy training are better able to adapt instruction, design responsive assessments, and engage in collaborative problem-solving.

Leadership and instructional supervisory skills development also showed significant correlations across all domains of pedagogical competence, suggesting that leadership-oriented L&D initiatives contribute to improved instructional quality, assessment use, collaboration, and differentiated practice.

In contrast, while inclusive education and learner diversity training showed significant but comparatively weaker relationships with pedagogical competence (0.264*, 0.275*), the results remain meaningful, indicating that inclusion-focused L&D contributes to pedagogical competence, though its effects may require longer-term or more intensive implementation. The comparatively weaker yet significant relationships involving inclusive education and learner diversity training reflect the observations of Florian and Graham (2021), who noted that inclusive pedagogy often develops gradually and requires sustained professional learning before its full impact on teaching competence is realized. This helps explain why inclusion-focused L&D shows significant but lower correlation coefficients compared to other L&D areas.

Table 6

Test of Significant Relationship between the Structured Professional Support System as to Learning and Development (L&D) and the Demonstrated Pedagogical Competence

Structured Professional Support System as to Learning and Development	Pedagogical Competence				
	Learner-Centered Instructional Design	Use Of Assessment for Learning	Pedagogical Content Knowledge (PCK)	Differentiated Instruction and Support Interventions	Collaborative Learning and Collegial Dialogues
pedagogical enhancement and content mastery	0.520***	0.389***	0.396***	0.286**	0.302**
leadership and instructional supervisory skills development	0.472***	0.386***	0.303**	0.32**	0.335**
assessment, outcomes, and data analysis use	0.479***	0.397***	0.366***	0.319**	0.337**
inclusive education and learner diversity training	0.403***	0.332**	0.275*	0.264*	0.275*
digital pedagogy and technology integration	0.482***	0.347**	0.357***	0.28*	0.301**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Overall, all L&D dimensions revealed statistically significant relationships with pedagogical competence, supporting the rejection of the null hypothesis and confirming that effective learning and development initiatives play an important role in enhancing teachers' pedagogical practices.

Table 7 the mediation results indicate that professional reflective practice plays a meaningful, though partial, role in explaining the relationship between the structured professional support system as to technical assistance and the pedagogical competence of master teachers. The total effect of technical assistance on pedagogical competence was found to be statistically significant (0.438, $p = .001$), indicating that technical assistance contributes positively to pedagogical competence when considered as a whole.

When decomposed, the direct effect of technical assistance on pedagogical competence remained significant (0.324, $p = .013$). This suggests that technical assistance directly influences pedagogical competence, independent of reflective practice. At the same time, the indirect effect through professional reflective practice approached statistical significance (0.115, $p = .051$), indicating a marginal mediation effect. While the indirect path narrowly missed the conventional .05 significance threshold, its magnitude relative to the total effect suggests that reflective practice meaningfully contributes to the relationship.

Further path analysis supports this interpretation. The path from technical assistance to professional reflective practice was statistically significant (0.542, $p = .018$), indicating that stronger technical assistance enhances teachers' engagement in reflective practice. Likewise, the path from professional reflective practice to pedagogical competence was highly significant (0.211, $p < .001$), demonstrating that reflective practice independently contributes to higher levels of pedagogical competence.

Table 7

Test of Significant Mediation of Reflective Practice on Technical Assistance and Pedagogical Competence

Mediation Analysis	Estimate	SE	Z	p
Effect				
Indirect	0.115	0.0587	1.95	0.051
Direct	0.324	0.1309	2.47	0.013
Total	0.438	0.1358	3.23	0.001
Path Estimates				
structured professional support system as to technical assistance → professional reflective practice	0.542	0.2302	2.36	0.018
professional reflective practice → pedagogical competence	0.211	0.0604	3.50	<.001
structured professional support system as to technical assistance → pedagogical competence	0.324	0.1309	2.47	0.013

This pattern is consistent with the mediation framework articulated by MacKinnon et al (2020), who explained that partial or near-significant indirect effects are common in educational research when both direct

instructional supports and internal cognitive processes operate simultaneously. In the present findings, technical assistance exerts a strong direct influence on pedagogical competence, while reflective practice strengthens and refines this influence rather than fully accounting for it.

Likewise, this study employed less than 100 as sample size for the use of path analysis. Kelcey (2019) argued that path analysis involving small to moderate sample sizes can still yield stable and meaningful results, particularly when robust estimation procedures are utilized. This suggests that sample adequacy in mediation analysis should not be based solely on numerical size, but also on the nature of the model and the quality of the data. Furthermore, Hayes and Rockwood (2020) emphasized that contemporary mediation analysis focuses more on the estimation of indirect effects and confidence intervals rather than adherence to rigid sample size requirements. Their discussion highlights that mediation models can still be informative and statistically useful even with relatively small samples, provided that the relationships among variables are theoretically justified.

The results also align with findings from Brandmo et al (2020), who emphasized that reflective processes serve as mechanisms through which professional learning and instructional support are translated into improved teaching practice. However, unlike contexts where reflection fully mediates professional learning outcomes, the present study shows that reflective practice functions as a complementary pathway, not a sole explanatory mechanism. This contrast suggests that master teachers' pedagogical competence is shaped both by external supports (technical assistance) and internal professional processes (reflection).

The findings indicate a partial mediation model, wherein professional reflective practice enhances but does not fully mediate the effect of technical assistance on pedagogical competence. This implies that while reflective practice is an important mechanism for deepening the impact of technical assistance, direct instructional, supervisory, and mentoring supports remain essential drivers of pedagogical competence among master teachers.

Table 8

Test of Significant Mediation of Reflective Practice on Learning and Development (L&D) and Pedagogical Competence

Mediation Analysis	Estimate	SE	Z	p
Effect				
Indirect	0.127	0.0572	2.23	0.026
Direct	0.374	0.1241	3.01	0.003
Total	0.501	0.1233	4.06	< .001
Path Estimates				
structured professional support system as to learning and development → professional reflective practice	0.681	0.2100	3.24	0.001
professional reflective practice → pedagogical competence	0.187	0.0611	3.06	0.002
structured professional support system as to learning and development → pedagogical competence	0.374	0.1241	3.01	0.003

The mediation analysis results indicates that professional reflective practice significantly mediates the relationship between the structured professional support system as to learning and development (L&D) and the pedagogical competence of master teachers. The total effect of L&D on pedagogical competence was found to be statistically significant (0.501, $p < .001$), suggesting that effective learning and development initiatives strongly contribute to improved pedagogical competence.

When the total effect was decomposed, results showed that the direct effect of L&D on pedagogical competence remained significant (0.374, $p = .003$). This indicates that L&D initiatives exert a direct influence on pedagogical competence independent of reflective practice. At the same time, the indirect effect through professional reflective practice was also statistically significant (0.127, $p = .026$), confirming the presence of a partial mediation effect.

The path estimates further substantiate this relationship. The path from learning and development to professional reflective practice was significant (0.681, $p = .001$), indicating that effective L&D activities enhance teachers' engagement in reflective practice. Likewise, the path from professional reflective practice to pedagogical competence was significant (0.187, $p = .002$), demonstrating that reflective practice independently contributes to the development of pedagogical competence.

This means that professional reflective practice did not fully account for the relationship between learning and development and pedagogical competence. Instead, learning and development continued to have a direct influence on pedagogical competence even after the mediating variable was introduced into the model. In mediation analysis, full mediation occurs when the direct effect becomes non-significant after including the mediator. In contrast, the present findings indicate partial mediation because both the indirect and direct effects were statistically significant. Hence, the null hypothesis could not be completely rejected and was therefore partially rejected.

This pattern of results is consistent with the mediation framework described by MacKinnon et al (2020), who explained that partial mediation occurs when an independent variable influences an outcome both directly and indirectly through a mediator. In the present findings, learning and development initiatives influence pedagogical competence directly, while also strengthening reflective practice, which in turn enhances competence.

The results also align with the study of Brandmo et al. (2020), who emphasized that reflective practice functions as a key mechanism through which professional learning experiences are internalized and translated into improved instructional practice. However, unlike cases where reflective practice fully mediates professional learning outcomes, the present results demonstrate that L&D continues to have a substantial direct effect, indicating that structured learning opportunities

This finding is further supported by DepEd initiatives at the division level, particularly DepEd Quezon Division Memorandum No. 1131, s. 2025, which highlights the implementation of structured professional development programs such as the Master Teachers Professional Development Program (MTPDP 2.0). This initiative demonstrates the Department's commitment to strengthening teacher competence through systematic and sustained learning opportunities. By organizing targeted training programs for master teachers, this activity shows the importance of equipping educators not only with updated pedagogical knowledge but also with practical strategies that can be directly applied in classroom contexts.

The findings indicate that professional reflective practice partially mediates the relationship between learning and development and pedagogical competence. This implies that reflective practice serves as an important mechanism that enhances the impact of L&D initiatives, while direct learning experiences continue

to play a central role in strengthening pedagogical competence among master teachers.

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