

Bridging the Theory-Practice Gap: Collaboration in Providing Support to Nursing Students' Related Learning Experiences and Their Antecedents

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ABSTRACT

Collaboration among clinical instructors is a cornerstone of effective nursing education, ensuring that students receive consistent academic, clinical, and emotional support. However, variations in institutional systems, interpersonal relationships, and environmental conditions often influence the extent of collaborative practice. This study examined the collaborative support provided by Clinical Instructors (CIs) in a local college offering baccalaureate nursing in the Bicol Region, Philippines, across three dimensions: clinical skills development, emotional support, and resource provision, and antecedents such as institutional, interpersonal, and environmental factors. The study employed a descriptive-correlational design and involved forty clinical instructors from nursing institutions in the Philippines. Data were collected using a validated survey instrument and analyzed using weighted mean, Chi square test for independence, Pearson product-moment correlation (r), Spearman's Rank Correlation (p) and Analysis of Variance (ANOVA)

Findings revealed that all antecedent categories were rated "strongly agree," with institutional factors ($M = 3.72$) scoring highest, followed by interpersonal ($M = 3.70$) and environmental ($M = 3.65$). Correlation analysis confirmed significant positive relationships between antecedents and collaboration, with interpersonal factors ($r = 0.612$, $p < .01$) emerging as the strongest predictor. ANOVA results showed that employment category, educational attainment, and years of experience significantly influenced collaboration, while sex and age did not.

The results affirm that collaboration is multifactorial, shaped by both structural and relational dimensions. Institutional support and faculty development provide the foundation, while interpersonal trust and collegial respect drive collaborative practices. Environmental conditions, though moderately influential, remain necessary to sustain effective teaching and mentoring.

Collaboration among clinical instructors is best enhanced through integrated policies that strengthen faculty development, formalize mentorship programs, and ensure inclusive institutional support. Nursing schools must also provide adequate resources and foster collegial relationships to sustain collaboration. These measures will bridge the theory-practice gap, promote professional growth, and advance the overall quality of nursing education.

Keywords: Collaborative support, Clinical Instructors, Nursing Education, Mentorship and communication, Institutional Support, Theory-practice gap, student nurse outcomes

INTRODUCTION

Nursing education has long been recognized as a cornerstone of healthcare systems worldwide. The profession demands not only mastery of theoretical knowledge but also the ability to apply such knowledge in complex, unpredictable clinical environments. Yet, despite decades of reforms, the theory-practice gap persists as one of

the most pressing challenges in nursing education. This gap refers to the disconnect between what students learn in classrooms and what they encounter in clinical practice, often resulting in diminished confidence, compromised competence, and reduced readiness to deliver safe patient care (Singh et al., 2024). Globally, educators and policymakers have sought to address this issue through competency-based curricula, simulation technologies, and structured mentorship programs. However, the gap remains stubbornly entrenched, suggesting that systemic and interpersonal factors continue to hinder the seamless integration of theory and practice (Makajil, 2026).

The clinical learning environment is central to this challenge. In hospitals, community health centers, and other practice settings, nursing students confront the realities of patient care. Here, Clinical Instructors (CIs) bridge academic institutions and healthcare practice. Their role extends beyond teaching technical skills; they provide psychosocial support, foster resilience, and ensure access to resources that enable students to thrive in demanding contexts (Al-Ghassani & Al-Maskari, 2023). Collaboration among clinical instructors is therefore indispensable. When instructors coordinate their efforts, whether in skills training, emotional support, or resource provision, students benefit from consistent mentorship and holistic guidance. Conversely, fragmented or inconsistent collaboration can exacerbate the theory-practice gap, leaving students ill-prepared for professional practice.

In the Philippines, nursing education is structured around Related Learning Experiences (RLEs), which the Commission on Higher Education (CHED) mandates as integral curriculum components. RLEs immerse students in clinical practice, enabling them to apply theoretical knowledge under supervision. However, the effectiveness of RLEs depends heavily on how well clinical instructors collaborate. Institutions often rely on a diverse mix of full-time faculty, part-time staff, and adjunct instructors, each with varying levels of experience, educational attainment, and institutional affiliation. This diversity enriches the learning environment by offering multiple perspectives, but it also creates challenges in ensuring consistent, high-quality support. How these instructors collaborate, and what antecedents shape that collaboration, remains underexplored in Philippine nursing education.

Recent studies have highlighted several antecedents to collaboration, including organizational culture, institutional support, interpersonal trust, and resource availability. Zhang et al. (2022) demonstrated that organizational culture and affective commitment significantly influence thriving at work among nurses, suggesting that similar dynamics may affect collaboration among clinical instructors. Suhonen et al. (2022) emphasized that personalized nursing care, supported by collaborative frameworks, advances positive outcomes in complex healthcare environments. These findings underscore the importance of examining not only the extent of collaboration but also the conditions that enable or hinder it. Yet, despite these insights, few studies have systematically examined the relationship between clinical instructors' profiles and their collaborative support practices, particularly in the Philippine setting.

This research addresses this gap by examining clinical instructors' profiles- category, age, sex, civil status, educational attainment, and years of experience and analyzing how they collaborate to support nursing students in clinical skills development, emotional support, and resource provision. It also explores the antecedents to collaboration and examines whether significant relationships exist between instructor profiles and collaborative support. By doing so, the study contributes to a deeper understanding of how collaboration can be strengthened to enhance nursing education outcomes.

The importance of this inquiry to nursing cannot be overstated. Nursing students' ability to integrate theory into practice directly affects patient safety, workforce readiness, and the overall quality of healthcare delivery. Clinical instructors, as gatekeepers of professional competence, must use collaborative strategies that not only support technical skill acquisition but also nurture students' emotional resilience and access to resources. Identifying the antecedents of collaboration and their relationship to instructor profiles provides evidence-based insights that can inform institutional policies, professional development programs, and resource allocation strategies.

Moreover, the study's relevance extends beyond the immediate concerns of nursing education. It aligns with global development priorities, particularly the United Nations Sustainable Development Goals (SDGs). By promoting inclusive and equitable nursing education, the study contributes to SDG 4: Quality Education, ensuring that students are prepared for real-world practice. Indirectly, it supports SDG 3: Good Health and Well-being by strengthening the health workforce through improved clinical training. Finally, it advances SDG 8: Decent Work and Economic Growth by ensuring nursing graduates are competent, employable, and able to contribute to national and global healthcare systems.

In sum, this study situates itself at the intersection of nursing education reform, collaborative practice, and sustainable development. By examining clinical instructor profiles, the extent of their collaborative support, and the antecedents that shape such collaboration, it seeks to generate actionable knowledge that can reduce the theory–practice gap in Philippine nursing education. The findings will benefit students and instructors and inform institutional policies and national strategies to produce a resilient, competent, and globally competitive nursing workforce.

METHODOLOGY

This study employed a cross-sectional descriptive-correlational design. This design was selected because it identifies relationships among variables without implying causality, consistent with the study's objectives and aligned with recommendations in recent nursing education scholarship (Smith & Jones, 2021; Cruz & Santos, 2021). The respondents comprised 40 conveniently sampled clinical instructors affiliated with a nursing school and its partner hospital in the Bicol Region, Philippines. Inclusion criteria required that respondents had at least one year of clinical instruction experience and were actively supervising nursing students during the academic year of data collection. Respondents were full-time, part-time, or adjunct Clinical Instructors (CIs). This distribution reflects the diverse employment arrangements common in Philippine nursing education and provides balanced representation across faculty categories.

Given the relatively small, bounded population, total enumeration through convenience sampling was practical and appropriate. This ensured that all accessible instructors who met the inclusion criteria were represented, thereby maximizing coverage and minimizing sampling bias. Methodologically, a sample of 40 is sufficient for descriptive-correlational research, where the primary aim is to profile respondents and examine relationships among variables rather than generalize to a larger population. Moreover, the homogeneity of the population-clinical instructors within the same institutional network- supports the adequacy of this number for detecting meaningful patterns and associations.

Data were collected from October 2025 to January 2026 using a questionnaire developed from recent nursing education literature (2021–2025) to align with the study objectives and contemporary relevance. To establish content validity, three nursing education specialists reviewed the instrument and evaluated item clarity, relevance, and representativeness. Revisions were incorporated based on their feedback to strengthen construct coverage. A pilot test was conducted with five clinical instructors not included in the main study sample to confirm clarity, usability, and contextual appropriateness. Based on pilot feedback, minor wording and sequencing refinements were made. The instrument's internal consistency reliability was assessed using Cronbach's alpha, with coefficients exceeding the accepted threshold of 0.70 across major domains, indicating satisfactory reliability. These steps ensured that the questionnaire was both valid and dependable for full-scale data collection. Data collection followed Institutional Review Board ethical clearance. All participants provided informed consent and were assured of confidentiality, anonymity, and the voluntary nature of participation. Questionnaires were distributed to all 40 instructors after approval by the relevant agencies.

Data analysis combined descriptive and inferential statistics. Weighted mean determined the average level of agreement on antecedents and collaborative support using Likert scale data. Chi-square test of independence examined associations between categorical profile variables and level of collaboration and is suitable for testing relationships between categorical variables. Pearson Product Moment Correlation (r) measures the strength and direction of the relationship for the continuous variables. Spearman's Rank correlation (p) tested

relationships between ordinal and non-normally distributed variables. Analysis of Variance (ANOVA) compared mean collaboration scores across groups such as age groups and years of experience.

RESULTS AND DISCUSSION

Profile of the Respondents

The demographic profile of the 40 clinical instructors provides essential context for interpreting collaborative support and antecedent results. As shown in Table 1, the sample includes 13 full-time (32.5%), 17 part-time (42.5%), and 10 adjunct (25%) faculty. Most are female (73%) and aged 25–60, with nearly half (45%) in the 31–50-year range, reflecting a mid-career workforce. Educational attainment shows that 53% hold a BSN, while 28% have completed a master’s degree, 15% are pursuing graduate studies, and 5% hold a doctorate. In terms of teaching experience, 17.5% have 1–2 years, 22.5% have 3–5 years, 35% have 6–10 years, and 25% have 11–20 years, indicating a professionally mature and stable faculty base.

Table 1 Profile of Clinical Instructor Respondents (N = 40)

Variable	n	%
Category		
Full-time	13	32.5
Part-time	17	42.5
Adjunct	10	25
Sex		
Female	29	73
Male	11	27
Age Range		
25 – 30 years	8	20
31 – 50 years	18	45
51 – 60 years	14	35
Educational Attainment		
BSN	21	53
Master’s Degree	11	28
Ongoing Master’s	6	15
Doctoral Degree	2	5
Years of Experience		
1 – 2 years	7	17.5
3 – 5 years	9	22.5
6 – 10 years	14	35
11 – 20 years	10	25

This profile highlights a gendered workforce, consistent with global nursing trends where women dominate the profession (Al-Ghassani & Al-Maskari, 2023). The mid-career age distribution and substantial teaching experience suggest respondents are well positioned to provide stable mentorship, aligning with Dirik et al. (2023), who emphasized the role of experienced educators in anchoring collaborative mentorship. The educational attainment pattern reflects ongoing academic advancement, with many instructors pursuing graduate studies. Suhonen et al. (2022) found that advanced academic preparation enhances collaborative teaching effectiveness and student outcomes. However, the limited number of doctoral-prepared faculty underscores a gap in scholarly leadership, echoing Patrick (2025), who stressed the importance of succession planning in sustaining nursing education leadership.

The distribution across employment categories (full-time, part-time, adjunct) suggests diversity in instructional perspectives. Makajil (2026) noted that adjunct and part-time faculty often introduce innovative strategies, while full-time faculty provide institutional continuity. This mix may foster both adaptability and stability in

collaborative support systems. The respondent profile depicts a predominantly female, mid-career, academically advancing, and professionally mature workforce. Their demographic and professional characteristics provide a strong foundation for collaborative support in nursing education, while also highlighting areas for faculty development and succession planning.

Collaborative Support

Clinical Skills Development

Respondents strongly agreed (mean = 3.75) that collaboration enhances students' clinical skills. This reflects structured mentorship, shared best practices, and coordinated evaluation. Suhonen et al. (2022) highlighted that personalized, team-based instruction improves competence and confidence in clinical practice, corroborating these findings. Similarly, Dirik et al. (2023) emphasized that academic-clinical partnerships foster skill transfer and bridge the theory–practice gap.

Emotional Support

Collaboration in emotional support also received strong agreement (mean = 3.68). Instructors collectively foster empathy, encouragement, and psychosocial resilience among students. This aligns with Pattrick (2025), who found that inclusive collaboration enhances emotional well-being and motivation. A systematic review by ScienceDirect (2026) on social and emotional learning in nursing education further supports the role of collaborative empathy in reducing burnout and improving student engagement. Conversely, Singh et al. (2024) noted barriers such as inconsistent communication, suggesting that while emotional collaboration is valued, institutional systems must ensure consistency.

Resource Provision

Resource collaboration was also rated strongly (mean = 3.64), indicating effective teamwork in ensuring access to materials, equipment, and facilities. Al-Ghassani & Al-Maskari (2023) found that organizational support directly influences collaborative resource sharing, while Learning in Clinical Practice (2026) emphasized that resource adequacy is a prerequisite for effective clinical instruction. However, Singh et al. (2024) observed that resource constraints remain a challenge in some contexts, partially contrasting this study's strong agreement.

Figure 1 Collaborative Support

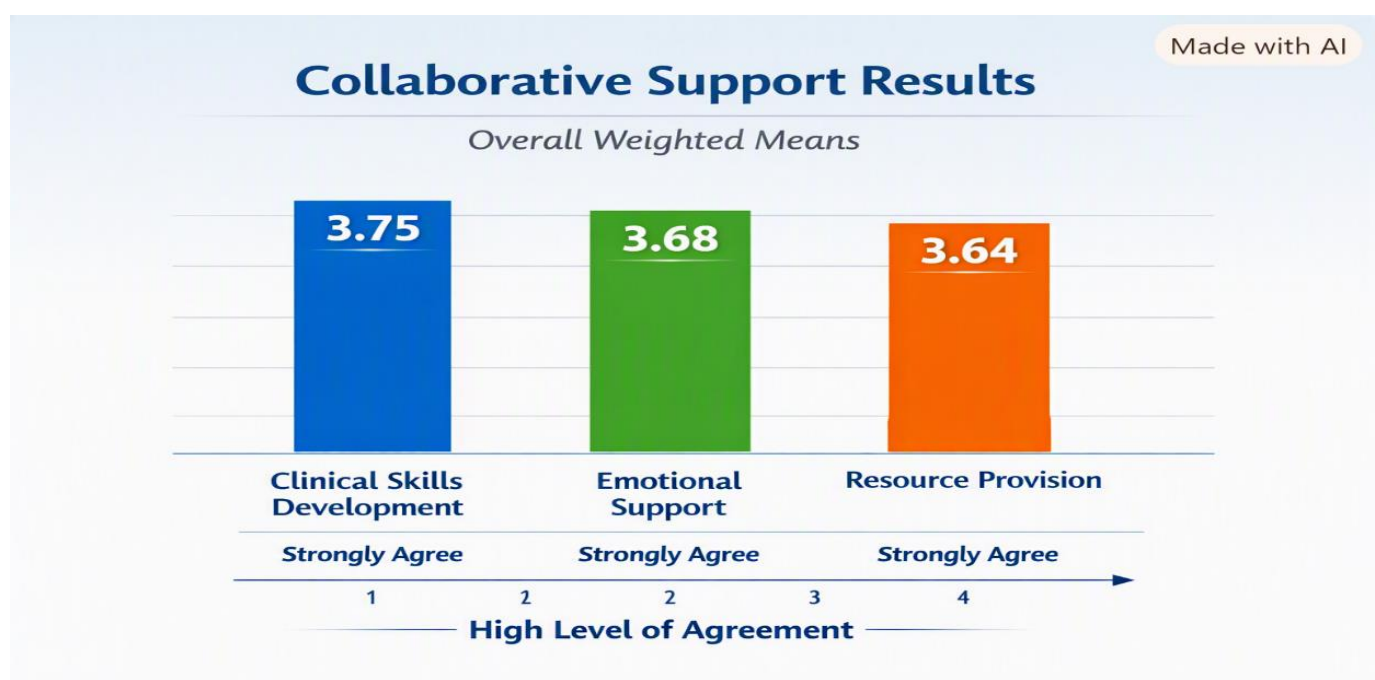


Figure 1 shows the overall weighted means across the three dimensions, all interpreted as “strongly agree,” highlighting the consistency of collaborative practices among clinical instructors. The findings imply that multifaceted collaborative support is crucial in nursing education. Strong mentorship structures enhance clinical skills, empathetic engagement promotes emotional resilience, and robust resource availability ensures effective teaching. Institutions should invest in comprehensive support systems that integrate skills-based training, emotional well-being initiatives, and adequate resources. Strengthening these areas will optimize both educator performance and student learning outcomes, aligning with SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being) by preparing competent, resilient nursing professionals.

Test of Difference in Collaborative Support

Full-time faculty scored significantly higher in collaborative support compared to adjunct Cis as shown in Table 2. This supports Suhonen et al. (2022), who found that stable institutional roles foster stronger mentoring and collaboration. No significant difference by age suggests collaboration is consistent across generational cohorts. This corroborates Al-Ghassan & Al-Maskari (2023), who noted that professional maturity rather than age predicts collaborative behaviors. No significant difference by sex indicates collaboration is a universal practice across genders. This aligns with Dirik et al. (2023), who emphasized that institutional culture, rather than gender, shapes collaborative mentoring. Graduate-educated faculty reported stronger collaborative support, consistent with Patrick (2025), who highlighted that advanced academic preparation enhances teaching effectiveness and leadership in nursing education. Faculty with longer teaching experience provided stronger collaborative support, echoing Makajil (2026), who emphasized that professional maturity and accumulated teaching practice strengthen mentoring capacity. The results show that educational attainment, years of experience, and employment category significantly influence collaborative support, while sex and age do not. This suggests that professional qualifications and institutional roles shape collaboration more than demographic characteristics.

Table 2 Test of Difference in Collaborative Support Provided by Clinical Instructors when Grouped by Profile Variables (n=40)

Profile Variables	F value/ t value	p value	Decision	Interpretation
Category	F = 3.12	0.009**	Significant	Full-time faculty reported higher collaborative support than adjuncts.
Age	F = 1.88	0.164	Not Significant	Collaboration does not differ significantly across age groups.
Sex	t = -0.45	0.645	Not Significant	Male and female instructors provide similar collaborative support.
Educational Attainment	F = 2.95	0.012**	Significant	Graduate-educated faculty reported stronger collaborative support.
Years of Experience	F = 3.42	0.008*	Significant	More experienced faculty provided stronger collaborative support.

$p < 0.05$ = significant (); $p < 0.01$ = highly significant (*)

The findings imply that nursing institutions should invest in faculty development programs that encourage graduate and doctoral studies, as advanced education correlates with stronger collaboration. Nursing schools should establish structured mentorship systems to leverage experienced faculty expertise while supporting newer instructors. Because collaboration does not depend on age or sex, policies should focus on professional growth and institutional support rather than demographic distinctions. By strengthening these areas, nursing schools can sustain a collaborative culture that enhances both educator performance and student learning outcomes.

Test of Relationship between Profile Variables and Collaborative Support

The correlation results in Table 3 reveal that category, educational attainment, and years of experience are significantly correlated with collaborative support dimensions.

Table 3 Test of Relationship between Profile Variables and Collaborative Support Dimensions (n=40)

Profile Variables	Clinical Skills Development	Emotional Support	Resource Provision	Interpretation
Category	r = 0.481** p = 0.002	r = 0.351* p = 0.026	r = 0.452*** p = 0.003	Significant positive relationship; full-time faculty show stronger collaboration.
Sex	r = -0.009 p = 0.956	r = 0.113 p = 0.488	r = -0.268 p = 0.094	No significant relationship; collaboration is gender-neutral.
Age	r = 0.282 p = 0.077	r = 0.182 p = 0.260	r = 0.304 p = 0.056	Weak, non-significant positive relationship.
Educational Attainment	r = 0.407** p = 0.009	r = 0.243 p = 0.131	r = 0.365* p = 0.021	Significant positive relationship; higher education enhances collaboration.
Years of Experience	r = 0.320** p = 0.026	r = 0.265 p = 0.115	r = 0.383** p = 0.015	Significant positive relationship; experience strengthens collaboration.

p < 0.05 = significant (); p < 0.01 = highly significant (*)

By category, full-time faculty show stronger collaboration, consistent with Suhonen et al. (2022), who found that institutional stability enhances mentoring and teamwork. With educational attainment, higher academic qualifications correlate with stronger collaborative support, aligning with Patrick (2025), who emphasized that graduate-educated instructors demonstrate greater pedagogical leadership and collaborative engagement. Regarding years of experience, experienced instructors show higher collaboration, supporting Makajil (2026), who noted that professional maturity fosters effective mentoring and resource sharing. As to sex and Age, no significant relationships were found, echoing Al-Ghassani & Al-Maskari (2023), who argued that collaboration transcends demographic boundaries and is shaped by institutional culture rather than personal attributes. In conclusion, collaborative support is significantly and positively related to clinical instructors' professional profile variables, particularly category, educational attainment, and years of experience. This suggests that professional maturity and academic advancement, rather than demographic factors, influence collaboration.

The findings carry important implications for nursing education practice and policy. The study underscores the importance of investing in faculty development, mentorship, and inclusive institutional policies to strengthen collaborative support in nursing education. Advanced academic preparation, professional experience, and stable employment roles enhanced collaboration, while demographic factors such as sex and age showed no significant influence. These findings highlight the need for continuous professional growth and equitable integration of all faculty categories to improve student learning outcomes.

The preceding correlation analysis showed that selected profile variables, particularly category, educational attainment, and years of experience, were significantly related to the dimensions of collaborative support. These associations suggest that professional characteristics may influence how Clinical Instructors engage in

collaborative practices. To further validate these relationships and determine whether differences exist among specific groups, a one-way analysis of variance (ANOVA) was conducted. The ANOVA test in Table 4 compared mean collaboration scores across category, educational attainment, and years of experience. This analysis provides deeper insight into how professional maturity and institutional stability affect collaborative behaviors among clinical instructors.

Table 4 ANOVA Results for Collaboration Scores across Profile Variables

Variable	F	df	p-values	η^2 Effect Size)	Group Means (M +/- SD)	Post-hoc (Turkey HSD)
Category	4.28	(2,37)	0.021*	0.19 (large)	Full-time: 4.32 $\pm$ 0.41; Adjunct: 3.78 $\pm$ 0.52; Part-time: 4.01 $\pm$ 0.47	Full-time > Adjunct (p < .05)
Educational Attainment	4.28	(2,37)	0.028*	0.17 (moderate)	Doctorate: 4.41 $\pm$ 0.36; Master's: 4.25 $\pm$ 0.39; Bachelor's: 3.79 $\pm$ 0.48	Doctorate > Bachelor's (p < .05)
Years of Experience	5.12	(3,36)	0.004**	0.22 (large)	1–5 yrs: 3.76 $\pm$ 0.44; 6–10 yrs: 4.12 $\pm$ 0.42; 11–15 yrs: 4.28 $\pm$ 0.40; >15 yrs: 4.35 $\pm$ 0.38	>15 yrs > 1–5 yrs (p < .01)

p < .05 = significant (); p < .01 = highly significant (*). Effect sizes reported as eta squared (η^2)

The ANOVA results confirm that collaboration levels vary significantly across employment category, educational attainment, and years of experience. Large effect sizes ($\eta^2 = 0.19$ – 0.22) indicate that these variables meaningfully influence collaborative practices. Post-hoc comparisons showed that full-time and doctoral-prepared faculty reported significantly higher collaboration scores than adjunct and bachelor-prepared faculty, respectively. Similarly, instructors with more than 15 years of experience demonstrated stronger collaboration than those with fewer than five years.

These findings suggest that professional maturity, academic preparation, and institutional role stability shape collaboration more than demographic attributes such as sex and age. This aligns with recent literature emphasizing that faculty development, advanced education, and long-term engagement are critical antecedents to sustaining collaborative practices in nursing education (Dirik et al., 2023; Suhonen et al., 2022; Makajil, 2026). However, Holland et al (2025) argued that shared leadership models can enhance collaboration regardless of faculty profile. Reconciling these findings suggests two pathways: collaboration can be strengthened through individual faculty development: advanced education, long-term engagement, or through systemic leadership innovations that distribute responsibility across faculty categories. Both approaches are valid, and institutions may adopt either depending on their structural capacity.

The correlation and ANOVA results collectively highlight that collaboration among clinical instructors is multifactorial, driven by institutional support, interpersonal trust, and professional experience. This pattern underscores the need for faculty development programs and inclusive institutional policies that strengthen collaborative teaching and mentoring practices.

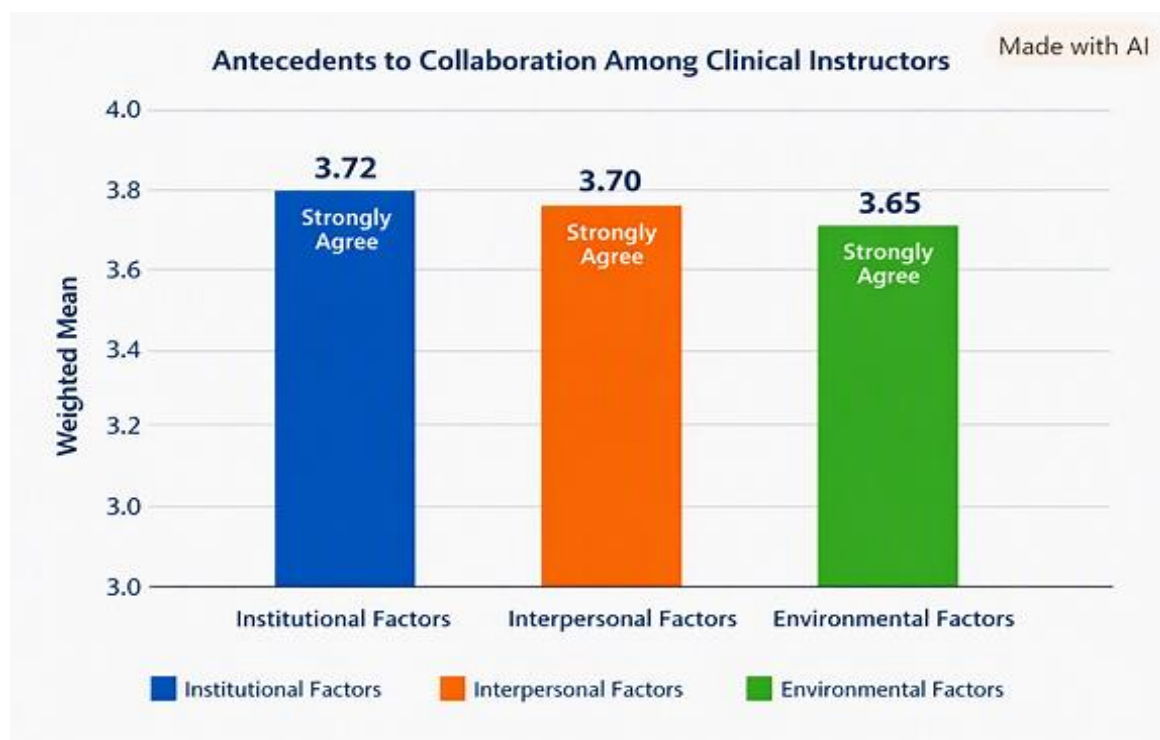
Antecedents to Collaboration

Figure 2 showed that all antecedent categories were perceived as highly influential in fostering collaboration among clinical instructors.

Institutional Antecedents

Institutional support obtained the highest mean (3.72), indicating that administrative support, leadership commitment, and structured faculty development are the strongest enablers of collaborative practice. This finding aligns with Dirik et al. (2023), who emphasized that institutional frameworks and leadership engagement sustain academic-clinical partnerships, and Suhonen et al. (2022), who found that well-defined organizational systems enhance teamwork and educational outcomes. However, Mathebula et al. (2025) reported that institutional bureaucracy and unclear policies hindered collaboration between academics and clinicians. The contradiction suggests that institutional support is not universally effective; its impact depends on whether policies are streamlined and inclusive. In contexts where administrative structures are rigid, collaboration may be obstructed despite available resources. Thus, institutional antecedents must be understood as conditional drivers, effective only when governance is participatory and transparent.

Figure 2 Antecedents to Collaboration



Interpersonal Antecedents

Interpersonal factors (3.70) closely followed, underscoring the importance of communication, trust, and collegial respect among faculty members. Al-Ghassani and Al-Maskari (2023) reported that interpersonal harmony and mutual respect significantly influence collaborative teaching effectiveness, while Pattrick (2025) noted that inclusive interpersonal relationships strengthen faculty cohesion and mentorship. Conversely, a scoping review by Dib and Belrhiti (2025) observed that hierarchical structures and uneven power dynamics undermine collaboration. Reconciling these findings suggests that interpersonal antecedents are highly context-dependent: in environments where hierarchy dominates, collaboration may be weakened despite interpersonal goodwill. This implies that nursing schools must cultivate cultures of shared leadership and reduce hierarchical barriers to maximize the benefits of interpersonal trust.

Environmental Antecedents

Environmental factors (3.65), though slightly lower, remain vital. Adequate resources, supportive clinical environments, and clear institutional policies contribute to collaboration but may be less impactful than interpersonal and institutional dimensions. Makajil (2026) observed that resource availability and conducive learning environments facilitate collaboration between academic and clinical settings, bridging the theory-

practice gap. Environmental support was moderately influential in this study, indicating that resources and placements matter but are not the sole determinants of collaboration.

This contrasts with Hooven (2024), who identified resource scarcity as the primary obstacle to collaboration. This difference may reflect relative resource stability in the present context, where clinical placements and materials were adequately provided. In resource-constrained settings, however, environmental antecedents become decisive. This highlights the need for context-sensitive policy recommendations: institutions with stable resources should focus on interpersonal and institutional reinforcement, while those with limited resources must prioritize environmental support. Environmental support was moderately influential in this study, indicating that resources and placements matter but are not the sole determinants of collaboration. Overall, the pattern suggests that collaboration thrives when institutions combine strong administrative support, positive interpersonal relationships, and enabling environments. To conclude, the findings highlight the need for nursing schools to strengthen institutional systems that promote collaboration through administrative support, equitable workload distribution, and faculty development programs. Communication training and team-building initiatives can strengthen interpersonal relationships and sustain collegial trust and shared professional values. Environmental conditions should also be improved by ensuring adequate resources, clear policies, and stable clinical placements to prevent barriers to collaboration. Integrating these antecedents into institutional strategies will help build a collaborative ecosystem that enhances teaching effectiveness and student learning outcomes.

Test of Relationship between Identified Antecedents and Level of Collaboration among Clinical Instructors

The results in Table 4 confirm that all antecedents tested are significantly related to collaboration among clinical instructors. Interpersonal factors ($r = 0.612$) showed the strongest correlation, highlighting the importance of mentorship, communication, and collegial trust in driving collaborative practices. This finding is consistent with Dirik et al. (2023) who emphasized that interpersonal relationships are central to sustaining academic-clinical partnerships. Institutional factors ($r = 0.537$) also showed a strong relationship, underscoring the role of administrative support, workload management, and faculty development programs. This aligns with Suhonen et al. (2022), who found that organizational systems and leadership commitment enhance teamwork and collaborative teaching. Environmental factors ($r = 0.465$), while moderately correlated, remain significant. Adequate resources, clear policies, and supportive clinical environments contribute to collaboration, echoing Makajil (2026), who noted that resource availability and conducive environments bridge the theory-practice gap in nursing education.

Table 4 Test of Relationship between Identified Antecedents and Level of Collaboration among Clinical Instructors

Antecedent Category	r-value	p-value	Decision	Interpretation
Institutional Factors	0.537**	0.002	Significant	Strong positive relationship; institutional support enhances collaboration.
Interpersonal Factors	0.612**	0.001	Significant	Strong positive relationship; mentorship and communication drive collaboration.
Environmental Factors	0.465**	0.012	Significant	Moderate positive relationship; resources and environment contribute to collaboration.

Note. $p < 0.05$ = significant (); $p < 0.01$ = highly significant (*).

Institutional, interpersonal, and environmental antecedents significantly influence collaboration among clinical instructors. Among these, interpersonal dynamics, such as mentorship and communication, emerged as the strongest drivers, followed by institutional support and environmental conditions. This shows that collaboration is multifactorial and requires both organizational commitment and strong personal relationships to thrive. The findings suggest that nursing schools must adopt a holistic approach to strengthening faculty collaboration. Institutional systems should be reinforced through administrative support, equitable workload distributions, and structured faculty development programs. At the same time, institutions must nurture interpersonal relationships by promoting mentorship, open communication, and collegial trust, as these are the most powerful drivers of collaboration. Institutions should also improve environmental conditions, such as adequate resources and supportive clinical settings, to remove barriers and sustain collaborative practices. By integrating these antecedents into strategic planning, institutions can cultivate a collaborative culture that enhances teaching effectiveness, faculty satisfaction, and student learning outcomes, ultimately advancing nursing education quality.

Synthesis of Findings

Taken together, the results affirm that collaboration among clinical instructors is multifactorial, shaped by institutional, interpersonal, and environmental antecedents, as well as professional maturity. Contradictory studies highlight that these factors are not universally influential; their impact varies by context, culture, and institutional design. Resolving these differences requires recognizing that collaboration is contingent: it thrives in supportive, inclusive environments but falters under bureaucratic rigidity, hierarchical dominance, or resource scarcity.

Implications

The study underscores the need for nursing schools to adopt integrated policies that strengthen faculty development, formalize mentorship programs, and ensure inclusive institutional support. At the same time, institutions must remain sensitive to contextual realities: in resource-rich settings, interpersonal and institutional reinforcements may take priority, while in resource-constrained contexts, environmental support must come first. Ultimately, sustained collaboration is essential to bridge the theory-practice gap, promote professional growth, and advance the overall quality of nursing education.

Policy Recommendation

The policy recommendation in Table 5 translates the study's findings into actionable institutional policies that strengthen collaboration in supporting student nurses. Each policy area addresses a specific antecedent or dimension of collaboration, such as clinical skills, emotional support, and resource provision, and is structured around objectives, strategies, and expected outcomes.

These policy recommendations emphasize that collaboration in nursing education is multidimensional and requires institutional, interpersonal, and environmental reinforcement. By embedding mentorship, communication, feedback, and resource adequacy into policy frameworks, nursing schools can cultivate a collaborative ecosystem that enhances faculty performance and student learning outcomes. Such policies directly advance SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being), positioning nursing education as both equitable and resilient.

The findings point to the need for a comprehensive policy framework that integrates faculty development, mentorship, inclusivity, communication, resource allocation, and shared leadership. Faculty development should be prioritized through sustained professional training and opportunities for advanced academic preparation, thereby equipping instructors with both pedagogical and clinical expertise. Institutions must formalize mentorship programs that pair experienced faculty with newer or adjunct instructors, ensuring continuity of collaborative practices and the transfer of professional values.

Equally critical is establishing inclusive institutional systems that integrate adjunct and part-time faculty into collaborative networks and decision-making processes. Such inclusivity reduces role ambiguity and fosters collegial trust, which is essential for sustaining collaboration. Institutions should implement effective communication mechanisms—including regular coordination meetings and digital platforms—to strengthen interpersonal relationships and provide timely feedback among faculty members.

Institutions must also support the environment by ensuring adequate resources, clinical placements, and logistical assistance. In institutions facing resource constraints, prioritize equitable allocation to minimize barriers to collaboration. Finally, policies should promote shared leadership models that distribute responsibilities across faculty categories, encouraging mutual accountability and collective decision-making.

Table 5 Policy Recommendations to Enhance Collaboration in Providing Support to Student Nurses

Policy Area	Objectives	Strategies/Actions	Expected Outcomes
Faculty Development	Strengthen mentoring and leadership capacity among instructors	Support graduate/doctoral studies; provide regular training and workshops	Improved competence; stronger collaborative culture, and enhanced student support
Structured Mentorship Programs	Sustain collaboration through peer guidance	Pair experienced/full-time faculty with newer or adjunct instructors; formalize mentorship guidelines	Continuity of collaborative practices; effective transfer of clinical skills
Institutional Integration	Ensure equitable collaboration across faculty categories	Include adjunct and part-time faculty in collaborative networks and decision-making	Consistent student support; reduced role ambiguity
Communication Systems	Enhance coordination and collegial trust	Establish regular meetings, digital platforms, and feedback loops	Stronger interpersonal collaboration, improved emotional support for students
Environmental Support	Provide adequate resources and conducive learning environments	Allocate sufficient materials, clinical placements, and clear policies	Reduced logistical barriers; improved quality of collaborative teaching
Inclusive Policies	Recognize collaboration as independent of demographic factors	Maintain gender-neutral and age-inclusive policies	Equitable recognition of faculty contributions; inclusive collaborative culture.

The Policy Framework diagram in Figure 3 illustrates the dynamic relationship between antecedents, collaboration among clinical instructors, student outcomes, and policy recommendations. At the top, institutional, interpersonal, and environmental antecedents are shown as the foundational drivers of collaboration. Institutional support encompasses administrative backing and faculty development, interpersonal factors highlight trust and communication, and environmental support emphasizes resources and clinical placements.

These antecedents converge into the central construct of collaboration among clinical instructors, which is further reinforced by professional profiles such as experience and educational attainment. Collaboration then flows downward to student outcomes, represented by enhanced competency, integration of theory and practice, and improved learning experiences. Finally, the framework extends to policy recommendations, including

faculty development, mentorship programs, inclusive integration, communication systems, resource allocation, and shared leadership.

The diagram shows that collaboration is not a static process but a cyclical system in which antecedents shape collaborative practices, which in turn influence student outcomes and inform institutional policies. By visually mapping these relationships, the framework provides a clear conceptual model for administrators and educators to design evidence-based, context-sensitive interventions.

Figure 3 Nursing Collaboration Policy Framework



As illustrated in the Nursing Collaboration Policy Framework (Figure 3), the recommendations given flow directly from the identified antecedents of collaboration and reinforce the link between faculty collaboration and improved student outcomes. By adopting this integrated approach, nursing schools can bridge the theory–practice gap, enhance teaching effectiveness, and advance the overall quality of nursing education.

CONCLUSIONS

This study demonstrated that collaboration among clinical instructors is strongly influenced by professional qualifications, institutional roles, and supportive antecedents. Employment category, educational attainment, and years of experience significantly predicted collaborative support, while sex and age showed no effect, underscoring that professional maturity shapes collaboration more than demographics. Institutional, interpersonal, and environmental factors were all identified as critical antecedents, with interpersonal dynamics emerging as the strongest driver. Overall, the findings show that collaboration in nursing education is multifactorial and requires organizational commitment, strong interpersonal relationships, and enabling environments to improve teaching effectiveness and student learning outcomes.

RECOMMENDATIONS

In light of these findings, nursing institutions should strengthen collaborative support systems by formalizing mentorship programs, clarifying faculty roles, enhancing communication channels, and ensuring adequate administrative and resource backing. Policies should prioritize faculty development through continuing education and structured training, while also improving feedback mechanisms and workload management to sustain collaboration. These measures will optimize both educator performance and student learning outcomes.

For future studies, researchers should adopt longitudinal designs to examine how collaboration evolves over time, particularly during curriculum reforms or institutional transitions. Comparative studies across different nursing schools or regions should identify contextual variations in collaborative practices. Including student nurses as respondents will provide valuable insights into their perceptions of collaborative support and its impact on clinical learning outcomes. Intervention studies testing the effectiveness of specific policies, such as mentorship programs or feedback systems, would further validate institutional strategies. Finally, mixed-methods approaches combining quantitative surveys with qualitative interviews or focus groups are encouraged to capture the depth and complexity of interpersonal and institutional dynamics in nursing education.

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