

Building Effective School Learning Communities: Impact on Teachers' Pedagogical Knowledge and Practices

398

Ma. Lyn I. Villenes^a, Eden C. Callo^b

^avillenes.mli@pnu.edu.ph

^aPhilippine Normal University South Luzon, Lopez, Quezon 4316, Philippines

^bLaguna State Polytechnic University – San Pablo City, Laguna 4316, Philippines

Abstract

This study investigates how school learning communities (SLCs) influence teachers' pedagogical knowledge and teaching practices in key stage (KS) 2 rural schools in Lopez East and Lopez West Districts, Quezon, Philippines. Employing a descriptive correlational research design with moderation analysis, the researchers surveyed 187 KS2 teachers from 53 rural schools in two districts, following a total enumeration approach. Data were gathered using a validated and reliability-tested research instrument that measured participation in SLCs, pedagogical knowledge, teaching practices, teachers' characteristics, and technical assistance. To analyze the gathered data, frequency, percentage, mean, standard deviation, Pearson Correlation Coefficient (r), and Moderated Regression Analysis using Hayes' PROCESS macro are used as the main statistical analysis tools. Results revealed that teachers actively participate in SLCs and perform high levels of pedagogical knowledge and effective teaching practices. Findings also showed that participation in SLCs was significantly related to both pedagogical knowledge and teaching practices. Meanwhile, teachers' characteristics did not significantly moderate these relationships, while technical assistance significantly strengthened the influence of SLCs. Lastly, the researchers found that data-driven decision-making predicts participation in enhancing teachers' pedagogical knowledge and in reflective dialogue to enrich teachers' practices in relation to their participation in school learning communities. The study recommends institutionalizing school learning communities, supported by sustained technical assistance, as a practical and inclusive strategy to improve teaching quality in rural KS2 classrooms.

Keywords: school learning communities; rural KS2 teachers; pedagogical knowledge; teaching practices; technical assistance; teachers' characteristics

1. Introduction

Often, collaboration among schools is seen as a critical element to achieve success. Schools worldwide have recognized its importance, particularly through learning communities that strengthen teachers' competence to improve instructional quality. These learning communities are commonly anchored on the notion that teachers learn best when they engage collaboratively in reflective dialogue, inquiry-driven practice, and sustained pedagogical development within their school context. In the era of a fast-changing world, these learning communities served as a backbone where teachers could interact, ask questions, and learn in a human way. An effective one often enhances teachers' professional growth, pedagogical knowledge, and instructional effectiveness (Tuli & Bekele, 2020). These are commonly achieved when teachers collaborate to improve their classroom practices that will eventually lead to learners' success.

In the Philippines, strengthening school-based professional development initiatives is one of the actions taken by the Department of Education (DepEd) to support teachers' development, with a focus on improving teaching and learning. Several initiatives were implemented, including various learning and development (L&D) activities for teachers and participation in professional learning communities to improve instruction and learning outcomes. Under the Philippine Professional Standards for School Heads (PPSSH) (DepEd Order No. 024, s. 2020), school heads are expected to lead learning communities as part of their responsibility to support teachers' growth and improve teaching and learning in their schools. Thus, teachers are guided to participate in these collaborative networks, which will help them further improve their teaching competence (DepEd Order No. 42, s. 2017). These professional networks or collaboration groups are often referred to as learning communities, practiced across the globe in various names and forms.

School Learning Communities (SLCs) are established in the idea that teachers learn best through ongoing collaboration, reflective dialogue, and shared problem-solving actions. They bank on their knowledge and experiences, sharing these with others, while also learning new things from their colleagues. In some contexts, SLCs are called in various forms and ways. Existing literature likened and described SLCs with the same goal as professional learning communities (PLC) (Admiraal et al., 2021), functions as communities of practice

(CoP) (Bannister, 2015), works as collaborative expertise sessions (CES), and performs as learning action cells (LAC) (Gamboa, 2023), among others. Though maybe different in names, they all point out meaningful collaborations to address instructional challenges, help teachers grow, and eventually, address learners' needs. Whence, these practices stem from daily teaching experiences, examining instructional challenges, and forming solutions collaboratively. These learning networks or groups also function as inclusive and participatory structures (Giera, 2025). Moreover, it provides a conducive, positive learning environment that enhances teacher competence, supports mutual learning, and sustains professional growth (Nguyen et al., 2024).

Commonly, participation in learning communities is linked with better instructional practices. Teachers participating in professional development activities receive assistance in designing and implementing specific lesson designs required in the teaching-learning process (Craig et al., 2022). Furthermore, participation to collaborative learning sessions improve their teaching competencies, performance, working behavior, and even professional relationships (Kirvalidze & Lobzhanidze, 2023). Thus, giving opportunities for teachers to learn and grow collaboratively is critical in attaining quality basic education. In some contexts, studies also depicted that interactions within school professional learning communities (PLC) significantly influence knowledge-building behaviors and learning gains (Hendrickx et al., 2025). This notion demonstrated that rich collaborative dialogue enhances teachers' professional learning and instructional approaches. Moreover, school-based PLCs promote co-teaching, shared leadership, and a culture of trust, making it a contributing factor in improving pedagogical practices (Antinluoma et al., 2021). All of these build a more cohesive instructional environment, benefiting all learners across different contexts and levels. These findings are significant as it shows how participation in learning communities can enhance teachers' pedagogical knowledge and their actual teaching practices. However, these findings are taken from existing research literature across the globe. In the context of Philippine public basic education, only a handful of studies have explored how learning communities shape school's academic success.

The effectiveness of SLCs lies in their ability to integrate professional learning into teachers' instructional practices. Commonly, it is assessed on how they shape the school community and as teachers collaborate in structured learning communities. Limited literature on the current locale context points out the need to study its association towards pedagogical practices of teachers. As learning communities foster shared understanding and collective problem-solving, there is a growing need to further analyze its influence in such manners. As Johannesson (2020) claimed, making learning communities highly contextualized and responsive to local school needs to pave more ways for school success. Hence, understanding this matter is a critical step towards building meaningful and impactful learning communities.

Interestingly, studies also suggest that participation in learning communities does not always produce the same level of impact for all teachers. In Philippine schools, while PLCs may exist structurally and in various forms, their actual functioning is often inconsistent due to issues such as low trust, time constraints, and a lack of coherent processes (Tayag, 2020). These challenges limit their ability to support meaningful pedagogical growth. There are also reports on the variations in the implementation and effectiveness of learning communities, suggesting that their impact on teachers' pedagogical knowledge and teaching practices varies. These gaps show the need to examine unexplored themes on the implementation of school learning communities at the public-school education contexts. Tracing further, rural school contexts are also shaped by unique characteristics attributed to geographic isolation, limited resources, and even teachers' characteristics. Rural school teachers often rely heavily on collegial support systems due to the cited constraints. These span from scarce professional development opportunities, inadequate digital infrastructure, and reduced access to external expertise (Inouye et al., 2023).

Furthermore, differences in school culture, leadership support, and teachers' readiness for collaborative learning pose challenges that shape how learning communities influence instructional practices. Since SLCs are led by their school leaders, it is part of their responsibilities and functions. With an effective supervision approach through the school learning community (e.g., group mentoring, district professional development activities), teachers' practices and assessments are significantly improved (Saglam et al., 2022; Ferrara et al., 2017). It also establishes a direct link with schools, as evidenced by school heads' support for their teachers' continuous professional development (Karacabey, 2020). However, in rural schools, the effectiveness of collaboration varied widely because strong leadership was essential for establishing collaboration structures, coherent processes, and a culture that supports meaningful professional learning (Bettis, 2023).

Moreover, while prior studies have established a general link between participation in learning communities and improved teaching practices, there is limited empirical evidence explaining how and under what conditions this relationship becomes more effective, particularly in the Philippine rural school context. Given these gaps, the present study is anchored on the need to examine not only the relationship between School Learning Communities and teachers' pedagogical knowledge and teaching practices, but also the factors that influence the strength of this relationship in rural KS2 classrooms. By analyzing both direct and moderating effects, the study aims to provide a clearer understanding of how SLCs operate within real school contexts and how their effectiveness can be strengthened through appropriate support mechanisms.

1.1. Objectives of the Study

This study determined how school learning communities influence teachers' pedagogical knowledge and teaching practices in rural KS2 classrooms. Moreover, this study explored the participation levels of teachers in school learning communities, pedagogical knowledge, teaching practices, and its significant among them in rural KS2 classrooms. Lastly, the researchers also identified if teachers' characteristics and technical assistance significantly moderate pedagogical knowledge and teaching practices in relation to the implementation of school learning communities.

2. Methodology

2.1. Research Design

This study employed a quantitative research method, specifically a descriptive correlational research design with moderated regression analysis. Correlational research is used to determine the degree and direction of the relationship between two or more variables without manipulating them (Sreekumar, 2024). Correlational design is used to examine the strength, relationship and the association between the independent and dependent variables. This design does not imply causation; rather, it focuses on identifying patterns and relationships. This research design is well-suited to this undertaking, as it aims to identify the influence of school learning communities on teachers' pedagogical knowledge and teaching practices in rural KS2 classrooms in the Division of Quezon, particularly in the Lopez East and Lopez West Districts. This approach is appropriate for the study because it not only measures the relationship among school learning communities, teachers' pedagogical knowledge, and teaching practices but also determines whether the effect varies with another influencing factor.

2.2. Locale and Research Participants

Key Stage (KS) 2 teachers, composed of Grades 4 to 6, served as the research participants. KS2 teachers are chosen as respondents for the study because they teach learners at a critical stage in public basic education, marking the exit from elementary education (e.g., Grade 6), where most national and program assessments are conducted. Learning outcomes are measured (e.g., NAT). Likewise, it serves as the intermediary level in achieving the intended curriculum outcomes for Key Stage 3 (JHS), building solid foundations to strengthen learning in the next key stage, and further developing the foundational skills taught in Key Stage 1 (K-3). This makes them ideal for examining how school learning communities influence teachers' pedagogical knowledge and teaching practices.

Specifically, the study requested KS2 teachers in public rural schools in Lopez, Quezon, to serve as research participants. These teachers came from the two districts, Lopez East and Lopez West. These districts are the largest by number of schools within the entire school division. There are seventy-two (72) schools, from elementary to secondary schools, in the entire municipality of Lopez. Since the focus of the study is to collect data from rural schools, the researchers did not include urban schools or those situated in the población. Hence, there were a total of fifty-three (53) KS2 schools participating in this study. Using total enumeration sampling, the researchers determined 187 KS2 teachers were listed in the identified schools

across the two districts, based on the existing district profiles and data sets. For Lopez East KS2 schools, 94 teachers were identified and for Lopez West, 93 teachers were listed. Total enumeration as the identified sampling technique is suited in this study since it involved a relatively small population size, or when comprehensive data coverage is necessary to eliminate sampling error and enhance representativeness (Creswell & Creswell, 2023; Saunders et al., 2019).

2.3. Research Instrument

This study employed a survey questionnaire as its research instrument, aligned with its objectives. This survey questionnaire will determine (a) the respondents' profile, (b) frequency of teachers' participation in school learning communities, (c) teachers' pedagogical knowledge, (d) teachers' practices and (e) technical as moderating variable of the study. The research instruments were developed based on the concepts and indicators identified in the reviewed literature to ensure content validity and alignment with the study objectives. To further enable this, a literature-based review to inform a data-gathering tool was used synthesizing previous studies on school learning communities and pedagogical knowledge as well as the established issuances and materials from DepEd. The survey questionnaire has five parts, listed as follows: (a) profile of the respondents; (b) frequency of participation of teachers in school learning communities, (c) teachers' pedagogical knowledge; (d) teachers' practices; and (e) technical assistance. There was a total of 140 items in the questionnaire. The research instrument was first subjected to expert validation to ensure its clarity, relevance, and alignment with the study's objectives. Six (6) research validators were tapped in this process following expert-criterion protocols and process. An integrative approach of content validation index (CVI) and 4Rs (Cacho, Lladonez, Villenes, Macabuhay & Valerio, 2024) are employed in this study. Following validation, a pilot test was conducted with a small group of respondents who shared characteristics like those of the actual participants. This pilot test was conducted in another district outside the target research setting as part of the reliability test. For internal consistency, Cronbach's Alpha was used. After completing the pilot testing and internal consistency analysis, the researchers examined Cronbach's alpha values, exceeding the acceptable threshold of 0.70. The results indicate that the developed instrument was reliable.

2.4. Data Gathering Procedure and Research Ethics

After preparing the research data-gathering tools, the researchers proceeded to collect data involving appropriate office communications and protocols. Likewise, an endorsement from the Schools Division Office (SDO) of Quezon of the Department of Education for the administration of data gathering tools was secured. Using the validated researcher-made instruments, the researchers provided online form using Google and shared the link with the teacher-respondents from the identified rural schools in the identified research locale. The researchers proceeded to the district and school offices, which were involved in the data gathering. This data-gathering process lasted at least a month to ensure the researchers collected sufficient responses.

Privacy, confidentiality, anonymity, and informed consent will be adhered to as the ethical standards for this academic undertaking. Specific tools included informed consent, voluntary participation and a data-sharing agreement. Similarly, the researchers submitted the data-gathering process and actions for approval in accordance with the established ethical standards and protocols of the university and the target research locale (e.g., DepEd Lopez East and Lopez West Districts). Before data collection, participants were informed of the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any point. The data gathered were used solely for academic purposes and stored securely to prevent unauthorized access. Archiving protocols and their proper use, as well as disposal protocols, were strictly followed by the researcher.

2.5. Data Analysis

To help the researchers analyze the data, several sets of statistical analysis tools were used. These statistical analysis tools include frequency, percentage, mean, standard deviation, Pearson Correlation Coefficient (r),

and Moderated Regression Analysis using Hayes' PROCESS macro. Frequency and percentage were used to describe the respondents' profile. Mean and standard deviation were used to describe the levels of teachers' participation in school learning communities, teachers' pedagogical knowledge, teaching practices, and technical assistance. For the inferential analysis, Pearson Correlation Coefficient (r) was used to assess the significant relationship between teachers' participation in school learning communities and their pedagogical knowledge and practices in rural KS2 classrooms. To examine the moderating effect of technical assistance on the relationship between school learning communities and teachers' pedagogical knowledge and practices, the study employed Moderated Regression Analysis (MRA) using Hayes' Process macro (Model 1).

3. Results and Discussions

This section presents the findings and results analysis. This primarily involved participation level in school learning communities, teachers' pedagogical knowledge and teaching practices, significant relationship and its influence between the participation in school learning communities and the pedagogical knowledge of teachers, as well as the teaching practices, and identify the aspect of the school learning communities influencing teachers' pedagogical knowledge and practices in rural KS2 classrooms.

3.1. Participation Level in School Learning Communities

Findings from the assessment conducted among KS2 teachers in the Lopez East and Lopez West Districts on their participation in school learning communities are characterized into five (5) domains, such as (a) collaborative culture, (b) peer coaching, (c) reflective dialogue, (d) data-driven decision making, and (e) shared and supportive leadership. Teacher-respondents characterize their participation in learning communities based on the given domains.

Table 1. *Participation Level of KS2 Teachers in School Learning Communities*

Participation Level Indicators	M	SD	VI
Collaborative Culture	3.80	.33	Always
Reflective Dialogue	3.76	.36	Always
Peer Coaching	3.76	.38	Always
Data-Driven Decision-Making	3.78	.33	Always
Shared and Supportive Leadership	3.72	.40	Always
Overall	3.76	.32	Always

The results reported an overall mean of 3.76, interpreted as "always", indicating that teachers consistently engage in school learning community activities as part of their professional practice. In practice, KS2 teachers actively collaborate with other teachers and colleagues, reflect on their instructional practices, analyze learner data, and participate in mentoring and coaching activities facilitated by school heads, instructional leaders and master teachers. The regular and active participation of rural KS2 teachers in SLC demonstrate that this practice has become fundamental part of their professional practice that promotes continuous learning, collaboration, and the enhancement of their teaching practices and learning outcomes.

Among the different domains of SLC, collaborative culture attained the highest mean of 3.80, followed closely by data-driven decision-making (3.78) and reflective dialogue (3.76). The result indicates that collaboration, teamwork and collective problem solving and evidence-based instructional decisions are highly embedded in the participation of KS2 teachers with their school learning community. However, the domain, shared and supportive leadership, obtained the lowest mean score. While having the lowest mean, this value still falls within the "always" category, showing that leadership support and shared leadership practices are regularly experienced and observed in the school learning communities even though slightly less prominent than other dimensions.

This findings of the study supports existing research literature highlighting that participation in various professional learning communities focusing on collaboration, reflection, and shared responsibility foster

sustainable professional growth and instructional development (Antinluoma et al., 2021). Likewise, collaborative professional learning activities serving as a critical factor in improving pedagogical practices is also identified (Darling Hammond et al., 2017). The results highlighted that teachers who regularly engage and participate in structured collaboration, such as planning, reflective discussions, and sharing instructional resources, demonstrate improved instructional quality and responsiveness to student needs indicating that collaboration serves as the foundation for other PLC dimensions. With these, the findings imply that KS2 teachers consistently and actively participate in school learning communities across multiple dimensions, demonstrating a strong culture of collaboration, reflection, coaching, data use, and shared leadership. The dominance of a collaborative culture suggests that professional learning is deeply social and collective, with teachers valuing teamwork as the core of instructional improvement.

3.2. Level of Teachers' Pedagogical Knowledge in Rural KS2 Classrooms

Assessing teachers' pedagogical knowledge, particularly among those from rural KS2 classrooms, is critical to the overall success and to improving learners' outcomes. Domains assessed included (a) content knowledge, (b) research-based knowledge, (c) positive use of ICT, (d) strategies for promoting numeracy and literacy, (e) strategies for creative and critical thinking, and (f) classroom communication strategies. These are directly taken from the Philippine Professional Standards for Teachers (PPST) to ensure that the assessed pedagogical knowledge is aligned with, anchored in, and grounded in the standard and current practice (DepEd Order No. 42, s. 2017).

Table 2. Level of Teachers' Pedagogical Knowledge in Rural KS2 Classrooms

Level of Teachers' Pedagogical Knowledge	M	SD	VI
Content Knowledge	3.53	.48	Distinguished
Research-Based Knowledge	3.47	.54	Proficient
Positive Use of ICT	3.59	.49	Distinguished
Strategies for Promoting Numeracy and Literacy	3.60	.49	Distinguished
Strategies for Creative and Critical Thinking	3.55	.49	Distinguished
Classroom Communication Strategies	3.63	.49	Distinguished
Overall	3.56	.45	Distinguished

The findings showed an overall mean of 3.56, interpreted as "distinguished", indicating that teachers consistently demonstrate high pedagogical competence across all assessed areas. This finding reveals that rural KS2 teachers consistently display a high level of competence across most domains. These can be observed mainly in content knowledge, positive use of ICT, strategies for promoting literacy and numeracy strategies, strategies for creative and critical thinking, and classroom communication strategies. These results indicate that KS2 teachers are effective in translating their knowledge into meaningful classroom practices that support student learning, even within the challenges of rural settings.

However, the slightly lower rating in research-based knowledge, which falls under the "proficient" level, implies that while teachers can apply some research-informed practices, there is still room for further enhancement in integrating current educational research into instruction. Current practice in the said districts mostly shows the need to strengthen use of research in the teaching and learning practices. Documented information still shows limited number of studies and research-based practices, particularly among KS2 teachers.

Overall, the summary reflects a consistently high level of pedagogical knowledge among teachers in rural KS2 classrooms. The results suggest that KS2 teachers' pedagogical knowledge is broad, balanced, and well-developed, with strengths across instructional strategies, content mastery, communication, and learner-centered practices. The findings also highlight that KS2 teachers are generally performing at a high level, with opportunities to strengthen their engagement with research to further elevate instructional quality.

Similarly, Darling Hammond et al. (2017) emphasized that effective teaching is underpinned by strong pedagogical knowledge developed through collaborative and practice embedded professional learning. In the

same school contexts, teachers who engage in continuous professional learning demonstrate stronger instructional coherence across multiple pedagogical domains. Aside from this, professional learning communities foster holistic pedagogical development by integrating collaboration, reflection, coaching, and leadership (Antinluoma et al., 2021). These findings are also seen in the current school context as teachers practice high pedagogical knowledge gained from school learning communities. Effective classroom dialogue and feedback practices deepen learner engagement and support higher order thinking (Tai & Komar, 2019). Planned communication strategies enable teachers to scaffold learning, clarify expectations, and promote meaningful student participation. In the same way that the results have revealed, reflective professional dialogue within learning communities significantly enhances teachers' communication competence (Tobin et al., 2024). Findings only strengthen that school learning communities should be sustained as a central mechanism for pedagogical development, ensuring continued growth across all instructional domains. School leaders may prioritize strengthening research based pedagogical practices through structured inquiry, action research sharing, and technical assistance.

3.3. Level of Teachers' Teaching Practices in Rural KS2 Classrooms

Four (4) domains were assessed in understanding the level of teachers' teaching practices in the context of KS2 classrooms, highlighting (a) instructional planning, (b) instructional delivery, (c) assessment practices, and (d) classroom management. These domains are anchored in several strands of the PPST, aside from including reviewed literature and several existing issuances of the Department of Education (e.g., DepEd Order No. 10, s. 2024).

Table 3. *Level of Teachers' Teaching Practices in Rural KS2 Classrooms*

Level of Teachers' Teaching Practices	M	SD	VI
Instructional Planning	3.55	.53	Very Highly Practiced
Instructional Delivery	3.58	.50	Very Highly Practiced
Assessment Practices	3.58	.53	Very Highly Practiced
Classroom Management	3.60	.48	Very Highly Practiced
Overall	3.57	.49	Very Highly Practiced

The findings revealed an overall mean of 3.57, interpreted as a "very highly practiced" level. The results showed that rural KS2 teachers demonstrate a consistently high level of effectiveness in their teaching practices. Even though assessed at their perceived level, teacher-respondents showed confidence in sharing their responses. Likewise, all four domains received high ratings, showcasing that teacher-respondents are confident in their ability to plan, deliver, assess, and manage instruction effectively.

This suggests that rural KS2 teachers constantly exhibit high competence across all key areas, including instructional planning, instructional delivery, assessment practices, and classroom management. In the local school context, this can be observed in classrooms through teachers' consistent and effective delivery of all teaching practices as part of their daily routines. Specifically, rural KS2 teachers are well-prepared and deliver lessons effectively, monitor and assess learner progress regularly, and maintain organized and positive learning environments.

Among the assessed domains, classroom management had the highest mean score of 3.60, followed by instructional delivery with 3.58. These results suggest that teachers place strong emphasis on the learning experience. This aspect involves not only design experience but also planning to create a safe and engaging learning environment. Similar studies also presented the same findings arguing that professional development, through mentoring and coaching, enhances classroom regulation, which involves both instructional delivery and learning environment management (Sacote-Labadan & Tandiado, 2025). Understanding these areas is critical in attaining the identified school targets. In addition, similar studies emphasized that collaborative cultures lead to further developments in other aspects of school management (Antinluoma et al., 2021). It nurtures classroom management and instructional delivery strategies that teachers need to elevate their performance targets. Review of PLC research reiterated that structured cycles of evaluation and analysis help

build a strong foundation for practice improvement (Huyen, 2024). In the same manner, PLC participation improved literacy planning and even reduced teacher isolation (Goldman, 2024). These two key aspects are critical, as they show how learning communities can help classroom instructional planning achieve its intended targets. In addition, Martinez (2021) found that rural teachers also used classroom walkthrough data, which they used to further refine their lesson planning activities through their PLC participation.

Hence, the results affirm that school learning communities serve as essential mechanisms for strengthening instructional planning, delivery, assessment, and even classroom management. Not only as prescribed by existing policies, but school learning communities also really work even at the grassroots level. In this case, in the context of rural schools and as practiced by KS2 teachers. By integrating collaboration, mentoring, and shared reflection into daily classroom practice, KS2 teachers can continue to refine their teaching practices and achieve improved student learning outcomes. Further, school leaders can improve this practice by institutionalizing collaborative protocols across all dimensions, ensuring that the culture is in place, and supporting practice to progress toward consistent teaching quality in rural KS2 classrooms.

3.4. Moderating Variables Based on Teachers' Characteristics and Technical Assistance

Moderating variables include teachers' characteristics and technical assistance. Moderating variables serve as third variable that influences the relationship between independent and dependent variables. It is crucial to explain when or for whom the independent variable affects the dependent variable. It is important to assess these aspects to check whether these variables are critical to improving the current practice of learning communities in rural school contexts.

Table 4. Frequency Distribution of Respondents

Teaching Position	F	%	Years in Service	F	%	Educational Attainment	F	%
Teacher I	83	44.4	3 years and below	21	11.2	Bachelor's Degree	38	20.3
Teacher II	37	19.8	4-6 years	10	5.3	Earned Units for MA/MS	69	36.9
Teacher III	48	25.7	7-10 years	57	30.5	CAR for a Master's Degree	28	15.0
Teacher IV	1	0.5	11-15 years	40	21.4	Master's Degree	45	24.1
Teacher V	5	2.7	16-20 years	22	11.8	Earned Units for a EdD/PhD	4	2.1
Master Teacher I	11	5.9	More than 20 years	37	19.8	CAR for a Doctoral Degree	2	1.1
Master Teacher II	2	1.0				Doctoral Degree	1	0.5
Total	187	100	Total	187	100	Total	187	100

The first column in the table presents the distribution of teacher-respondents by position. Out of the 187 respondents, 83 teachers are having Teacher I position or 44.4% of the population. This is followed by Teacher III, with 48 respondents (25.7%), and Teacher II, with 37 respondents (19.8%). For those occupying higher positions such as Teacher IV (0.5%), Teacher V (2.7%), Master Teacher I (5.9%), and Master Teacher II (1.1%) represent smaller proportions of the total respondents. This result shows that nearly 90% of respondents are concentrated on the Teacher I-III levels, while only about 10% are in higher or master teacher positions. Overall, the distribution of respondents in terms of their position indicates that the majority of rural KS2 classroom teachers are occupying entry level teaching positions and with fewer occupying master teacher ranks. This displays a workforce profile in which most respondents are at the beginning levels of the teaching career.

The distribution of teacher-respondents by years of service is presented in the second column. Most of the teacher-respondents have 7-10 years of service with a total of 57 rural KS2 teachers or 30.5% of the population. This is followed by teachers having 11-15 years of service with a total of 40 respondents (21.4%) and those teachers with more than 20 years of service having 37 respondents (19.8%). For those Smaller groups include teachers with 16-20 years of service (11.8%), 3 years and below (11.2%), and 4-6 years (5.3%). The finding reveals that nearly 70% of respondents have been between 7 and 15 years of service, indicating that the majority are in the mid-career stage. Overall, the result shows that most rural KS2 classroom teachers have substantial teaching experience and with fewer respondents in early career and a

significant proportion already in long-term service for more than 20 years. This suggests that rural KS2 is largely composed of experienced teachers.

Lastly, the distribution of teacher-respondents by educational attainment is also presented in the third column. Of the 187 respondents, the largest group belongs to those rural KS2 teachers who have earned units for a master's degree, comprising 69 respondents or 36.9% of the population. Following are the respondents who have completed a master's degree with a total number of 45 KS2 teachers (24.1%), and those holding a bachelor's degree, with 38 teacher-respondents (20.3%). Only a small number of KS2 teachers have Completed Academic Requirements (CAR) for a master's degree (15.0%), earned units for a Doctoral Degree (2.1%), CAR for a Doctoral Degree (1.1%), and only one respondent (0.5%) who has completed a Doctoral Degree. In summary, this profile reflects that most rural KS2 classroom teachers are engaged in advanced graduate studies, particularly at the master's level degree. This suggests the respondents value professional growth through higher education, with relatively fewer respondents progressing to doctoral studies.

Table 5. *Technical Assistance as a Moderating Variable Being Described by KS2 Teachers*

Technical Assistance as a Moderating Variable	M	SD	VI
1. Integrated the provision of TA in our learning communities (e.g., LAC, PLC, CES).	3.66	.51	To a Great Extent
2. Provided focus on improving teachers' pedagogies and practices to improve learning outcomes.	3.64	.54	To a Great Extent
3. Provided mentoring and coaching activities to enhance instructional planning and delivery.	3.64	.57	To a Great Extent
4. Facilitated collaborative discussions helped me analyze assessment data and learning outcomes.	3.64	.56	To a Great Extent
5. Shared guidance helped me design responsive learning interventions.	3.63	.55	To a Great Extent
6. Employed various TA modalities and mechanisms enhanced my pedagogical practices.	3.62	.55	To a Great Extent
7. Provided mentoring opportunities for crafting innovation and/or research.	3.66	.54	To a Great Extent
8. Helped me address instructional challenges and possible improvement strategies.	3.65	.55	To a Great Extent
Overall	3.64	.50	To a Great Extent

Table 5 shows technical assistance as a moderating variable described by rural KS2 teachers. The findings revealed an overall mean of 3.64, interpreted as "to a great extent," indicating that teachers consistently perceive technical assistance as highly effective in supporting their pedagogical practices and professional development. All eight indicators received high ratings highlighting that teacher-respondents are convinced of the value of technical assistance integrated into their school learning communities.

This finding can be observed in rural classrooms through the active and continuous support provided by school heads and district leaders within the context of school learning communities. To be specific, rural KS2 teachers regularly receive guidance and technical assistance during professional learning sessions, where school heads and master teachers facilitate discussions, provide feedback on lesson plans, and suggest appropriate instructional strategies and interventions in addressing learning needs. Likewise, district supervisors also conduct monitoring visits and coaching sessions to further support teachers' professional growth. With these structured supports integrated into instruction, it makes technical assistance accessible and relevant to teachers' needs. As a result, KS2 teachers in rural classrooms feel supported and guided, as the assistance they receive from instructional leaders directly contributes to improving their teaching competence and enhancing learner outcomes.

3.5. Relationship between the Participation in School Learning Communities and the Pedagogical Knowledge of Teachers in Rural KS2 Classrooms

Participation level in school learning communities is characterized by collaborative culture, reflective dialogue, peer coaching, data-driven decision making, and shared and supportive leadership. On the other hand, pedagogical knowledge of teachers is also assessed following the first domain of the PPST composed of content knowledge, research-based knowledge, positive use of ICT, strategies for promoting numeracy and literacy, strategies for creative and critical thinking, and classroom communication strategies. To determine if there is a relationship, Pearson *r* was used. This analysis point is critical to identify if there is a relationship between the said variables that can serve as basis for future development programs for the implementation of school learning communities in rural classroom contexts.

Table 6. *Significant Relationship between Participation in School Learning Communities and the Pedagogical Knowledge of Teachers in Rural KS2 Classrooms*

Learning Communities	Teachers' Pedagogical Knowledge						
	CK	RBK	PUICT	SPLN	SDCCT	CCS	TPK
Collaborative Culture	.463**	.391**	.358**	.397**	.416**	.378**	.441**
Reflective Dialogue	.463**	.462**	.390**	.453**	.469**	.463**	.497**
Peer Coaching	.392**	.437**	.350**	.427**	.436**	.450**	.459**
Data-Driven Decision Making	.507**	.459**	.458**	.485**	.474**	.452**	.521**
Shared and Supportive Leadership	.477**	.430**	.353**	.383**	.404**	.395**	.449**
Overall SLC	.514**	.488**	.425**	.479**	.491**	.479**	.529**

** Correlation is significant at the 0.01 level (2-tailed)

The findings revealed that there is a moderate relationship between participation in school learning communities and the pedagogical knowledge of rural KS2 teachers. Among the SLC dimensions, data-driven decision-making exhibited the strongest relationships with pedagogical knowledge domains, particularly with content knowledge ($r = .507$), strategies for developing critical and creative thinking ($r = .474$), and overall pedagogical knowledge ($r = .521$). The results also show that reflective dialogue showed consistently moderate relationships with pedagogical knowledge ($r = .497$). Collaborative culture, peer coaching, and shared and supportive leadership also demonstrated significant positive relationships with all pedagogical knowledge domains, with correlation values ranging from .350 to .477.

This result can be observed in the local school setting where teachers actively engage in professional learning communities focusing on the utilization of learners' data as a basis for improving their teaching practices. In rural classrooms, this is practiced through collaborative planning, remediation programs, and continuous monitoring of learners' progress, with the guidance of school heads and master teachers. The strong relationship between data-driven decision-making and overall pedagogical knowledge suggests that when teachers consistently use evidence from learner performance, they become more effective in selecting appropriate content, strategies, and interventions.

The findings indicated that rural KS2 teachers who actively participate in school learning communities tend to demonstrate higher levels of pedagogical knowledge. The presence of moderate positive correlations suggests that participation in collaborative, reflective, and data-informed professional learning environments contributes substantially to teachers' competence. The relationship points out how teachers improve their pedagogical knowledge with their school learning communities. Their continuous participation in their school's learning action cells, collegial discussions, collaborative expertise sessions, and even in district professional learning communities, helped them improve their pedagogical practice. These results imply that pedagogical knowledge is not developed in isolation but is socially constructed through collaborative professional interactions. Teachers' engagement in reflective dialogue, peer coaching, shared leadership, and data driven inquiry provides sustained opportunities to deepen content understanding, refine teaching strategies, enhance classroom communication, and integrate technology effectively.

3.6. Relationship Between the Participation in School Learning Communities and the Teachers' Teaching Practices in Rural KS2 Classrooms

Aside from identifying teachers' pedagogical knowledge, it is also critical to analyze the KS2 teachers' teaching practice. The analysis centers on how teaching practices are improved through participation of school learning communities. These are centered on instructional planning, instructional delivery, assessment practices, and classroom management.

Table 7. *Significant Relationship Between the Participation in School Learning Communities and the Teachers' Teaching Practices in Rural KS2 Classrooms*

Learning Communities	Teachers' Teaching Practices				
	IP	ID	AP	CM	TP
Collaborative Culture	.420**	.435**	.415**	.370**	.429**
Reflective Dialogue	.477**	.499**	.479**	.465**	.502**
Peer Coaching	.437**	.442**	.442**	.447**	.462**
Data-Driven Decision Making	.469**	.462**	.447**	.492**	.489**
Shared and Supportive Leadership	.478**	.495**	.466**	.410**	.484**
Overall SLC	.512**	.524**	.505**	.489**	.531**

** Correlation is significant at the 0.01 level (2-tailed)

The results showed a significant and moderately strong positive relationship between teachers' participation in school learning communities and their teaching practices in rural KS2 classrooms ($r = .531$, $p < .001$), suggesting that greater collaborative engagement is associated with more effective classroom practice. The consistently moderate and significant correlations between SLC participation and key dimensions of TTP – instructional planning ($r = .512$), instructional delivery ($r = .524$), assessment practices ($r = .505$), and classroom management ($r = .489$) – demonstrate that participation and engagement in school learning communities support teaching practice holistically rather than in isolated aspects.

Reflective dialogue exhibited the strongest relationships with teaching practice domains, specifically with instructional delivery ($r = .499$) and with an overall teaching practice ($r = .502$). Aside from this domain, data-driven decision making also demonstrated significant connection with teaching practices ($r = .489$). Considering both data presented in Tables 25 and 26, both domains (reflective dialogue and data-driven decision making) exhibited the highest relationship score between the identified variables. Though all fall within the range of moderate relationship levels, these two provide consistent associations with pedagogical knowledge and teaching practices.

Meaningful teacher collaborations in various forms help them improve their teaching practice. From instructional planning to classroom management, they maximize their collegial engagements through learning communities to address their classroom challenges and instructional concerns. Hence, these results imply that collaborative professional interactions enable teachers to refine lesson planning, improve instructional strategies, use assessment more effectively, and manage classrooms more confidently. In the local context, these aspects are particularly critical where access to external professional development is often limited. Learning communities aid them in addressing challenges they often encounter in the delivery of effective instruction and intervention.

In school management, the findings are significant in improving its current practice of implementing school learning communities. Results highlight the importance of embedding SLCs as a core and school based professional development strategy. This mechanism can ensure protected time, leadership support, and a culture of collaboration within the school community. Likewise, strengthening SLCs can serve as a sustainable approach to enhancing instructional quality and reducing professional isolation among rural teachers towards ultimately improving student learning outcomes.

3.7. Moderating Effect of Teachers' Characteristics on the Influence of School Learning Communities on the Teachers' Pedagogical Knowledge in Rural KS2 Classrooms

To further analyze the results, the moderating effect of teachers' characteristics and technical assistance on the influence of SLCs on the teachers' pedagogical knowledge is also presented. Teachers' characteristics included their years in service, teaching position, and educational qualifications. On the other hand, technical assistance received from school leaders included integrated TA, coaching and mentoring, collaborative discussions, and various TA modalities towards enhancing teaching pedagogies and practices.

Table 8. *Teachers' Characteristics Moderate the Influence of Participation in School Learning Communities on Teachers' Pedagogical Knowledge in Rural KS2 Classrooms*

	Estimate	SE	95% Confidence Interval		Z	p
			Lower	Upper		
Participation in SLC	0.721	0.089	0.547	0.895	8.113	<.001
Years	-0.035	0.018	-0.070	0.000	-1.943	.052
Participation in SLC * Years	0.069	0.065	-0.059	0.196	1.057	.291
Participation in SLC	0.767	0.089	0.593	0.942	8.603	<.001
Position	-0.025	0.015	-0.054	0.004	-1.695	.090
Participation in SLC * Position	0.036	0.058	-0.078	0.150	0.621	.535
Participation in SLC	0.757	0.089	0.583	0.932	8.502	<.001
Education	0.005	0.023	-0.040	0.049	0.198	.843
Participation in SLC * Education	0.028	0.078	-0.125	0.181	0.356	.722

The findings revealed that participation in school learning communities has a strong and significant positive effect on teachers' pedagogical knowledge in rural KS2 classrooms (estimate = 0.721, 95% CI [0.547, 0.895], $z = 8.113$, $p < .001$). This result suggests that participation in collaborative professional learning communities significantly enhances teachers' pedagogical knowledge regardless of their years of experience. However, teachers' years in service showed a small negative, marginally non-significant effect (estimate = -0.035 , $p = .052$). This means that longer years in service or teaching experience alone does not necessarily results to higher pedagogical knowledge and may decrease over time without ongoing professional growth and development. The interaction term between SLC participation and years in service was not statistically significant (estimate = 0.069, $p = .291$), indicating that years of experience do not moderate the relationship between SLC and pedagogical knowledge. In other words, SLC benefits both novice and experienced teachers in similar manner. Be it a new or a senior teacher, they both benefit from school learning communities concerning their pedagogical practices. They learn from one another as they continue to engage professionally and collaboratively.

In addition, participation in school learning communities posited a strong and statistically significant positive effect on teachers' pedagogical knowledge in rural KS2 classrooms (estimate = 0.767, 95% CI [0.593, 0.942], $z = 8.603$, $p < .001$). It suggests that increased engagement in collaborative professional learning activities substantially enhances KS2 teachers' pedagogical knowledge, regardless of their position in the school hierarchy. Positions of the respondents do not determine participation effect towards improving pedagogical knowledge. All positions receive positive and meaningful engagements as they participate in learning communities. Nevertheless, teachers' position showed a small negative but statistically non-significant effect on pedagogical knowledge (estimate = -0.025 , $p = .090$). This result implies that holding a higher or more senior position alone does not necessarily correspond to higher levels of pedagogical knowledge, particularly in the absence of active participation in professional learning communities. Early career stage teachers may also have higher levels of pedagogical knowledge as they meaningfully engage in their respective SLCs. In addition, the interaction effect between participation in SLCs and teachers' position was not statistically significant (estimate = 0.036, $p = .535$). This indicates that teachers' position does not moderate the relationship between participation in SLC and pedagogical knowledge. In other words, the positive influence of SLC participation on pedagogical knowledge is consistent across different teaching positions, whether teachers serve as classroom teachers, master teachers, or hold other instructional roles. They all receive positive and meaningful benefits in their participation in learning communities.

Aside from years in service and position as moderating variables, educational attainments are also taken into consideration. Results indicated that participation in SLCs has a strong and statistically significant positive effect on teachers' pedagogical knowledge in rural KS2 classrooms (estimate = 0.757, 95% CI [0.583, 0.932], $z = 8.502$, $p < .001$). Regardless of their educational qualifications, this finding confirms that regular participation in collaborative professional learning activities consistently helps teachers enhance their pedagogical knowledge. However, teachers' educational qualification exhibited a very small and statistically non-significant direct effect on pedagogical knowledge (estimate = 0.005, $p = .843$). The interaction effect between participation in SLCs and educational qualification was not statistically significant (estimate = 0.028, $p = .722$). This means that higher academic qualifications alone do not necessarily translate into higher levels

of pedagogical knowledge in classroom practice, particularly without active engagement in professional learning communities. This result indicates that educational qualification does not moderate the relationship between SLC participation and teachers' pedagogical knowledge. In other words, the positive influence of School Learning Communities on pedagogical knowledge is consistent across teachers with different educational backgrounds, whether they hold bachelor's degrees, graduate units, or advanced degrees.

In public school management context, these findings may imply that SLCs should be implemented as an inclusive and a system-wide professional development strategy rather than targeted only at early-career teachers or those who belong in the first career stage. Collaboration among beginning teachers (career stage 1) with distinguished teachers (career stage 4) is essential in achieving the goals of learning communities. Similarly, results suggest that professional learning initiatives should remain inclusive and participatory, rather than being differentiated primarily by rank or position. From old practice of segregated engagements or in silo approaches, the current practice of involving early career stage teachers with proficient, highly proficient, and even with distinguished ones benefited everyone. Lastly, reflections can be concluded that rural KS2 teachers who are more actively engaged in collaborative professional learning activities tend to demonstrate higher levels of pedagogical knowledge. The moderately strong relationship suggests that school learning communities serve as an effective and influential platform for enhancing teaching competence. Furthermore, the finding that this effect remains consistent regardless of teachers' educational qualifications implies that continuous participation in school learning communities plays a more significant role in improving pedagogical knowledge than educational attainment alone.

In addition, the study also analyzed if teaching characteristics moderate the relationship between participation in school learning communities and teaching practices. Generally, it found out that participation in school learning communities has a strong and statistically significant positive effect on teachers' teaching practices in rural KS2 classrooms. However, their specific characteristics, such as years in service, teaching position, and educational attainment, showed a small and statistically non-significant direct effect on teaching practices.

Table 9. *Teachers' Characteristics Moderate the Influence of Participation in School Learning Communities on Teachers' Teaching Practices in Rural KS2 Classrooms*

	Estimate	SE	95% Confidence Interval		Z	p
			Lower	Upper		
Participation in SLC	0.783	0.096	0.595	0.971	8.169	<.001
Years	-0.024	0.019	-0.062	0.014	-1.259	.208
Participation in SLC * Position	0.081	0.070	-0.057	0.219	1.153	.249
Participation in SLC	0.824	0.096	0.635	1.013	8.545	<.001
Position	-0.010	0.016	-0.042	0.021	-0.627	.531
Participation in SLC * Position	0.030	0.063	-0.093	0.153	0.481	.630
Participation in SLC	0.806	0.095	0.619	0.992	8.479	<.001
Education	0.039	0.024	-0.008	0.087	1.612	.107
Participation in SLC * Education	-0.058	0.083	-0.221	0.105	-0.694	.488

The results revealed that participation in school learning communities has a strong and statistically significant positive effect on teachers' teaching practices in rural KS2 classrooms (estimate = 0.783, 95% CI [0.595, 0.971], $z = 8.169$, $p < .001$), showing that collaborative professional engagement substantially enhances how teachers plan, deliver, and manage instruction. Likewise, this finding suggests that KS2 teachers who actively engage in collaborative and professional learning communities perform improved instructional planning, lesson delivery, and classroom management practices. Regardless of their years in service, teachers' participation in SLCs consistently contributes to the enhancement of teaching practices. This can be achieved through shared learning, reflective dialogue, and collegial support, thus, reflecting with the assessed and analyzed data coming from KS2 teachers. On the other hand, teachers' years in service showed a small and statistically non-significant direct effect on teaching practices (estimate = -0.024, $p = .208$). This finding indicates that the length of teaching experience alone does not necessarily predict stronger

teaching practices in rural KS2 classrooms. In addition, the interaction effect between participation in School Learning Communities and years in service was not statistically significant (estimate = 0.081, $p = .249$).

In the lens of teaching position, participation in school learning communities has a strong and statistically significant positive effect on teachers' teaching practices in rural KS2 classrooms (estimate = 0.824, 95% CI [0.635, 1.013], $z = 8.545$, $p < .001$). This finding indicates that active involvement in collaborative professional learning substantially enhances teachers' instructional planning, instructional delivery, classroom management, and overall teaching practices. However, teachers' position revealed a very small and statistically non-significant effect on teaching practices (estimate = -0.010 , $p = .531$). This suggests that holding a higher or more specialized teaching position does not, by itself, lead to improved teaching practices in the absence of meaningful engagement in professional learning communities.

Educational qualification is moderating variable between participation in the school learning community and teaching practice showed that participation in SLCs have a strong and statistically significant positive effect on teachers' teaching practices in rural KS2 classrooms (estimate = 0.806, 95% CI [0.619, 0.992], $z = 8.479$, $p < .001$). This finding demonstrates that active engagement in collaborative professional learning substantially enhances teachers' planning of instruction, delivery of lessons, classroom management, and implementation of assessment practices. On the other hand, teachers' educational qualification showed a small positive but statistically non-significant effect on teaching practices (estimate = 0.039, $p = .107$). This suggests that achieving higher academic qualifications alone does not significantly influence the quality of teaching practices unless complemented by ongoing, practice based professional learning. Further, it can be deduced that the interaction effect between participation in SLCs and educational qualification was not statistically significant (estimate = -0.058 , $p = .488$). This result demonstrated that educational qualification does not moderate the relationship between SLC participation and teachers' teaching practices. In other words, the positive impact of SLC participation on teaching practices is consistent across teachers with varying levels of educational attainment.

These results imply that teachers' characteristics do not moderate the relationship between participation in school learning communities and the teaching practices. Years in service do not moderate the relationship between the two. Simply, the positive influence of SLC on teaching practices remains consistent among both beginning and proficient teachers. Regardless of whether teachers are early in their careers or have served for many years, participation in school learning communities correspondingly enhances their instructional effectiveness. Moreover, SLCs influence teaching practices, not only through positions but on how teachers meaningfully engage in their SLCs. Current practices in the participating districts have pointed to the significance of collaboration across various teaching positions. Holding learning communities are not segregated based on position. They convene as one learning community, such as learning action cells and collaborative expertise sessions, to share best teaching practices to address one's needs. Lastly, results implied that SLCs serve as inclusive and qualification neutral avenues for improving teaching practices. No biases are seen based on the educational achievement of a teacher. They can freely share and participate whether they have bachelor or higher education degrees. They equally contribute to enhancing instructional planning, delivery, classroom management, and assessment practices.

3.8. Moderating Effect of Technical Assistance on the Influence of School Learning Communities on the Teachers' Pedagogical Knowledge and Teaching Practices in Rural KS2 Classrooms

Aside from teachers' characteristics, technical assistance is also seen as a critical factor in improving pedagogical knowledge and teaching practices in the aspect of school learning communities. Moderation analysis served as the main statistical analysis with multiple linear regression using interaction term. Furthermore, as part of the moderation analysis, moderation effect (interaction term), slope analysis and Z-values and confidence intervals are also presented.

Table 10. *Technical Assistance Moderate the Influence of Participating in School Learning Communities on Teachers' Pedagogical Knowledge in Rural KS2 Classrooms*

Moderation Estimates	Estimate	SE	95% Confidence Interval		Z	p
			Lower	Upper		
Participation in SLC	0.614	0.0858	0.445	0.782	7.15	<.001
Technical Assistance (TA)	0.458	0.0485	0.363	0.553	9.45	<.001
Participation in SLC * TA	0.546	0.1103	0.33	0.762	4.95	<.001
Simple Slope Estimates						
Average	0.614	0.0881	0.441	0.786	6.97	<.001
Low (-1SD)	0.344	0.0808	0.185	0.502	4.25	<.001
High (+1SD)	0.883	0.1238	0.641	1.126	7.13	<.001

The moderation analysis examining the effect of participation in school learning communities on pedagogical knowledge, with Technical Assistance (TA) acting as the moderator, revealed that participation in SLC significantly predicted pedagogical knowledge ($\beta=0.614$, $p<.001$), indicating that increased participation in SLC is associated with higher pedagogical knowledge among respondents. Likewise, technical assistance significantly influenced pedagogical knowledge ($\beta=0.458$, $p<.001$). In addition, the interaction effect between participation in SLC and Technical Assistance was significant ($\beta=0.546$, $p<.001$), confirming the presence of a moderation effect. This implies that the relationship between participation in SLC and pedagogical knowledge varies depending on the level of technical assistance received. Moreover, the simple slope analysis further showed that the effect of participation in SLC on pedagogical knowledge was weaker at low levels of technical assistance ($\beta=0.344$, $p<.001$) and stronger at high levels of technical assistance ($\beta=0.883$, $p<.001$). This finding only shows that technical assistance strengthens the positive influence of SLC participation on pedagogical knowledge. Thus, school leaders have greater responsibilities in designing responsive learning communities for teachers.

The findings reveal that the provision of technical assistance plays a significant moderating role in strengthening teachers' teaching practices by enhancing the effectiveness of participation in school learning communities. The support and assistance given to teachers in the form of instructional coaching, mentoring, and guidance further enhance these teaching practices. By providing support to teachers, they can apply collective insights more accurately and consistently learned from various learning communities. With these, it can be concluded that technical assistance becomes a critical tool for promoting effective teaching practices. In addition, the results also highlighted the importance of aligning school learning communities with the provision of technical assistance by school heads, particularly in rural schools where teachers may have limited access to pedagogical experts. School leaders and other education authorities should ensure that SLCs are supported by instructional supervisors or mentors to maximize their effectiveness.

Table 11. *Technical Assistance Moderate the Influence of Participating in School Learning Communities on Teachers' Teaching Practices in Rural KS2 Classrooms*

Moderation Estimates	Estimate	SE	95% Confidence Interval		Z	p
			Lower	Upper		
Participation in SLC	0.553	0.0894	0.378	0.728	6.18	<.001
Technical Assistance (TA)	0.553	0.0505	0.454	0.652	10.9	<.001
Participation in SLC * TA	0.406	0.1149	0.181	0.631	3.53	<.001
Simple Slope Estimates						
Average	0.553	0.0906	0.375	0.73	6.1	<.001
Low (-1SD)	0.352	0.0823	0.191	0.513	4.28	<.001
High (+1SD)	0.754	0.1278	0.503	1.004	5.9	<.001

The moderation analysis result examining the effect of participation in school learning communities on teaching practices, with technical assistance acting as the moderator, showed that participation in SLC significantly predicted teaching practices ($\beta=0.553$, $p<.001$). Hence, technical assistance significantly affected teaching practices ($\beta=0.553$, $p<.001$). The interaction term between participation in SLC and technical assistance was likewise significant ($\beta=0.406$, $p<.001$). This result clearly indicates that technical assistance significantly moderates the relationship between participation in SLC and teaching practices of rural KS2

teachers. Similarly, the simple slope analysis revealed that the influence of participation in SLC on teaching practices was lower when technical assistance was low ($\beta=0.352$, $p<.001$) and became stronger at high levels of technical assistance ($\beta=0.754$, $p<.001$). This suggests that greater technical assistance is provided to teachers, the higher the positive influence of participation in SLC on teaching practices.

This moderating effect of technical assistance displays that teachers who receive adequate technical support from their school heads are better able to transform the knowledge and effective strategies into improved instructional planning, delivery, assessment, and classroom management, particularly in rural KS2 contexts where professional isolation and limited access to expertise are common. In the current context, the findings highlight the need to integrate SLC initiatives with sustained technical assistance. Instead of separate, segmented, or stand-alone approach, collaborative intervention is critically seen as a working factor to enable these. School leaders, particularly at the field level, should ensure that collaborative learning structures are supported by coaches, supervisors, subject specialists, even community stakeholders, who can guide implementation and provide feedback. Encouragement and support from school leaders will help teachers maximize the benefits of school learning communities.

3.9. School Learning Communities Influencing Teachers' Pedagogical Knowledge and Teaching Practices in Rural KS2 Classrooms

Understanding the relationship between participation in school learning communities and teaching pedagogies and practices are critical to improve school learning and development initiatives and endeavors. Much more so, analyzing which factor significantly influences the established relationship will be a strong foundation to improve current school practices.

Table 12. *Regression Analysis of School-learning Communities Influences Teachers' Pedagogical Knowledge in Rural KS2 Classrooms*

Model	R	R ²	Adjusted R ²	Overall Model Test			
				F	df1	df2	p
1	0.546	0.298	0.279	15.4	5	181	<.001

Predictor	Estimate	SE	t	p
Intercept	0.7501	0.360	2.085	0.038
Data-Driven Decision Making	0.4149	0.160	2.588	0.010

Note. Models estimated using sample size of N=187

Model results presented the multiple linear regression analysis examining the influence of data-driven decision making on the dependent variable. The regression analysis indicates that participation in school learning communities (SLC) has a statistically significant and meaningful influence on teachers' pedagogical knowledge (TPK). The overall regression model was statistically significant, $F(5,181)=15.4$, $p<.001$, indicating that the predictor variables significantly explained the variation in the dependent variable. This strong F-value demonstrates that the regression model fits the data well and that the relationship between SLC and TPK is unlikely to be due to chance. Such findings reinforce the theoretical view that collaborative professional environments foster deeper pedagogical understanding through shared practice, reflection, and collective problem-solving.

The model yielded $R=0.546$ and $R^2=0.298$, which means that approximately 29.8% of the variance in the dependent variable can be explained by the predictors included in the model. The analyzed findings also show moderate explanatory power, suggesting that while other factors also contribute to TPK, SLC participation plays a significant role in enhancing teachers' pedagogical competence. Particularly, the results revealed that data-driven decision making is the aspect of the SLC that significantly predicted the dependent variable ($\beta=0.4149$, $t=2.588$, $p=0.010$). This indicates that an increase in data-driven decision making is associated with an increase in the dependent variable. The intercept was also statistically significant ($\beta=0.7501$, $p=0.038$), representing the estimated value of the dependent variable when the predictor is held constant at zero.

In the local setting, this finding reveals that rural KS2 teachers who actively engage in analyzing and utilizing learner data are more likely to strengthen their pedagogical knowledge. By examining assessment results, classroom performance trends, and learners' strengths and difficulties, rural KS2 teachers gain clearer picture into how their students learn and where instructional adjustments are needed in the classroom instruction. This action allows them to move beyond generalized teaching approaches and instead apply more targeted and responsive strategies suited to their learners' needs. Moreover, their participation in school learning communities strengthens this practice through collaboration and shared effective practices.

Table 13. *Regression Analysis of School-learning Communities Influences Teachers' Teaching Practices in Rural KS2 Classrooms*

Overall Model Test							
Model	R	R ²	Adjusted R ²	F	df1	df2	p
1	0.548	0.301	0.282	15.6	5	181	<.001

Predictor	Estimate	SE	t	p
Intercept	0.739	0.386	1.91	0.057
Reflective Dialogue	0.435	0.199	2.18	0.030

Note. Models estimated using sample size of N=187

The regression model was statistically significant, $F(5,181)=15.6$, $p<.001$, indicating that the model significantly predicts the dependent variable. The model produced $R=0.548$ and $R^2=0.301$ suggested that 30.1% of the variance in the dependent variable is explained by the predictors in the model. This reflects a moderate effect size, suggesting that school learning communities are an important contributor to the quality and consistency of classroom practices, although other factors also play a role. Moreover, the high F-value suggests that the model fits the data well and that the relationship between SLC and teachers teaching practices is not attributable to random variation.

In addition, the findings showed that reflective dialogue significantly predicted the dependent variable ($\beta=0.435$, $t=2.18$, $p=0.030$). This implies that higher levels of reflective dialogue are associated with higher levels of the teachers' [pedagogical knowledge. Meanwhile, the intercept was not statistically significant ($\beta=0.739$, $p=0.057$), indicating that the estimated baseline value of the dependent variable when the predictor is zero is not significantly different from zero.

Results implied that KS2 teachers regularly participate in collaborative activities in their school or district focusing on reflective dialogue or collegial discussions, such as peer lesson discussions, instructional sharing, and collective problem-solving. These activities help them more likely to implement effective strategies, adapt instruction, and apply reflective practices in their classrooms. Through the help of this collaborative conversation among teachers, they critically examine their teaching practices, share experiences, and learn from one another to improve instruction.

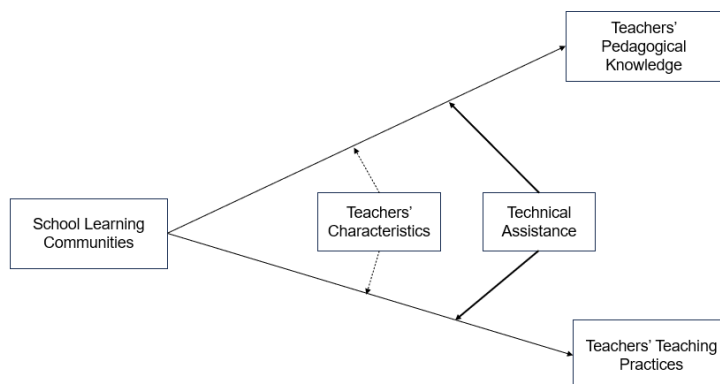


Figure 1. Generated Paradigm of the Study

The model presented in Figure 1 represents the new paradigm that emerged from the results of the study, showing how School Learning Communities (SLC) influence teachers' pedagogical knowledge and teaching practices in rural KS2 classrooms. Rural KS2 teachers have a high level of participation in SLC, indicating that professional learning activities such as collaboration, reflective dialogue, peer coaching, and data-driven decision-making are consistently practiced in rural KS2 classrooms. This active participation is reflected in the high level of both pedagogical knowledge and teaching practices of rural KS2 teachers suggesting that continuous collaboration among teachers leads to improved instructional competence and practices.

The generated paradigm of the study is significant in understanding the role of the moderating variables of the study between the relationship between the independent and dependent variables. The results show that teachers' characteristics, such as years of service, position, and educational attainment, do not significantly affect the relationship between SLC and teachers' pedagogical knowledge and teaching practices. This means that rural KS2 teachers benefit from participation in SLC regardless of their aforementioned characteristics. In contrast, technical assistance plays a significant role in strengthening this relationship. The findings imply that mentoring, coaching, and instructional support provided by school leaders enhance the impact of SLC, helping KS2 teachers apply what they learn more effectively in their teaching practices. The new paradigm highlights that while SLC provide a strong foundation for teacher development, their effectiveness is greatly enhanced by consistent technical assistance rather than individual teacher characteristics.

4. Conclusions

Participation in school learning communities significantly influences the pedagogical knowledge and teaching practices of KS2 teachers in rural classrooms. It was observed that rural KS2 teachers consistently and actively participate in school learning communities, indicating that collaborative professional learning is already embedded in teachers' professional activities. Teachers in rural KS2 classrooms possess a high level of pedagogical knowledge across content, pedagogy, technology integration, foundational skills, higher-order thinking, and classroom communication. Similarly, they highly demonstrated the teaching practices in instructional planning, instructional delivery, assessment, and classroom management, reflecting strong translation of pedagogical knowledge into practice. There is also a significant relationship between teachers' participation in school learning communities and their pedagogical knowledge, as well as in their teaching practices. In analyzing the case, teachers' characteristics, covering years in service, position, and educational qualification, do not significantly moderate the influence of school learning communities on pedagogical knowledge and teaching practices. On the contrary, technical assistance moderates the influence of learning communities on both teachers' pedagogical knowledge and teaching practices, signifying the importance of school leadership in shaping effective and meaningful collaborative environments to enhance teachers' competence.

Lastly, the researchers found out that data-driven decision making predicts participation towards enhancing teachers' pedagogical knowledge and reflective dialogue towards enriching teachers' practices in relation to their participation in school learning communities. Their consistent engagement in learning communities contributed to their overall improvement of pedagogical knowledge and teaching practices. In relation to school leadership, technical assistance served as a moderating factor in improving these practices. Hence, it signifies how critical school leaders' role is in shaping a collaborative culture of continuous improvement at the school level.

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>
- Antinluoma, M., Ilomäki, L., & Toom, A. (2021). Practices of professional learning communities. *Frontiers in Education*, 6. <https://doi.org/10.3389/educ.2021.617613>

- Bannister, N. A. (2015). Reframing Practice: Teacher Learning Through Interactions in a Collaborative Group. *Journal of the Learning Sciences*, 24(3), 347-372. <https://doi.org/10.1080/10508406.2014.999196>
- Bettis, B. A. (2023). *Professional collaboration in small rural schools: Teacher perceptions of the role of school administrators* (Doctoral dissertation, East Tennessee State University). East Tennessee State University Digital Commons. <https://dc.etsu.edu/etd/4311/>
- Cacho, R., Lladonez, S. A., Villenes, R., Macabuhay, M. R., & Valerio, C. N. (2024). Influence of English and Filipino as Assessment Languages in Word-Problem Performance. *OKARA: Jurnal Bahasa dan Sastra*, 18(1), 54-70. <https://doi.org/10.19105/ojbs.v18i1.12715>
- Craig, S. L., Smith, S. J., & Frey, B. B. (2022). Professional development with Universal Design for Learning: Supporting teachers as learners to increase the implementation of UDL. *Professional Development in Education*, 48(1), 22-37. <http://dx.doi.org/10.1080/19415257.2019.1685563>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed). SAGE.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.
- Department of Education (DepEd) Order No. 024, s. 2020. *National Adoption and Implementation of the Philippine Professional Standards for School Heads*.
- Department of Education (DepEd) Order No. 042, s. 2017. *National Adoption and Implementation of the Philippine Professional Standards for Teachers*.
- Ferrara, A., Merrill, E., Lambert, R. G., & Baddouh, P. G. (2017). *Effects of district-specific professional development on teacher perceptions of a statewide kindergarten formative assessment*. [AERA Online Paper Repository]. <https://www.aera.net/Publications/Online-Paper-Repository/AERA-Online-Paper-Repository>
- Gamboa, M. Q. (2023). Implementation of school learning action cell (SLAC) and its monitoring & evaluation strategies employed by teachers and school heads in the division of Occidental Mindoro, Philippines. *International Journal of Research Publication and Review*, 4(11), 2157-2161. <https://doi.org/10.55248/gengpi.4.1123.113119>
- Giera, W.-K. (2025). The Inclusive learning community: Theoretical arguments and practical insights in five school projects. *Sustainability*, 17(17), 8016.
- Gordon, S. P. (2019). Educational supervision: Reflections on its past, present, and future. *Journal of Educational Supervision*, 2(2), 27-52. <https://doi.org/10.31045/jes.2.2.3>
- Hendrickx, M. M. H. G., Thurlings, M. C. G., & Den Brok, P. (2025). Teachers' collaborative knowledge building. *European Journal of Psychology of Education*, 40(39). <https://doi.org/10.1007/s10212-024-00938-y>
- Huyen, D. T. (2024). A comprehensive analysis of teacher PLCs. *International Journal of Learning, Teaching and Educational Research*, 23(8), 158-179. <https://doi.org/10.26803/ijlter.23.8.9>
- Inouye, M., Houseal, A. K., Gunshenan, C., McReynolds, A., & Perkins, M. (2023). Exploring collaborative professionalism as a means of virtually supporting rural teachers. *The Rural Educator*, 44(1), 14-27. <https://doi.org/10.55533/2643-9662.1313>
- Johannesson, P. (2020). Development of PLCs through action research. *Educational Action Research*, 30(3), 411-426. <https://doi.org/10.1080/09650792.2020.1854100>
- Karacabey, M. F. (2020). School principal support in teacher professional development. *International Journal of Educational Leadership and Management*, 9(1), 51-58. <https://doi.org/10.17583/ijelm.2020.5158>
- Kirvalidze, M., & Lobzhanidze, S. (2023). Professional development and performance assessment system focused on strengthening teachers' collaboration: The case of Georgia. *Problems of Education in the 21st Century*, 81(1), 66.
- Martinez, B. O. (2021). *PLC: Perspectives of rural school teachers*. (Publication No. 1-2021) [Doctoral dissertation, Abilene Christian University]. <https://digitalcommons.acu.edu/etd/294/>
- Nguyen, H. T. T., Duong, N. T., & Dang, T. T. P. (2024). Analysis of teacher PLCs. *International Journal of Learning, Teaching and Educational Research*, 23(8), 158-179. <https://doi.org/10.26803/ijlter.23.8.9>
- Sacote-Labadan, L. V., & Tandiao, R. C. (2025). Teachers' professional development and practices. *International Journal of Multidisciplinary Research and Analysis*, 8(5), 2382-2389.

- Saglam Arslan, A., Karatas, F. O., Unal, S. & Aslan, A. (2022). The effects of group mentoring on teachers' classroom activities: An instrumental case study. *Participatory Educational Research*, 9(5), 390-413.
- Saunders, M, N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed). Pearson Education.
- Sreekumar, D. (2024, October 29). *What is correlational research: Definition, types, and examples*. Researcher. Life. <https://researcher.life/blog/article/what-is-correlational-research-definition-and-examples/>
- Tai, M. K., & Omar, A. K. (2019). Professional Learning Communities: A comparison study between day secondary school and fully residential secondary school in Malaysia. *International Journal of Academic Research in Progressive Education and Development*, 8(2), 87-101.
- Tayag, J. R. (2020). Professional learning communities in schools: Challenges and opportunities. *Universal Journal of Educational Research*, 8(4), 1529–1534. <https://doi.org/10.13189/ujer.2020.08044>
- Tobin, B., Farren, M., & Crotty, Y. (2024). Impacting teaching and learning through collaborative reflective practice. *Educational Action Research*, 1-21. <https://doi.org/10.1080/09650792.2024.2394933>
- Tuli, F., & Bekele, A. (2020). Professional learning communities: A review of literature. *Journal of Science and Sustainable Development*, 8(1), 54–64. <https://doi.org/10.20372/au.jssd.8.1.2020.0142>