PJBS
PHILIPPINE JOURNAL of BASIC STUDIES

PJBS Volume 2. 2026
E-ISSN: 3116-5028
P-ISSN: 3116-501X

Collaborative Expertise in Enhancing the Teaching-Learning Process in Secondary Schools in Bolinao, Pangasinan

Shannice Q. Gazzingan[1], Jocelyn S. De Vera[2]
[1]*Tupa Integrated School, Philippines*
[2]*Pangasinan State University, Philippines*
Corresponding author: gazzinganshannice@gmail.com , jsdevera@psu.edu.ph

Abstract

The study determines the extent of participation of the teachers and school heads from secondary schools in Bolinao, Pangasinan along collaborative activities and its level of effectiveness along teaching and learning process. It identifies the correlation between the respondents' extent of participation in collaborative expertise and their profile variables, and the correlation between its level of effectiveness in enhancing the teaching-learning process and respondents' profile variables. Descriptive-correlational research design was employed incorporating quantitative research methodologies; thus, survey response through questionnaire was administered.

Results imply that respondents show high extent of participation in collaborative expertise indicated by the overall description of 'often participates' and that collaborative expertise is found to be highly effective in enhancing both teaching and learning processes. Although age, gender, and coordinatorship do not significantly influence engagement in collaborative expertise, marital status, position, educational level, organizational membership, attendance at seminars, and family income have a major impact and respondents in higher position engage more in collaborative expertise. The number of seminars and trainings attended related to collaborative expertise shows a positive correlation with the effectiveness of collaborative practices in teaching and learning, signifying that most demographic profile of the respondents do not influence how effective collaborative expertise is in enhancing processes—except for average family income.

From the result, study recommends active participation in various collaborative expertise, institutionalization regular and scheduled collaborative structures, prioritization of the structured, time-bound, and purpose-driven collaborative programs development, time allotment to teacher-led inquiry and action research presentations, leverage technology for collaboration, regular evaluation collaborative expertise's impact in teaching and learning, practices adjustment based on feedback and data, and provision of training and webinars focusing on enhancing collaborative expertise.

This study provides valuable insights into collaborative expertise in enhancing the teaching-learning process.

Keywords: collaborative expertise, enhancing teaching and learning process, secondary school teachers

INTRODUCTION

With the ever-changing face of education, never has there been a greater need for sound teaching methodologies. Conventional frameworks of disconnected teaching methods are becoming more and more obsolete, with more vibrant, interactive approaches gaining ground. Among these, collaborative expertise stands out as one of the major determinants in promoting teaching efficacy and learning among students.

Collaborative expertise is characterized by teachers, school leaders, and even occasionally, students combining to collectively co-construct knowledge, troubleshoot instructional dilemmas, and inquire into practices of teaching. During collaborative expertise, educational leaders shall provide technical assistance and mentorship to the teachers where necessary. Studies have shown that when teachers participate in collaborative professional development, including peer observation, lesson study, and co-teaching, there is a significant increase in student engagement, achievement, and classroom environment.

Collaborative expertise is an approach whereby educators collaborate concerning sharing knowledge, skills, and strategies aimed at bettering the outcome of the students. In addition, shared source of knowledge brings many consistencies and continuity in a curriculum. By establishing networks of mutual competence, schools can establish robust, versatile teaching communities capable of addressing shifting educational needs.

Collaboration among teachers and administrators allows to draw on each other's strengths, experience, and perspectives to improve teaching strategies and address common instructional challenges. Through activities such as professional learning communities (PLCs), co-teaching models, team lesson planning, and peer coaching, educators can build a strong sense of professional unity and continuously enhance their practice. As the schools embrace this approach, the process is surely going to change overall teaching practices as well as student achievement.

METHODS

Research design

This study employed a quantitative research approach using a descriptive-correlational research design. The descriptive component was utilized to determine the respondents' demographic profile, the extent of participation in collaborative expertise, and the level of effectiveness of collaborative expertise in enhancing the teaching and learning process. Meanwhile, the correlational component examined the significant relationship between the respondents' profile variables and their extent of participation in collaborative expertise, as well as the relationship between the profile variables and the perceived effectiveness of collaborative expertise.

Participants and Sampling

The participants of the study consist of teachers and school heads of secondary schools in Bolinao, Pangasinan, served as National Learning Camp Volunteers, who could provide relevant information regarding their participation in collaborative expertise and its effectiveness in the teaching-learning process.

Instrument

The primary data gathering instrument used in this study was a structured survey questionnaire consisted of three sections: (1) respondents' demographic profile, (2) extent of participation in collaborative expertise, and (3) level of effectiveness of collaborative expertise in enhancing the teaching and learning process, administered through Google Forms. A five-point Likert scale was used to measure the respondents' perceptions.

Extent of Participation in Collaborative Expertise

Qualitative Interpretation	Qualitative Interpretation	Limit of Index
5	Always Participates	4.51-5.00
4	Often Participates	3.51-4.50
3	Sometimes Participates	2.51-3.50
2	Rarely Participates	1.51-2.50
1	Never Participates	1.00-1.50

Level of Effectiveness of Collaborative Expertise along the Teaching and Learning Process

Qualitative Interpretation	Qualitative Interpretation	Limit of Index
5	Always Participates	4.51-5.00
4	Often Participates	3.51-4.50
3	Sometimes Participates	2.51-3.50
2	Rarely Participates	1.51-2.50
1	Never Participates	1.00-1.50

Similarly, the level of effectiveness was measured using the same five-point Likert scale, with corresponding verbal interpretations based on the computed mean scores.

Data collection

Data were collected through an online survey administered using Google Forms. Prior to data collection, respondents were informed of the purpose of the study, and their voluntary participation was sought. After obtaining consent, the survey link was distributed to the respondents. Responses were automatically recorded through Google Forms, organized, and prepared for statistical analysis while ensuring the confidentiality and anonymity of all participants.

Data analysis

The collected data were tabulated and analyzed using appropriate descriptive and inferential statistical tools. The respondents' demographic profile was analyzed using frequency counts and simple percentages.

The extent of participation in collaborative expertise and the level of effectiveness in enhancing the teaching and learning process were analyzed using the weighted mean and interpreted based on the established five-point Likert scale.

To determine the significant relationship between the respondents' profile variables and the extent of participation in collaborative expertise, as well as between the profile variables and the level of effectiveness of collaborative expertise, appropriate correlational statistical analysis (Kendall Tau-B and Point Biserial Correlation) was employed. Statistical significance was tested at the 0.05 level of significance.

RESULTS

The following tables show the profile of respondents, extent of participation of respondents to collaborative expertise, level of effectiveness of collaborative expertise in enhancing processes along teaching and learning, relationship between the extent of participation of respondents and their profile variables, and relationship between the level of effectiveness of collaborative expertise in enhancing teaching and learning process and their profile variables.

Table 1. Profile of the respondents

Profile	Category	Frequency	Percentage	Rank
Age	25-29 years old	17	22.67 %	1
	30-34 years old	14	18.67 %	2.5
	35-39 years old	14	18.67 %	2.5
	40-44 years old	6	8 %	6
	45-49 years old	10	13.33 %	4
	50-54 years old	9	12 %	5
	55-59 years old	4	5.33 %	7
	60 and above	1	1.33 %	8
Gender	Female	55	73.33 %	1
	Male	20	26.67 %	2
Marital Status	Single	21	28 %	2
	Married	52	69.33 %	1
	Separated	1	1.33 %	3.5
	Widowed	1	1.33 %	3.5
Position	Teacher I	18	24 %	2
	Teacher II	7	9.33 %	3
	Teacher III	34	45.33 %	1
	Master Teacher I	2	2.67 %	6.5
	Head Teacher I	1	1.33 %	8.5
	Head Teacher III	5	6.67 %	4.5
	Principal I	5	6.67 %	4.5
	Principal II	1	1.33 5	8.5
	Principal IV	2	2.67 %	6.5
Coordinatoship Handled	Reading/Literacy and Numeracy	11	14.67 %	4
	Research	1	1.33 %	11
	Special Needs Education (SNED)	1	1.33 %	11
	Information, Communication, and Technology	4	5.33 %	6.5
	Guidance and Advocacy	3	4 %	8
	School Paper	8	10.67 %	5
	Sports Development Programs	1	1.33 %	11
	Supreme Secondary Learner Government	2	2.67 %	9
	Grade Level Chairmanship	12	16 %	3
	Learning Area Chairmanship	31	41.33 %	1
	Others	20	26.67 %	2

As shown in Table 1, majority of respondents ages 25-29 years (22.67%) indicating that the institution is heavily staffed by early-to-mid-career professionals who are likely in their peak productive years and highly adaptive to modern educational demands.

The majority of the respondents are female (73.33%), suggesting that participation and effectiveness largely represent the collaborative experiences of female educators.

The profile presents a highly experienced classroom-level cohort (dominated by Teacher III items) that balances heavy instructional duties alongside a diverse array of school coordinatorships. This baseline suggests that any interventions, policies, or conclusions drawn later in this study must consider that the target workforce is already highly utilized across secondary administrative designations. The fndings show shows that the total exceeds the number of respondents, which means there are some of the respondents who are handling more than one coordinatorship, reflecting their multitasking roles within their institutions.

Table 2. Profile of the respondents (part 2)

Profile	Category	Frequency	Percentage	Rank
Grade Level Handled	Grade 7	28	37.33 %	1
	Grade 8	23	30.67 %	3
	Grade 9	17	22.67 %	4
	Grade 10	23	32 %	2
	Grade 11	11	14.67 %	7
	Grade 12	15	20 %	5
	None	14	18.67 %	6
Number of Subjects Handled	none	14	18.67 %	4
	1-2	21	28 %	2
	3-4	25	33.33 %	1
	5 and above	15	20 %	3
Highest Educational Attainment	College Degree	7	9.33 %	3.5
	Master's Degree Unit Earner	27	36 %	2
	Master's Degree	32	42.67 %	1
	Doctorate Degree Unit Earner	2	2.67 %	5
	Doctorate Degree	7	9.33 %	3.5
Number of Memberships or Affiliation to Organization	1-2	64	85.33 %	1
	3-4	7	9.33 %	2
	5 or more	4	5.33 %	3
Number of Seminars and Training Attended Related to Collaborative Expertise	1-2	32	42.67 %	1
	3-4	16	21.33 %	3
	5 or more	27	36.00 %	2
Average Monthly Family Income	Php30,000.00 - Php39,999.00	49	65.33 %	1
	Php40,000.00 – Php49,999.00	6	8 %	3.5
	Php50,000.00 – Php59,999.00	9	12 %	2
	Php60,000.00 – Php69,999.00	6	8 %	3.5
	Php70,000.00 – Php79,999.00	3	4 %	5
	Php80,000.00 and above	2	2.67 %	6

As shown in Table 2, the distribution of teaching assignments shows a strong concentration in the Junior High School (JHS) tiers compared to Senior High School (SHS). It also shows that there are 18.67% who are not handling any grade level, because of they are non-teaching personnel. It shows that 33.33% handled three to four (3-4) subject areas to teach indicating a heavy preparation load that likely requires teaching across multiple subject areas or tracks..

Majority of the respondents hold advanced educational qualifications, with 42.67% holding master's degree and substantial proportion with 36% being master's degree unit earners indicating a faculty that is heavily invested in continuous professional development and advanced pedagogical theory.

Major portion with 85.33% are members or affiliates to related organizations, indicating an active professional engagement, with one to two memberships or affiliation to organizations, suggesting that the respondents maintain a focus rather than extensive involvement in organizational affiliations. 42.67%, attended only 1-2 seminars and training related to collaborative expertise indicating that this polarization, while nearly half the staff has received baseline exposure to collaborative practices, a strong, highly trained core of over one-third of the faculty possesses extensive development in collaborative institutional

frameworks. It also shows that mostly belong lower middle to middle social classes and only few belong to upper middle social classes.

This profile outlines an instructional staff that is academically over-qualified (mostly post-graduate earners) but heavily burdened, with more than half the faculty juggling 3 to over 5 distinct subjects across multiple Junior High School grade levels. When assessing their capacity for "Collaborative Expertise," the data suggests that while they have the academic background to understand advanced collaborative methodologies, their heavy preparation loads and limited professional network reach act as practical constraints to implementing deeper cross-functional work.

Table 3. Extent of participation

Indicator	AWM	DR
1. Professional Learning Community (PLC)		
a. I share my expertise and ideas to improve teaching practices and learning outcomes.	4.57	AP
b. I reflect on my teaching practices and identify areas of growth.		
2. Learning Action Cell (LAC)		
a. I share insights and strategies to address teaching and learning challenges.	4.60	AP
b. I collaborate with my colleagues to develop solutions to common teaching and learning problems.		
3. Collaborative Lesson Planning and Demonstration Teaching		
a. I work with my colleagues to design the lesson content and pedagogy to deliver effectively lesson during demonstration teaching.	4.52	AP
b. I reflect on my performance and consider how to improve my teaching approach and lesson plan for future lessons.		
4. Peer Coaching and Mentoring		
a. I engage in professional dialogue that provides or receives guidance and support to/from colleagues in improving instructional practices.	4.51	AP
b. I offer constructive feedbacks to my colleagues.		
5. Stakeholder Involvement Forum		
a. I collaborate with internal and external stakeholders by discussing relevant insights to support school improvement initiatives.	4.39	OP
b. I engage in brainstorming sessions to develop potential solutions and strategies to address the identified issues.		
6. Action Research Presentation		
a. I engage in reflective dialogue to contribute to evidence-based teaching practices.	3.89	OP
b. I share research process, findings and implications for improving teaching and learning.		
7. Webinar or Online Workshops		
a. I attend webinar or online workshop sessions relevant to my expertise to improve teaching practice.	4.14	OP
b. I ask questions and interact with the presenters and other participants to foster a deeper understanding of the content.		
8. Virtual Meetings	4.32	OP
a. I attend virtual meetings to collaborate with colleagues to support professional and instructional goals.		
Average Weighted Mean	**4.38**	**OP**

Legend: 1.00-1.50 (Never Participates); 1.51-2.00 (Rarely Participates); 2.51-3.00 (Sometimes Participates); 3.51-4.50 (Often Participates); 4.51-5.00 (Always Participates)

The table presents the respondents' self-assessment across eight distinct modalities of collaborative expertise with overall baseline assessment yielded 4.38, described as an

Often Participated (OP) rating. This indicates that collaborative mechanisms are highly active and structurally integrated into the school's operational culture.

The highest-rated indicator among all collaborative modalities is the Learning Action Cell (LAC), at 4.6 (AP) descriptive rating, closely followed by Professional Learning Communities (PLCs) at 4.57 (AP) and Collaborative Lesson Planning and Demonstration Teaching at 4.52 (AP). Teachers show an exceptional willingness to share insights, design lesson contents, and reflect on their pedagogy within these immediate, structured spaces. Because LAC and PLCs are mandate-driven, institutionalized routines, they naturally yield the highest engagement and execution rates among the staff.

Peer Coaching and Mentoring also achieved 4.51 (AP) confirming that informal or semi-formal 1-on-1 professional dialogues, where educators offer constructive feedback and guidance to fellow teachers, are a constant features of the work culture. This metric aligns seamlessly with the high percentage of senior Teacher III items identified in the previous demographic profile, as they are naturally suited to guide more junior teachers.

In contrast to the classroom-centered metrics, Action Research Presentation scored the lowest overall, 3.89 (OP). While the faculty is highly educated, their heavy instructional workload—often juggling 3 to over 5 distinct subjects—likely prevents them from moving beyond consumption to actively writing, presenting, and defending evidence-based action research.

Modalities requiring interaction outside immediate teaching circles or across digital channels consistently landed in the Often Participated (OP) tier Stakeholder Involvement Forums registered an AWM of 4.39, Virtual Meetings reached an AWM of 4.32, and Webinars or Online Workshops scored an AWM of 4.14.The lower relative positioning of webinars and online platforms indicates a slight fatigue or reduced interaction quality within digital learning environments compared to lively, face-to-face peer collaborations like LAC sessions.

To maximize this "Collaborative Expertise," management should consider shifting the focus of existing LAC circles away from generic training and toward guiding teachers through step-by-step action research development. This would directly address the school's lowest performance area without overloading the faculty's schedule.

Table 4. Level of effectiveness of collaborative expertise in enhancing processes along teaching and learning

	Indicator (Teaching)	AWM	DR
1.	Collaboratively working in designing and implementing curricula and instructional strategies.	4.34	HE
2.	Shares educational duties to increase learners' participation.	4.36	HE
3.	Aligns teaching strategies to ensure holistic educational experience for students.	4.41	HE
4.	Fosters the development of innovative teaching strategies.	4.25	HE
5.	Takes on specialized roles to complement shared responsibilities.	4.39	HE
6.	Addresses challenges such as student behavioral issues, learning gaps, or curriculum adaptation.	4.47	HE
7.	Develops a deeper comprehension of content and pedagogy through discussion and collaboration.	4.23	HE
8.	Creates a supportive professional network.	4.32	HE
9.	Cultivates deeper professional connections and improves teaching skills.	4.39	HE
10.	Fosters a sense of shared purpose and belonging.	4.40	HE
	Average Weighted Mean	4.38	HE

Table 5. Level of effectiveness of collaborative expertise in enhancing processes along learning

	Indicator (Learning)	AWM	DR
1.	Enhances the quality of instructional delivery.	4.44	HE
2.	Comprehensive academic support for learners.	4.45	HE
3.	Guarantees clarify and continuity in instruction, which clears up confusion and improving student comprehension.	4.44	HE
4.	Pedagogical innovation.	4.13	HE
5.	Results in evidence-based approaches that enhance student comprehension and engagement.	4.28	HE
6.	Models collaboration for students.	4.34	HE
7.	Correlates with improved academic performance focusing on critical thinking and problem-solving skills among learners.	4.44	HE
8.	Develops teamwork and communication skills among learners.	4.43	HE
9.	Scaffolds learning experiences across learning areas.	4.36	HE
10.	10. Allows higher-quality experience of instruction and more personalized support.	4.41	HE
	Average Weighted Mean	**4.37**	**HE**

Process	AWM	DR
a. Teaching	4.38	HE
b. Learning	4.37	HE
Average Weighted Mean	**4.38**	**HE**

Legend: 1.00-1.50 (Least Effective); 1.51-2.50 (Moderately Effective); 2.51-3.50 (Effective); 3.41-4.50 (Highly Effective); 4.51-5.00 (Very Highly Effective)

The overall AWM of 4.38 indicates an exceptionally strong collaborative culture. . It shows that collaborative expertise is perceived as highly effective in teaching as it 'addresses challenges such as student behavioral issues, learning gaps, or curriculum adaptation'. While the results are overwhelmingly positive, the data subtly hints at an area for optimization. Because pedagogical discussion (4.23) and innovation (4.25) are the lowest-scoring areas, the institution or group evaluated could benefit from shifting some focus from operational collaboration (sharing duties, tackling behavior issues) to intellectual/creative collaboration.

As gleaned in table, collaborative expertise is highly effective in enhancing learning process with an average weighted mean of 4.37, as perceived by the respondents. The data shows that the current instructional practices are exceptionally strong at delivering clear, continuous, and highly supportive academic experiences.

Overall, the level of effectiveness of collaborative expertise with and average weighted mean of 4.38 is 'highly effective' along the processes of teaching and learning. This implies a strong impact on teaching and learning processes, significantly contributing to improving instructional methods and student learning outcomes. The data demonstrates that while highly effective collaborative teaching practices directly translate into premium academic support and instructional clarity for students, a synchronized push toward professional pedagogical innovation remains the vital next step to unlocking advanced, cutting-edge student learning outcomes.

Table 6. Relationship between the extent of participation of teacher-respondents in collaborative expertise and their profile variables

Profile		Extent of Participation of Teacher-Respondents in Collaborative Expertise								
		Learning Communities (PLCs)	Learning Action Cell (LAC) Sessions	Collaborative Lesson Planning and	Peer Coaching and Mentoring	Stakeholder Involvement Forum	Action Research Presentation	Webinars or Online Workshops	Virtual Meetings	Overall Mean
Age	T_B	0.179	0.156	0.052	0.155	0.129	0.064	0.004	0.105	0.179
	Sig.	0.062	0.103	0.589	0.104	0.169	0.485	0.966	0.220	0.062
Gender	r_{pb}	0.155	0.155	0.201	0.056	0.033	-0.110	0.022	0.072	0.155
	Sig.	0.183	0.184	0.084	0.635	0.781	0.345	0.853	0.540	0.183
Marital status	r_{pb}	**.302****	**.241***	0.123	0.124	0.061	-0.013	0.120	0.167	**.302****
	Sig.	**0.009**	**0.040**	0.298	0.296	0.606	0.914	0.313	0.157	**0.009**
Position	T_B	**.306****	**.225***	**.290****	**.281****	**.232***	0.172	0.078	**.242****	**.306****
	Sig.	**0.002**	**0.024**	**0.003**	**0.004**	**0.017**	0.071	0.409	**0.006**	**0.002**
No. of Coordinatorship handled	r_{pb}	-0.099	-0.054	0.172	-0.016	-0.073	0.148	0.043	0.028	-0.099
	Sig.	0.399	0.646	0.141	0.893	0.535	0.205	0.714	0.811	0.399
Grade level handled	T_B	-0.155	-0.055	-0.140	-**.272****	-0.170	-0.155	-0.072	-0.174	-0.155
	Sig.	0.138	0.598	0.175	**0.009**	0.096	0.120	0.469	0.063	0.138
Number of subject(s) handled	T_B	-0.112	-0.104	-**.228***	-**.262****	-0.106	-0.073	-0.083	-0.145	-0.112
	Sig.	0.261	0.301	**0.022**	**0.009**	0.278	0.445	0.385	0.106	0.261
Highest educational attainment	T_B	**.218***	0.187	**.276****	**.242***	0.169	0.110	0.040	0.175	**.218***
	Sig.	**0.032**	0.067	**0.006**	**0.017**	0.090	0.260	0.678	0.055	**0.032**
Number of memberships or affiliation to organization	T_B	0.097	**.212***	**.212***	0.183	0.142	0.076	**.231***	**.191***	0.097
	Sig.	0.366	**0.048**	**0.047**	0.087	0.178	0.459	**0.025**	**0.047**	0.366
Number of seminars and trainings attended related to collaborative expertise	T_B	0.161	**.212***	**.271****	**.237***	**.209***	0.190	0.183	**.229***	0.161
	Sig.	0.119	**0.041**	**0.009**	**0.021**	**0.039**	0.055	0.065	**0.014**	0.119
Average family income	T_B	**.213***	**.216***	**.255***	0.147	**.208***	**.200***	0.183	**.231***	**.213***
	Sig.	**0.037**	**0.036**	**0.012**	0.148	**0.039**	**0.042**	0.062	**0.012**	**0.037**

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

**. Correlation is significant at the 0.05 level (2-tailed).*

Table 6 reveals varying degrees of relationships between teacher-respondents' extent of participation in collaborative expertise and their profile variables. Marital status and

position emerged as strong correlates, showing significant positive relationships across several dimensions. Respondents' position showed the highest correlation (r = .306**, p < .01), indicating that teachers in higher position engage more in collaborative practices. Meanwhile, grade level handled and number of subjects handled were negatively correlated, particularly with peer coaching and collaborative lesson planning. Additionally, highest educational attainment, number of organizational affiliations, attendance in relevant seminars, and average family income also significantly influenced participation, particularly in areas requiring active professional involvement. Meanwhile, age, gender, and number of coordinatorship roles did not yield statistically significant associations

Table 7. Relationship between the level of effectiveness of collaborative expertise in enhancing teaching and learning process and their profile variables

Profile		**Level of effectiveness of collaborative expertise in enhancing process along:**		**Overall mean**
		Teaching	Learning	
Age	T_B	-0.160	-0.134	-0.139
	Sig.	0.071	0.125	0.107
Gender	r_{pb}	0.056	0.005	0.031
	Sig.	0.636	0.968	0.794
Marital status	r_{pb}	-0.086	-0.047	-0.067
	Sig.	0.470	0.693	0.570
Position	T_B	0.041	0.053	0.058
	Sig.	0.651	0.556	0.514
No. of Coordinatorship handled	r_{pb}	-0.053	0.006	-0.024
	Sig.	0.650	0.958	0.838
Grade level handled	T_B	0.013	-0.012	0.007
	Sig.	0.892	0.896	0.938
Number of subject(s) handled	T_B	-0.012	-0.015	-0.004
	Sig.	0.892	0.870	0.966
Highest educational attainment	T_B	-0.007	0.160	0.178
	Sig.	0.943	0.085	0.052
Number of memberships or affiliation to organization	T_B	0.081	0.059	0.072
	Sig.	0.413	0.546	0.453
Number of seminars and trainings attended related to collaborative expertise	T_B	**.226***	**.232***	**.228***
	Sig.	**0.018**	**0.014**	**0.014**
Average family income	T_B	-0.007	0.074	0.033
	Sig.	0.943	0.431	0.724

**. Correlation is significant at the 0.05 level (2-tailed).*

Table 7 presents the correlation between the teacher-respondents' profile variables and their perceived level of effectiveness of collaborative expertise in enhancing the teaching and learning processes. Result show that only the number of seminars and trainings attended related to collaborative expertise shows a statistically significant positive relationship with the effectiveness of collaborative practices in both teaching (r = .226, p = .018) and learning (r = .232, p = .014), as well as the overall mean effectiveness (r = .228, p = .014). Other variables such as age, gender, marital status, position, number of coordinatorship roles, grade level and subjects handled, educational attainment, organizational affiliations, and average family income show weak and non-significant correlations. This signifies that most demographic profile of the respondents does not influence on effective collaborative

expertise is perceived to be in enhancing teaching process—except for average family income, which does show a significant relationship.

DISCUSSION

The descriptive-correlational analysis of 75 secondary school teachers and school heads across 16 schools in the Bolinao I and II Districts, Pangasinan, reveals a highly structured professional landscape where localized frameworks heavily influence instructional delivery and student learning outcomes. Regarding participation typology, educators show a significantly high engagement in school-mandated initiatives like Learning Action Cell (LAC) sessions and Professional Learning Communities (PLCs), while broader or digital platforms, such as action research and webinars, yield the lowest engagement. This localized focus aligns directly with DepEd Order No. 14, s. 2023, which structurally embeds collaborative spaces into the weekly school calendar. It supports local literature characterizing the School Learning Action Cell (SLAC) as an indispensable tool for filling instructional gaps, as well as international models like Distributed Cognition, which posit that collaborative expertise thrives when cognitive workloads are shared within an immediate, physically scaffolded environment.

In terms of perceived effectiveness, collaborative expertise scored uniformly high across both teaching and learning domains. Respondents rated collaboration as highly effective for addressing immediate challenges like student behavioral issues, learning gaps, and providing academic support, whereas pedagogical innovation scored the lowest across both domains. This pattern reflects the objectives of the National Learning Camp (NLC) to mitigate post-pandemic learning losses, echoing local and international findings that structured collaboration offers critical reflective and diagnostic support to resolve immediate operational crises, but often falls short of deep creative innovation unless teams are explicitly trained to navigate collective competence.

The correlation matrix reveals critical demographic and structural dynamics. While professional status markers like teaching position and educational attainment positively correlate with the extent of participation, heavy workloads—specifically the number of subjects and grade levels handled—are negatively correlated with deep peer coaching and lesson planning. This highlights the multitasking strain on Filipino public school teachers balancing extensive administrative coordinatorships alongside primary classroom duties. Strikingly, when assessing perceived effectiveness, demographic factors flatten; only the number of specialized seminars and trainings attended exhibits a significant positive relationship across teaching and learning domains. This underscores that collaborative expertise is not a passive byproduct of age or tenure, but an acquired skill set requiring targeted, deliberate division-wide professional development.

Several limitations qualify these findings. Geographically, the study is confined to the Bolinao I and II Districts, limiting generalizability to urban or private school settings. Statistically, the small sample size of 75 limits the power of the correlational analysis for fragmented demographic subsets. Additionally, drawing respondents entirely from NLC volunteers introduces a potential selection bias, as these educators may possess higher baseline motivation and collaborative inclination, which could artificially inflate the positive ratings. Finally, the heavy reliance on subjective, self-reported metrics lacks objective corroboration—such as classroom observations or longitudinal student standardized test data—to independently verify whether these highly rated collaborative practices translate into quantified student learning gains.

CONCLUSION

From the result of the study that was conducted, the researchers concluded the following:

1. Based on the findings of the study, it can be concluded that the respondents were predominantly in mid-year career, female, married, and experienced Teacher III educators who actively assumed leadership roles, particularly in learning area chairmanship. Most possessed graduate-level qualifications, had participated in one to two trainings related to collaborative expertise, and were actively affiliated with professional organizations. These characteristics suggest that the respondents have adequate professional experience and opportunities that support collaboration and continuous professional growth.

2. Learning Action Cell (LAC) sessions, Professional Learning Communities (PLCs), and collaborative lesson planning and demonstration teaching were the most frequently practiced forms of collaborative expertise. Overall, the respondents often participated in various collaborative activities, indicating a strong culture of professional collaboration within secondary schools in Bolinao, Pangasinan. However, participation was relatively lower in activities such as action research presentations and broader professional engagements, suggesting the need for additional institutional support and encouragement in these areas.

3. Collaborative expertise is well-established in school-based professional development and serves as an important mechanism for enhancing teaching practices and improving the teaching-learning process. Strengthening opportunities for participation in less frequently practiced collaborative activities will further enrich teachers' professional competencies and contribute to sustained educational improvement.

4. Collaborative expertise among school leaders and educators plays an important role in enhancing instructional practices and strategies and professional development. This indicates that when educators collaborate—sharing experience, strategies, and knowledge—they are better positioned to solve classroom problems, develop creative approaches to teaching, and create a more reflective and supporting professional environment. Collaborative practices are perceived as significantly contributing to the improvement of instructional quality and student learning outcomes.

5. The level of effectiveness of collaborative expertise in enhancing the learning process is described as highly effective. Therefore, when teachers share their knowledge, strategies, and experiences collaboratively, it has a positive effect on student learning outcomes by enhancing the quality and consistency of instruction. When teachers plan, reflect, and refine instructional practices together, they develop more engaging, consistent, and responsive learning environments that better address students' varied needs.

6. The results reflect that although age, gender, and coordinatorship do not significantly influence teachers' engagement in collaborative expertise activities, marital status, position, educational level, organizational membership, attendance at seminars, and family income have a major impact. Positive correlations with employment status and position indicate that teachers in more stable or higher positions are more engaged, whereas negative correlations with grade level taught and subject taught indicate that the possibilities of difficulties for teachers teaching multiple classes are likely. These findings reinforce the need to consider diverse factors that affect teachers' commitment towards collaborative practices.

7. Among the profile variables of the respondents, only the number of seminars and trainings attended related to collaborative expertise shows a statistically significant positive relationship with the effectiveness of collaborative practices in both teaching and learning, as well as the overall mean effectiveness. This confirms that active involvement in appropriate professional development directly maximizes the effectiveness of collaborative

teaching and learning practices, whereas other demographic and professional variables indicate poor and non-significant correlations.

RECOMMENDATIONS

Based on the conclusions mentioned, the following recommendations were made:

1. Active participation in various collaborative expertise activities is essential for teachers and their colleagues, as it helps improve teaching practices, foster professional growth, enhance student learning outcomes, promote innovation and problem-solving, strengthen a supportive professional community, and support data-driven decision making.
2. Since collaborative expertise is found to be very highly effective in enhancing teaching and learning process, it is recommended to institutionalize collaborative structures by establishing regular and scheduled various ways collaborations within the school calendar.
3. School administrators and policymakers prioritize the development of structured, time-bound, and purpose drive collaborative programs.
4. School administrators are encouraged to allot time to teacher-led inquiry and action research presentations to disseminate practical solutions, promote reflective practices, build collective knowledge, and encourage engagement and collaboration among the school community.
5. Leverage technology for collaboration to support communication, document sharing, and virtual collaboration.
6. Regular evaluation of the impact of collaborative expertise on teaching quality and outcomes in student learning, and adjust practices based on feedback and data. In addition, promote collaborative practice among teachers of all ages, roles, and other demographics with the understanding that professional development is more the result of active participation and ongoing learning than a matter of static profile attributes.
7. Continue to provide opportunities for teachers to participate in trainings and webinars focused on enhancing collaborative expertise, supporting continuous professional development and the advancement of effective teaching practices.

Acknowledgments

The researchers humbly extend their heartfelt gratitude to the individuals and institutions whose invaluable support made the completion of this study possible.

First and foremost, sincere appreciation is extended to Pangasinan State University – Open University System for providing the academic environment, resources, and encouragement necessary to undertake this research. The institutional support significantly contributed to the smooth conduct of the study.

The researchers are deeply grateful to everyone who willingly contributes to the accomplishment of this study, from the guidance and encouragement provided by the mentors, critic reader, and university administrators who continuously inspire us to pursue academic excellence and research that serves the community to the cooperation and participation of the secondary school teachers and school heads around the Bolinao District, Pangasinan. We truly appreciate your significant contributions towards this study.

To our families and loved ones, thank you for your unwavering support, understanding, and motivation throughout the course of this study.

Above all, sincerest thanks to our Almighty God for the guidance, strength, and wisdom that have sustained her in this endeavor.

This study would not have been possible without the collective contributions and commitment of everyone involved.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this study. The research was conducted in the absence of any commercial, financial, or personal relationships that could be construed as a potential conflict of interest.

References

Aclan, M. P., & Ching, D. A. (2022). Community of practice and themes of school learning action cell towards better teachers' performances. The Researcher Probe, 5(1), 1–12.

Allen, K. M., Bowles, T., & Baughman, N. (2018). Implementing a comprehensive school mental health program in a rural community: Exploring challenges and facilitators. The Journal of School Nursing, 34(3), 239–250. https://doi.org/10.1177/1059840517740422

Antinluoma, M., Ilomäki, L., Lahti-Nuuttila, P., & Toom, A. (2021). Schools as professional learning communities. Frontiers in Education, 6, Article 617613. https://doi.org/10.3389/feduc.2021.617613

Bhat, A. (2025). Descriptive correlational: Descriptive vs correlational research. QuestionPro. https://www.questionpro.com/blog/descriptive-research-vs-correlational-research/

Blanco, E. (2024). Workshop or webinar? Find the difference and which format to choose. SpatialChat. https://spatial.chat/blog/workshop-vs-webinar/

Campbell, R., Robinson, R., Neelands, J., Hewston, R., & Mazzoli, L. (2007). Personal and social education in Scotland: A whole school approach. Pastoral Care in Education, 25(3), 4–13. https://doi.org/10.1111/j.1468-0122.2007.00411.x

Caskey, M. M., & Carpenter, J. (n.d.). Building teacher collaboration school-wide. Association for Middle Level Education (AMLE). https://www.amle.org/building-teacher-collaboration-school-wide/

Cularaja, C. J. (2023). Improving teachers' professional development through School Learning Action Cell (SLAC). Journal of Research, Policy & Practice of Teachers and Teacher Education, 13(1), 76–88. https://doi.org/10.31734/jrpptte.vol13.1.6.2023

Department of Education. (2023, July 5). Policy guidelines on the implementation of the National Learning Camp (DepEd Order No. 014, s. 2023). https://www.deped.gov.ph/2023/07/05/july-5-2023-do-014-s-2023-policy-guidelines-on-the-implementation-of-the-national-learning-camp/

de Jong, L., Meirink, J., & Admiraal, W. (2019). School-based teacher collaboration: Different learning opportunities across various contexts. Teaching and Teacher Education, 86, Article 102925. https://doi.org/10.1016/j.tate.2019.102925

The Decision Lab. (n.d.). Distributed cognition. https://thedecisionlab.com/biases-index/distributed-cognition

Farrell, P., Alborz, A., Howes, A., & Pearson, D. (2010). The impact of teaching assistants on pupils' behaviour and learning during different classroom contexts. British Educational Research Journal, 36(4), 578–596. https://doi.org/10.1080/01411920903018097

Fernandez, J. B. (2022). Learning gaps and teachers' means to address the problems. International Journal of Multidisciplinary Studies, 4(2), 114–125.

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 Reviews, 4(7), 2157–2161. https://doi.org/10.55248/gengpi.4.723.49397

Garing, B. (2022). Harnessing collaborative expertise to support our most vulnerable students. Teacher Magazine (Evidence + Insight + Action). https://www.teachermagazine.com/au_en/articles/harnessing-collaborative-expertise

Grape, J. (2024). Learning Action Cell in professional development: Teachers' perspective. International Journal for Multidisciplinary Research, 6(3), 1–10. https://doi.org/10.36948/ijfmr.2024.v06i03.20455

Gutierez, S. B. (2020). Collaborative lesson planning as a positive 'dissonance' to the teachers' individual planning practices: Characterizing the features through reflections-on-action. Teacher Development, 25(1), 37–52. https://doi.org/10.1080/13664530.2020.1856177

Hamengkubuwono, Asha, L., Warsah, I., Morganna, R., & Adhrianti, L. (2022). The effect of teacher collaboration as the embodiment of teacher leadership on educational management students' critical thinking skills. European Journal of Educational Research, 11(3), 1315–1326. https://doi.org/10.12973/eu-jer.11.3.1315

Hattie, J. (2015). What works best in education: The politics of collaborative expertise. Pearson.

Hutchins, E. (2000). Distributed cognition. In International Encyclopedia of the Social & Behavioral Sciences (pp. 2068–2072). University of California, San Diego.

IvyPanda. (2020, July 6). Descriptive correlational design in research. https://ivypanda.com/essays/descriptive-statistics-and-correlational-design/

Johnson, D. W., & Johnson, R. T. (2012). Social interdependence theory. In D. J. Christie (Ed.), The encyclopedia of peace psychology (pp. 1041–1045). Wiley-Blackwell. https://doi.org/10.1002/9780470672532.wbepp257

Jotform Editorial Team. (2023). 10 common collaboration challenges and how to overcome them. Jotform Teams. https://www.jotform.com/blog/collaboration-challenges/

Kinti, I., Hayward, G., & Hodkinson, P. (2005). Managing collaborative expertise: Issues and challenges. The University of Warwick.

Khasawneh, S., Al-Momani, M., & Al-Zoubi, M. (2023). An examination of teacher collaboration in professional learning communities and collaborative teaching practices. Journal of Education and e-Learning Research, 10(3), 445–454. https://doi.org/10.20448/jeelr.v10i3.4831

Killion, J. (n.d.). High-quality collaboration benefits teachers and students. Enabling E-Learning Teaching.

Knight, J. (2009). Coaching. Journal of Staff Development, 30(1), 18–22.

Krasniqi, R. (2021). Principal's role in supporting teacher collaborative learning. Research in Educational Administration & Leadership, 6(2), 345–376. https://doi.org/10.30828/real/2021.2.4

Langley, G. J., Moen, R. D., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). The improvement guide: A practical approach to enhancing organizational performance (2nd ed.). Jossey-Bass.

Langlois, S. (2020). Collective competence: Moving from individual to collaborative expertise. Perspectives on Medical Education, 9(2), 71–73. https://doi.org/10.1007/s40037-020-00569-z

Martin, D. (2023). Professional learning communities: A meaningful approach to faculty professional development. Faculty Focus. https://www.facultyfocus.com/articles/academic-leadership/professional-learning-communities-a-meaningful-approach-to-faculty-professional-development/

Morrow, J. R. (2010). Teachers' perceptions of professional learning communities as opportunities for promoting professional growth (Publication No. 3432921) [Doctoral dissertation, Appalachian State University]. ProQuest Dissertations and Theses Global.

Murray, D. E., & Christison, M. (2023). Peer mentoring and coaching as tools for leadership development and learning. In H. Reinders (Ed.), Language teacher leadership: New language learning and teaching environments (pp. 123–145). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-42871-5_7

Mydin, A.-A., Gui, Y., & Singh, P. (2024). Professional learning communities and their impact on teacher performance: Empirical evidence from public primary schools in Guiyang. Teaching and Teacher Education, 148, Article 104632. https://doi.org/10.1016/j.tate.2024.104632

Netolicky, D., & Jones, G. (n.d.). The Plan-Do-Study-Act cycle. Research-Informed Practice.

Newell, A. (2024). Sharing good practice: Strategies to encourage teacher collaboration. IRIS Connect. https://www.irisconnect.com/uk/blog/sharing-good-practice/

Palaca, S. (2025). School initiatives and stakeholders' involvement. International Journal for Multidisciplinary Research, 7(1), 45–56. https://doi.org/10.36948/ijfmr.2025.v07i01.31201

Powell, N., & Blockmon, R. (2023). Virtual meeting | Definition, types & strategies. Study.com. https://study.com/learn/lesson/virtual-meetings-types-strategies.html

Research Institute for Teacher Quality. (2024). RITQ to develop primer for MATATAG collaborative expertise sessions. Research Institute for Teacher Quality (Formerly Research Center for Teacher Quality). https://www.ritq.ph/?p=5106

Ronfeldt, M., Farmer, S. O., McQueen, K., & Grissom, J. A. (2015). Teacher collaboration in instructional teams and student achievement. American Educational Research Journal, 52(3), 475–514. https://doi.org/10.3102/0002831215585562

Runions, K. C., Pearce, N., & Cross, D. (2021). How can schools support whole-school wellbeing? A review of the research. Association of Independent Schools of New South Wales.

Serviss, J. (2022). 4 benefits of an active professional learning community. International Society for Technology in Education (ISTE). https://iste.org/blog/4-benefits-of-an-active-professional-learning-community

Graduate Student Instructor Teaching & Resource Center. (n.d.). Social constructivism. University of California, Berkeley. https://gsi.berkeley.edu/gsi-guide-contents/learning-theory-research/social-constructivism/

ScienceDirect. (2016). Social constructivism. In Online learning and its users. Elsevier. https://www.sciencedirect.com/topics/psychology/social-constructivism

ScienceDirect. (n.d.). Social interdependence. https://www.sciencedirect.com/topics/social-sciences/social-interdependence

School of Education Online. (2013). The importance of teacher collaboration. American University. https://soeonline.american.edu/blog/teacher-collaboration-importance/

Thomas, A. (2022). Week 1: Foundational steps of school leadership [Lecture]. Leading Strategy and Innovation, Harvard Business School Online.

Tupas, R. (2021). Teacher agency through collaborative expertise-building. MELTA Journals, 50(2), 12–25.

Ukskoski, T., & Lerkkanen, M. (2024). Developing teachers' collaborative expertise in school well-being. Journal of Teacher Education and Educators, 13(2), 167–183.

Philippine Institute for Development Studies. (n.d.). Understanding social classes in the Philippines: Which class do you belong to?. https://www.pids.gov.ph/details/news/in-the-news/understanding-social-classes-in-the-philippines-which-class-do-you-belong-to

Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. Educational Research Review, 15, 17–40. https://doi.org/10.1016/j.edurev.2015.04.002