

Optimizing Instructional Competence Through Professional Learning Communities (PLCs): Inputs to Strategic Development Framework

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Abstract

This study examined teachers' engagement in Professional Learning Communities (PLCs) and its relationship with instructional competence among public secondary school teachers in Cluster 8, Carcar City Division, Cebu, during School Year 2025–2026, as a basis for developing a Strategic Development Framework. Anchored in Educational Change Theory, Social Learning Theory, and Organizational Learning Theory, the study employed a descriptive-correlational research design involving 76 teachers selected through total population enumeration. Data were collected using a standardized PLC Questionnaire and the Department of Education Electronic Self-Assessment Tool (e-SAT) and analyzed using weighted mean, standard deviation, and Pearson product-moment correlation. Findings revealed Very High engagement in shared values and vision ($M = 3.41$), shared and supportive leadership ($M = 3.40$), and shared personal practice ($M = 3.30$), while collective learning and application received a Moderate rating ($M = 2.30$). Teachers demonstrated Very High instructional competence in personal growth and professional development ($M = 3.69$), community linkages and professional engagement ($M = 3.63$), learning environment ($M = 3.59$), and curriculum and planning ($M = 3.35$). Significant positive relationships were established between PLC engagement and six instructional competence domains. However, collective learning and application ($r = -0.312$) and shared personal practice ($r = -0.242$) demonstrated significant negative relationships with content knowledge and pedagogy. Challenges included limited structured collaboration, ICT integration, differentiated instruction, and assessment literacy. The study recommends implementing the proposed Strategic Development Framework through collaborative planning, peer mentoring, and sustained professional development. The findings support Sustainable Development Goal 4 (Quality Education) and SDG 17 (Partnerships for the Goals) by emphasizing teacher development and institutional collaboration. The study contributes to educational sustainability by providing a basis for continuous professional learning, inclusive instruction, and sustained school improvement.

Keywords: Educational Sustainability; Instructional Competence; Professional Development; Professional Learning Communities; Shared Leadership; Strategic Development Framework; Teacher Collaboration

1. Introduction

Professional Learning Communities (PLCs) are essential mechanisms for improving teachers' instructional competence through collaboration, reflective practice, and continuous professional development. International educational initiatives recognize collaborative learning as a means of strengthening instructional quality and learner achievement (UNESCO, 2021). PLCs promote shared responsibility, collective inquiry, and evidence-

based instructional improvement (DuFour, DuFour & Eaker, 2020). In the Philippines, the Department of Education (DepEd) institutionalized Learning Action Cells (LACs) to strengthen school-based professional learning (DepEd, 2016). However, implementation challenges persist, particularly in sustaining meaningful collaboration and addressing teachers' instructional needs. This study examined PLC engagement and its relationship with instructional competence among high school teachers in Cluster 8, Carcar City Division, during School Year 2025–2026, as a basis for developing a Strategic Development Framework.

PLCs strengthen instructional competence through shared leadership, collective learning, reflective practice, and supportive professional environments. However, teachers encounter barriers involving instructional workloads, limited resources, conflicting schedules, and competing responsibilities (Guzman & Aguilar, 2025; Dayagbil & Alda, 2024; Tan-Abrencia et al., 2025). Inconsistent funding and inadequate pedagogical support further constrain professional development (Rivera et al., 2025). Although teachers engage in collaborative activities, these practices may remain insufficient without systematic implementation and sustained institutional support (Huijboom et al., 2021; Alfonso, 2023; Manegdeg & Paglinawan, 2024).

PLCs encompass five dimensions: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions (Hord & Sommers, as cited in Hu, Jing, & Yang, 2022). These dimensions promote professional collaboration, instructional reflection, and shared responsibility. Supportive leadership, mutual trust, and collaborative teaching strengthen professional learning environments (Antinluoma et al., 2021). Participation in PLCs also enhances pedagogical knowledge, instructional strategies, and professional development through shared experiences and collective problem-solving (Ohayon & Albulescu, 2022; Sims et al., 2021). Sustained collaboration supports teachers' professional growth and continuous instructional improvement (Main, 2024; Vičič Krabonja et al., 2024).

In Carcar City Division, teachers encounter challenges involving literacy instruction, technology integration, and inclusive teaching. Learners experience reading comprehension difficulties (Bacalla, 2024), while limited technological resources constrain ICT integration. Insufficient training and instructional support also affect teachers' capacity to address diverse learning needs (Alegarbes, 2022). Furthermore, professional learning activities sometimes lack continuity and systematic alignment with instructional priorities (Macapodi & Labitad, 2025). Limited data literacy, time constraints, and competing responsibilities also restrict collaborative analysis of student performance (Talaue et al., 2024). These concerns emphasize the need to examine PLC engagement and instructional competence in Cluster 8.

The study is anchored in Fullan's Educational Change Theory, Wenger's Social Learning Theory, and Argyris and Schön's Organizational Learning Theory. Educational Change Theory emphasizes collaboration, shared leadership, and collective responsibility in improving instructional practices (Fullan, 2025). Social Learning Theory explains professional learning through social interaction, shared experiences, and communities of practice (Wenger's (2000); Wenger et al., 2023; Wenger-Trayner et al., 2023). Collaborative participation promotes knowledge construction, instructional reflection, and professional growth (Clark et al., 2023; Milton, Bryant, Appleton, & Duda, 2025; Liu et al., 2024; McKie, 2024; Akram et al., 2023). Organizational Learning Theory emphasizes collective reflection and the integration of shared knowledge into institutional practices (Argyris & Schön, 1978/1996, as cited in Ertsås & Irgens, 2023). PLCs operationalize these principles through supportive leadership, shared vision, and collective learning (DuFour et al., 2024). The study is further supported by Republic Act No. 10912, DepEd Order No. 35, s. 2016, and DepEd Order No. 42, s. 2017, which promote continuing professional development, Learning Action Cells, and the Philippine Professional Standards for Teachers (PPST). These policies reinforce professional learning and instructional competence (Worku, Melese, & Husen, 2025; Christensen & Jerrim, 2021; Erfe & Gallego, 2025). The PPST identifies seven domains of teacher competence, including content knowledge, learning environment, learner diversity, curriculum planning, assessment, community engagement, and professional development. However, challenges persist in inclusive instruction, differentiated assessment, and addressing learning gaps (Dumandan and Paglinawan, 2025; Ochoa et al., 2024; Masunungure & Maguvhe, 2025; Beltran et al., 2025; Mabborang et al., 2023; Dewi, 2025). Strengthening PLC engagement may support sustained instructional improvement across these domains (Dumandan & Paglinawan, 2025; Sims et al., 2021).

Despite existing professional development initiatives, limited empirical evidence explains the relationship between PLC dimensions and instructional competence among high school teachers in Cluster 8, Carcar City Division. Persistent challenges in collaboration, instructional support, and professional learning continuity highlight the need for context-responsive interventions. Accordingly, the study determined teachers' engagement across five PLC dimensions, assessed instructional competence across seven PPST domains, and examined the relationship between these variables at the 0.05 significance level. The findings served as the basis for developing a Strategic Development Framework to strengthen professional collaboration and instructional competence.

The study aligns primarily with SDG 4 (Quality Education) by emphasizing continuous teacher development, inclusive instruction, and improved educational quality. It also supports SDG 17 (Partnerships for the Goals) through collaborative professional learning, shared leadership, and institutional cooperation. Strengthening PLC practices can contribute to sustainable teacher development and improved learning opportunities.

The study contributes to educational and institutional sustainability by promoting continuous professional learning, collaborative leadership, and evidence-based instructional improvement. Strengthened PLC engagement can support teachers in addressing diverse learner needs, refining instructional practices, and maintaining effective professional development initiatives. The proposed Strategic Development Framework provides a basis for sustaining teacher competence, strengthening school collaboration, and advancing inclusive, quality education in Cluster 8, Carcar City Division.

2. Material and methods

2.1 Research Design

The study utilized a descriptive-correlational design to determine teachers' engagement in five PLC dimensions and their perceived instructional competence across seven Philippine Professional Standards for Teachers (PPST) domains. The descriptive component assessed the extent of PLC engagement and instructional competence, while the correlational component examined the statistical relationship between these variables. Guided by the Input–Process–Output (IPO) model, the study considered PLC engagement and instructional competence as inputs, questionnaire administration and statistical analysis as processes, and the proposed Strategic Development Framework as the output. This approach provided a systematic basis for examining professional learning practices and identifying areas for instructional improvement.

2.2 Locale of the Study

The study was conducted in Cluster 8 of the Carcar City Division, located in Barangay Guadalupe, Carcar City, Cebu, Philippines. The cluster comprises three public secondary schools: Rep. Maximino Noel (Guadalupe) National High School, Hunob National High School, and Moag Integrated School. These institutions collectively serve 1,665 students and employ 76 teachers under the supervision of three school heads. The research setting provided an appropriate environment for examining collaborative professional learning and instructional competence among secondary school teachers.

2.3 Respondents of the Study

The respondents consisted of 76 public secondary school teachers from the three participating schools in Cluster 8. Of these, 44 teachers (57.89%) were from Rep. Maximino Noel (Guadalupe) National High School, 17 (22.37%) from Hunob National High School, and 15 (19.74%) from Moag Integrated School. The respondents provided information regarding their engagement in PLC practices and their perceived instructional competence across the seven PPST domains.

2.4 Sample and Sampling Procedure

The study employed total population enumeration, involving all 76 public secondary school teachers from the three participating schools. This approach ensured complete coverage of the identified teacher population without selecting a smaller sample. The inclusion of all teachers provided comprehensive information on PLC engagement and instructional competence within Cluster 8.

2.5 Research Instrument

Two standardized research instruments were utilized. The Professional Learning Community Questionnaire developed by Sigurðardóttir, A. K. (2010) measured teachers' engagement in five dimensions: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions. Responses were assessed using a four-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (4). The Department of Education Electronic Self-Assessment Tool (e-SAT) 2025–2026 assessed teachers' perceived instructional competence across seven PPST domains: Content Knowledge and Pedagogy, Learning Environment, Diversity of Learners, Curriculum and Planning, Assessment and Reporting, Community Linkages and Professional Engagement, and Personal Growth and Professional Development. Responses were categorized from Low to Very High using a four-point scale. Both standardized instruments were administered directly, with the competence assessment reflecting teachers' self-perceptions rather than independently observed classroom performance.

2.6 Data Gathering Procedure

Data collection involved three stages. During the preliminary stage, formal permission was secured from the Schools Division Superintendent and the respective school heads. Respondents were informed about the study's objectives, voluntary participation, and confidentiality, and informed consent was obtained before questionnaire administration. During the data-gathering stage, the PLC Engagement Questionnaire and Teacher Competence

Questionnaire were administered to the participating teachers. Sufficient time was provided for completion, and responses were checked for completeness and accuracy. During the post-data-gathering stage, the collected data were encoded, organized, and statistically analyzed. The findings provided the basis for developing the proposed Strategic Development Framework.

2.7 Data Analysis Techniques

Data were analyzed using weighted mean, standard deviation, and Pearson Product-Moment Correlation Coefficient (r). Weighted means determined the extent of PLC engagement and teachers' perceived instructional competence, while standard deviations measured the variability of responses. Pearson correlation examined the strength and significance of the relationship between PLC engagement and instructional competence at the 0.05 significance level. Responses were interpreted using a four-point scale, with mean scores of 3.26–4.00 classified as Very High, 2.51–3.25 as High, 1.76–2.50 as Moderate, and 1.00–1.75 as Low. PLC questionnaire responses were numerically recoded to align with the competence assessment scale. Higher mean scores indicated stronger PLC engagement and greater perceived instructional competence. The statistical findings served as empirical inputs for the Strategic Development Framework.

3. Results and Discussion

3.1 Teachers' Engagement in Professional Learning Communities

3.1.1 Shared and Supportive Leadership

Teachers reported Very High engagement in Shared and Supportive Leadership ($M = 3.40$, $SD = 0.49$). Principals' willingness to listen to instructional concerns ($M = 3.55$) and encouragement of collaboration ($M = 3.53$) received the highest ratings, while classroom visits were comparatively lower ($M = 3.11$). These findings indicate strong leadership support but limited direct instructional supervision. Supportive and inclusive leadership promotes collaboration and teacher motivation (Zheng et al. (2020); Tran and Nguyen (2022)), while regular classroom observations strengthen instructional guidance (Altun and Yildirim (2021)).

3.1.2 Shared Values and Vision

Shared Values and Vision obtained a Very High rating ($M = 3.41$, $SD = 0.49$). Teachers expressed strong school satisfaction ($M = 3.57$), professional commitment ($M = 3.47$), and institutional pride ($M = 3.46$). These results reflect shared educational goals and professional belonging. Common vision strengthens collective efficacy and collaboration (García-Martínez et al. (2021); Liu and Hallinger (2023)), while value alignment supports teacher satisfaction and retention.

3.1.3 Collective Learning and Application

Collective Learning and Application received a Moderate rating ($M = 2.30$, $SD = 0.65$). Teachers actively sought new ideas ($M = 3.46$) and shared classroom management strategies ($M = 3.43$), but collaborative lesson planning ($M = 2.29$) and assessment-based intervention planning ($M = 2.33$) were limited. These findings indicate that informal collaboration exists, but structured professional learning remains insufficient. Institutional constraints and limited collaborative time affect sustained engagement (Tan et al. (2021)). Purposeful, data-informed collaboration is essential for instructional improvement (Vangrieken and Meredith (2021); Nguyen and Slavitz (2022)).

3.1.4 Shared Personal Practice

Shared Personal Practice was rated Very High ($M = 3.30$, $SD = 0.45$). Teachers recognized colleagues' expertise ($M = 3.41$) and reported strong peer support ($M = 3.40$), although familiarity with colleagues' classroom practices was comparatively lower ($M = 3.21$). These findings demonstrate strong collegial relationships but limited structured peer reflection. Formal observation, mentoring, and organizational support can strengthen shared instructional practice (Li and Ko (2022); Riveros and Newton (2020); Zepeda and Ponticell (2021)).

3.1.5 Supportive Conditions

Supportive Conditions obtained a High rating ($M = 3.01$, $SD = 0.53$). Cross-disciplinary collaboration ($M = 3.37$) and conflict resolution ($M = 3.34$) were strengths, while available collaboration time received a Moderate rating ($M = 2.33$). These results indicate positive professional relationships but insufficient structural support. Dedicated time, resources, and equitable opportunities are essential for sustainable PLC implementation (Cherkowski and Schnellert (2021); Ng and Tan (2021); Thornton and Cherrington (2023)).

3.1.6 Overall PLC Engagement

Teachers demonstrated Very High engagement in Shared Values and Vision ($M = 3.41$), Shared and Supportive Leadership ($M = 3.40$), and Shared Personal Practice ($M = 3.30$). Supportive Conditions were rated High ($M = 3.01$), while Collective Learning and Application was Moderate ($M = 2.30$). Overall, teachers demonstrated strong professional relationships and shared goals. However, structured collaborative learning, joint planning, and evidence-based instructional reflection require improvement.

3.2 Teachers' Instructional Competence

3.2.1 Content Knowledge and Pedagogy

Content Knowledge and Pedagogy received a High rating ($M = 3.02$, $SD = 0.55$). Classroom communication ($M = 3.50$) and multilingual instruction ($M = 3.49$) were strengths, while ICT integration ($M = 2.42$) and literacy–numeracy instruction ($M = 2.59$) received lower ratings. These findings indicate strong pedagogical communication but a need for digital and foundational skills development. Continuous training supports effective pedagogy and technology integration (Saldaña and Chai (2020); Bozkurt and Sharma (2021); Meijer and Kuijpers (2022)).

3.2.2 Learning Environment

Learning Environment obtained a Very High rating ($M = 3.59$, $SD = 0.50$). Teachers demonstrated strong competence in promoting fairness and respect ($M = 3.68$), maintaining safe classrooms ($M = 3.61$), and encouraging learner responsibility ($M = 3.59$). These findings reflect effective classroom management and supportive learning environments. Positive discipline and inclusive classroom practices strengthen learner engagement and confidence (Chong, Loh, and Tan (2022); Suleman et al. (2020); Webb and Jones (2021)).

3.2.3 Diversity of Learners

Diversity of Learners was rated High ($M = 2.63$, $SD = 0.62$). Teachers demonstrated competence in responding to varied learner backgrounds ($M = 3.21$), but strategies for learners with disabilities and exceptional abilities ($M = 2.41$) and indigenous learners ($M = 2.42$) were Moderate. These findings reveal gaps in inclusive and differentiated instruction. Limited preparation and resources constrain teachers' responsiveness to diverse learners (Kumar, Yusuf, and Grant (2020); Allday and Hudson (2021)), emphasizing the need for sustained professional development (Akhavan and Emmer (2022)).

3.2.4 Curriculum and Planning

Curriculum and Planning obtained a Very High rating ($M = 3.35$, $SD = 0.57$). Collaborative instructional discussions received the highest rating ($M = 3.62$), followed by curriculum-aligned learning outcomes and responsive learning programs (both $M = 3.57$). ICT-based instructional resource integration was comparatively lower ($M = 2.51$). These findings indicate strong curriculum planning but limitations in resource integration. Digital curriculum development and adaptable instructional materials remain important for responsive teaching (Chai and Kong (2022); Villavicencio and Bangcaya (2021); Mokhtar and McLaughlin (2020)).

3.2.5 Assessment and Reporting

Assessment and Reporting received a High rating ($M = 2.70$, $SD = 0.63$). Stakeholder communication was Very High ($M = 3.42$), while assessment design ($M = 2.50$), learner progress monitoring ($M = 2.50$), and data-informed instructional adjustment ($M = 2.49$) were Moderate. These results indicate stronger communication than assessment-based decision-making. Assessment literacy, formative evaluation, and effective data utilization require further development (Andrade and Brookhart (2020); Odo and Mohamud (2021); Saeed and Yang (2022)).

3.2.6 Community Linkages and Professional Engagement

Community Linkages and Professional Engagement obtained a Very High rating ($M = 3.63$, $SD = 0.51$). Teachers demonstrated strong policy compliance ($M = 3.70$), school-community partnerships ($M = 3.66$), and professional ethics ($M = 3.65$). These findings indicate strong institutional accountability and stakeholder relationships. School-community partnerships and ethical engagement support collaborative educational improvement (Azorin and Fullan (2022); Cruz and Esteban (2021)).

3.2.7 Personal Growth and Professional Development

Personal Growth and Professional Development recorded the highest competence rating ($M = 3.69$, $SD = 0.46$). Teachers demonstrated strong commitment to PPST-aligned professional goals ($M = 3.74$), reflective improvement planning ($M = 3.71$), and professional networking ($M = 3.70$). These findings reflect commitment to lifelong professional learning. Reflective practice, standards-based development, and professional collaboration support instructional growth (Lai and Wang (2021); Panadero et al. (2022)).

3.2.8 Overall Instructional Competence

Teachers demonstrated Very High competence in Personal Growth and Professional Development ($M = 3.69$), Community Linkages and Professional Engagement ($M = 3.63$), Learning Environment ($M = 3.59$), and Curriculum and Planning ($M = 3.35$). Content Knowledge and Pedagogy ($M = 3.02$), Assessment and Reporting ($M = 2.70$), and Diversity of Learners ($M = 2.63$) were rated High. The findings indicate strong professional commitment and classroom management, while inclusive instruction, assessment literacy, and ICT integration remain priorities for improvement.

3.3 Relationship Between PLC Engagement and Instructional Competence

3.3.1 Content Knowledge and Pedagogy

Collective Learning and Application ($r = -0.312$, $p = 0.0062$) and Shared Personal Practice ($r = -0.242$, $p = 0.0350$) showed significant negative relationships with Content Knowledge and Pedagogy. The remaining three PLC dimensions showed no significant relationships ($p > 0.05$). These findings suggest that increased collaboration does not necessarily correspond to stronger pedagogical competence. The quality and purpose of collaborative activities remain important (Liu et al., 2022; Darling-Hammond et al., 2021).

3.3.2 Learning Environment

All five PLC dimensions demonstrated significant positive relationships with Learning Environment (reported $p = 0.000$), with correlations ranging from $r = 0.63$ to 0.67 . Shared Values and Vision showed the strongest relationship ($r = 0.67$). These findings indicate that shared goals, collaborative practices, and supportive leadership are associated with effective classroom environments (Sims and Fletcher-Wood (2021)).

3.3.3 Diversity of Learners

All PLC dimensions showed significant positive relationships with Diversity of Learners ($p < 0.001$), with correlations ranging from $r = 0.5268$ to 0.6331 . Supportive Conditions demonstrated the strongest relationship ($r = 0.6331$). These findings emphasize the importance of collaborative and supportive school environments in strengthening inclusive teaching practices (Florian and Spratt (2021)).

3.3.4 Curriculum and Planning

All PLC dimensions demonstrated significant positive relationships with Curriculum and Planning ($p < 0.001$). Shared and Supportive Leadership recorded the strongest correlation ($r = 0.7651$), followed by Collective Learning and Application ($r = 0.7296$) and Shared Personal Practice ($r = 0.7260$). These results suggest that leadership support and collaborative learning are strongly associated with effective curriculum planning and instructional alignment (Darling-Hammond et al. (2021); Chai and Kong (2022)).

3.3.5 Assessment and Reporting

All PLC dimensions showed significant positive relationships with Assessment and Reporting ($p < 0.001$). Collective Learning and Application recorded the strongest correlation ($r = 0.6374$), followed by Shared Personal Practice ($r = 0.6258$). These findings highlight the importance of collaborative reflection and data-informed professional learning in strengthening assessment practices (Panadero et al. (2022); Saeed and Yang (2022)).

3.3.6 Community Linkages and Professional Engagement

All PLC dimensions demonstrated significant positive relationships with Community Linkages and Professional Engagement ($p < 0.001$), with correlations ranging from $r = 0.4756$ to 0.5834 . Collective Learning and Application showed the strongest relationship ($r = 0.5834$). These findings indicate that professional collaboration is associated with stronger stakeholder partnerships and community engagement (Azorin and Fullan (2022)).

3.3.7 Personal Growth and Professional Development

All PLC dimensions demonstrated significant positive relationships with Personal Growth and Professional Development ($p < 0.001$). Shared Personal Practice recorded the strongest correlation ($r = 0.6713$), followed by Supportive Conditions ($r = 0.6659$). These findings suggest that peer collaboration, reflective practice, and supportive professional environments are associated with continuous teacher development (Lai and Wang (2021); Panadero et al. (2022)).

3.4 Overall Relationship Between PLC Engagement and Instructional Competence

The findings revealed significant positive relationships between all five PLC dimensions and six instructional competence domains. Collective Learning and Application and Shared Personal Practice demonstrated notable associations across several domains, while Shared and Supportive Leadership showed the strongest relationship with Curriculum and Planning ($r = 0.7651$). However, Content Knowledge and Pedagogy showed significant negative relationships with Collective Learning and Application ($r = -0.312$) and Shared Personal Practice ($r = -0.242$), while the remaining PLC dimensions were not significantly related to this domain. Overall, PLC engagement was associated with teachers' instructional competence, particularly in collaborative planning, inclusive instruction, assessment, classroom management, and professional development. Nevertheless, the negative correlations in Content Knowledge and Pedagogy suggest that collaboration must be purposeful, structured, and aligned with instructional needs to support professional improvement.

3.5 Implications for the Strategic Development Framework

The study identified Collective Learning and Application ($M = 2.30$) as the weakest PLC dimension, while Diversity of Learners ($M = 2.63$) and Assessment and Reporting ($M = 2.70$) were among the lowest-rated instructional competence domains. Challenges also included limited collaborative planning, insufficient collaboration time, ICT integration, differentiated instruction, and assessment-based decision-making. These

findings provide the basis for a Strategic Development Framework emphasizing structured professional learning, peer mentoring, collaborative lesson planning, inclusive pedagogy, assessment literacy, and supportive school leadership. Strengthening these areas while sustaining existing professional relationships and shared educational goals may contribute to continuous instructional improvement among high school teachers in Cluster 8, Carcar City Division.

4. Conclusion & Recommendations

The study revealed that high school teachers in Cluster 8, Carcar City Division, demonstrated strong engagement in Professional Learning Communities (PLCs), particularly in shared leadership, shared values and vision, and shared personal practice, while collective learning and application required improvement. Teachers exhibited Very High instructional competence in learning environment, curriculum and planning, community linkages and professional engagement, and personal growth and professional development. However, areas requiring further development included ICT integration, differentiated instruction, and assessment literacy. Significant positive relationships were found between PLC engagement and most instructional competence domains, although collective learning and application and shared personal practice showed significant inverse relationships with content knowledge and pedagogy. These findings emphasize the importance of structured, purposeful, and sustained professional collaboration in supporting teachers' instructional competence.

The implementation of the proposed Strategic Development Framework is recommended to strengthen PLC engagement and instructional competence. Curriculum planners and school administrators should promote structured collaborative learning, allocate dedicated time and resources for PLC activities, and establish peer coaching, mentoring, and collaborative lesson planning programs. Teachers should actively participate in professional development focused on ICT integration, differentiated instruction, inclusive pedagogy, and assessment literacy. Schools should institutionalize supportive professional learning structures, while students are encouraged to participate actively in improved learning activities. Future researchers may replicate the study in other educational settings, explore additional variables, and evaluate the effectiveness of the proposed framework in promoting instructional improvement.

The study was limited to 76 high school teachers from three public secondary schools in Cluster 8, Carcar City Division, Cebu, during School Year 2025–2026. It employed a descriptive-correlational design and relied on teachers' self-reported PLC engagement and instructional competence, which may not fully reflect actual classroom practices. The findings establish statistical relationships rather than causal effects and may not be generalizable to teachers in other educational settings. Furthermore, the proposed Strategic Development Framework was developed from the findings but was not evaluated for implementation effectiveness within the study.

5. Compliance with ethical standards

The authors acknowledge the participation of the 76 secondary school teachers and the cooperation of the three participating public secondary schools in Cluster 8, Carcar City Division, Cebu, in facilitating the research on Professional Learning Communities (PLCs) and teachers' instructional competence. Participation was voluntary, informed consent was obtained, and participant confidentiality was maintained through the nondisclosure of personally identifiable information. The study employed non-invasive questionnaire-based procedures to assess teachers' PLC engagement and instructional competence. Information regarding potential conflicts of interest and external funding was not provided in the available study details.

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