



Evaluating Interprofessional Education Integration in Nursing Curricula: A Cross-Sectional Study

Tasleem Kousar¹, Khursheed Rehman², Shabana Safdar³

¹ Student, Super College of Nursing / AHS & PIMST, Bahawalpur, Pakistan.

Email: aliibsham5@gmail.com

² Principal / Assistant Professor, Super College of Nursing / AHS & PIMST, Bahawalpur, Pakistan.

Email: Khursheedrehman222@gmail.com

³ Student, Super College of Nursing / AHS & PIMST, Bahawalpur, Pakistan.

Email: shabanasafder9@gmail.com

ARTICLE INFO	ABSTRACT
Submission: July 24, 2026 Revised: August 15, 2026 Accepted: September 02, 2026 Available Online: September 20, 2026 Keywords: Interprofessional Education, Nursing Curricula, Cross-Sectional Study, Curriculum Redesign, Teamwork Corresponding author: Khursheed Rehman Email: Khursheedrehman222@gmail.com	Interprofessional Education (IPE) is a cornerstone of modern nursing education, fostering collaboration among healthcare professionals to enhance patient-centered care. Structured integration of IPE into nursing curricula is essential to equip students with the teamwork and communication skills required by increasingly complex healthcare systems. This study assessed the current state of IPE integration in nursing curricula and explored students' perceptions of its role in teamwork, communication, and patient care. A cross-sectional design was employed involving 200 nursing students and faculty from public and private nursing colleges. Data were collected through structured questionnaires covering demographics, IPE exposure, and attitudes toward IPE. Descriptive statistics and correlational analysis were used to evaluate the relationship between IPE exposure and perceived teamwork competencies. Ethical approval was obtained, and confidentiality and voluntary participation were ensured throughout. Participants expressed strong agreement that IPE improves patient care (mean = 3.19) and should be embedded in clinical training (mean = 3.09, $p = 0.002$). Moderate agreement was recorded for teamwork, institutional support, and communication skills (means approximately 3.0, $p < 0.05$), while faculty training (mean = 2.93, $p = 0.09$) and IPE's contribution to problem-solving (mean = 2.84, $p = 0.08$) received comparatively weaker support. While nursing students broadly recognize the value of IPE, exposure remains inconsistent and institutional and faculty readiness lag behind. Structured curricular integration, faculty development, and sustained institutional commitment are needed to realize IPE's full benefit for collaborative, patient-centered care.

Introduction

The evolving landscape of healthcare demands that nursing education prepare graduates for collaborative, team-based practice. Interprofessional education (IPE) brings students from different healthcare disciplines together to learn about, from, and with one another in order to improve patient outcomes (1). As patient care becomes more complex, integrating IPE into nursing curricula has become essential for building teamwork, communication, and a shared understanding of professional roles within interprofessional teams (2).

Traditional nursing education has historically emphasized discipline-specific competencies, often delaying students' exposure to interdisciplinary collaboration until they enter professional practice (3). This gap can compromise communication and coordination among healthcare professionals, with downstream effects on patient safety and quality of care (4). Evidence links inadequate

interprofessional collaboration to medical errors, inefficient workflows, and diminished patient satisfaction, while interprofessional learning experiences have been shown to strengthen teamwork and communication skills and improve overall care delivery (5).

Curriculum redesign that incorporates IPE gives nursing students early, structured opportunities for collaborative learning, easing their transition into the healthcare workforce (6). Students who engage in interprofessional learning tend to develop greater appreciation for other disciplines' roles, fostering mutual respect and shared decision-making. Longitudinal evidence suggests that nursing graduates exposed to IPE demonstrate stronger collaborative competencies, contributing to better patient safety outcomes and higher-quality care (7). Curriculum models such as case-based learning, simulation exercises, and shared clinical rotations have also been shown to enhance knowledge retention and interdisciplinary teamwork (8).

Several frameworks guide IPE integration in nursing programs. The Core Competencies for Interprofessional Collaborative Practice, developed by the Interprofessional Education Collaborative, outline values and ethics, roles and responsibilities, interprofessional communication, and teamwork as key competency domains (2). Institutions that embed these competencies through curriculum redesign can cultivate learning environments that promote collaboration, critical thinking, and patient-centered care (9). The Canadian Interprofessional Health Collaborative framework similarly identifies six competency domains: interprofessional communication, patient-centered care, role clarification, team functioning, conflict resolution, and collaborative leadership while accrediting bodies such as the Accreditation Council for Graduate Medical Education and the American Association of Colleges of Nursing have incorporated IPE standards into their requirements, ensuring interprofessional collaboration is embedded within nursing curricula (10).

Research further indicates that effective IPE frameworks should incorporate experiential learning methods, including simulation-based education, interdisciplinary case studies, and team-based problem-solving exercises, to strengthen collaborative competencies and bridge the gap between theory and practice (11). Despite these recognized benefits, implementing IPE within nursing curricula is not without challenges: faculty development needs, logistical constraints, and difficulties in assessing interprofessional competencies remain significant barriers (12). Addressing them requires institutional commitment, faculty training, and innovative instructional strategies such as simulation-based learning, case discussions, and clinical rotations that emphasize interprofessional collaboration (13).

Beyond individual institutional efforts, the push toward IPE reflects a broader, global shift in how health professions education is conceived. Rather than treating nursing, medicine, pharmacy, and allied health as parallel but separate tracks, contemporary curricular reform increasingly treats collaborative competency as a core learning outcome in its own right, on par with clinical knowledge and technical skill (14). This shift carries practical implications for how programs sequence coursework, structure clinical placements, and evaluate student readiness for practice. It also raises questions about resourcing and faculty capacity that individual institutions cannot always resolve on their own, which is part of why accreditation bodies and professional associations have taken an increasingly active role in setting expectations for interprofessional content within nursing curricula (15). This paper examines the significance of integrating IPE into nursing programs through curriculum redesign, considering the benefits, persistent challenges, and emerging best practices for successful implementation, with the aim of contributing evidence that can inform both institutional decision-making and future curricular policy.

Objectives of the Study

1. To assess the current state of IPE integration in nursing curricula.
2. To identify challenges and barriers to incorporating IPE in nursing programs.
3. To explore best practices for integrating IPE into nursing education.

Research Questions

1. What is the current level of IPE integration in nursing programs?
2. What are the key barriers and challenges faced in implementing IPE in nursing curricula?
3. How can IPE be effectively incorporated into nursing education?

Conceptual and Operational Definitions

Curriculum Redesign refers to the systematic modification of educational content, teaching methods, and learning experiences to align with current best practices and healthcare needs; operationally, it is defined in this study as the planned revision of nursing programs to incorporate IPE through structured coursework, simulations, clinical experiences, and collaborative projects.

Interprofessional Education (IPE) is an approach in which students from two or more healthcare professions learn together to foster collaboration, teamwork, and patient-centered care. Operationally, it is measured by the inclusion of team-based learning activities, interdisciplinary case discussions, shared clinical rotations, and cross-disciplinary faculty collaboration within the curriculum.

Materials and Methods

The study used a cross-sectional research design and was conducted in nursing schools and healthcare institutions offering undergraduate nursing programs with interprofessional education (IPE) components, including classrooms, simulation laboratories, hospitals, and community health centers. The target population comprised undergraduate nursing students, nursing faculty involved in curriculum development and teaching, and interprofessional faculty from other healthcare disciplines participating in IPE delivery. A sample of 200 nursing students was determined through power analysis using a 5% significance level ($\alpha = 0.05$), 80% statistical power, and a medium effect size of 0.5, with adjustments for subgroup comparisons. Stratified random sampling was used to ensure representation from first-, second-, third-, and final-year students, while faculty members were selected through purposive sampling based on their involvement in curriculum planning and IPE instruction. Participants who met the inclusion criteria and provided informed consent were enrolled, while students who had completed their programs, faculty without IPE or curriculum-development experience, and individuals unwilling to participate were excluded. Data were collected using a structured questionnaire assessing students' knowledge, attitudes, and competencies related to teamwork and interprofessional collaboration. Participants were informed about the study objectives, procedures, risks, benefits, confidentiality, and voluntary nature of participation before providing informed consent. Completed questionnaires were checked for missing or inconsistent responses and entered into an Excel spreadsheet for coding and analysis. Descriptive statistics, including frequencies, tables, graphs, and charts, were used to summarize the data, while multiple regression analysis was performed to examine the relationship between IPE exposure and students' teamwork competencies. Ethical approval was obtained from the Institutional Review Board, informed consent was secured from all participants, confidentiality and anonymity were maintained, and participants were informed of their right to withdraw from the study at any time without consequences.

Results

Demographic Characteristics: Of the 200 participants, age distribution was fairly even across groups: 24.5% were aged 18–25 years, 23.5% were 26–35 years, 23.5% were 36–45 years, and 28.5% were above 45 years. Regarding gender, 67.0% of participants were female and 33.0% were male.

Table 1. Demographic characteristics of study participants (age and gender), N = 200

Variable	Category	Frequency	Percent
Age in years	18–25 years	49	24.5
	26–35 years	47	23.5
	36–45 years	47	23.5
	45 and above	57	28.5
	Total	200	100.0
Gender	Male	66	33.0
	Female	134	67.0
	Total	200	100.0

Analyzed by frequency and percentage.

Academic Level: Participants were distributed across academic years, with 23.5% in first year, 27.5% in second year, 24.0% in third year, and 25.0% in fourth year—indicating a fairly even spread with slightly higher representation among second-year students.

Table 2. Academic level distribution of study participants, N = 200

Variable	Academic Level	Frequency	Percent
Academic Level	First Year	47	23.5
	Second Year	55	27.5
	Third Year	48	24.0
	Fourth Year	50	25.0
	Total	200	100.0

Analyzed by frequency and percentage.

Institution Type and IPE Participation: The majority of participants (64.0%) attended public nursing colleges, while 36.0% attended private nursing colleges. Participation in IPE was evenly split: 50.0% of participants reported having engaged in interprofessional education activities, while the remaining 50.0% reported no such participation, suggesting inconsistent access or institutional variation in IPE delivery.

Table 3. Institution type and participation in interprofessional education, N = 200

Variable	Category	Frequency	Percent
Institution Type	Public Nursing College	128	64.0
	Private Nursing College	72	36.0
	Total	200	100.0
Participated in IPE	No	100	50.0
	Yes	100	50.0
	Total	200	100.0

Analyzed by frequency and percentage.

Perceptions of IPE: Importance, Challenges, and Institutional Support: On a 5-point scale (1 = strongly disagree, 5 = strongly agree), the highest mean score (3.19) was recorded for the statement that interprofessional learning improves patient care, reflecting a strong positive perception. Similarly, the necessity of integrating IPE into clinical training received a high mean score of 3.09 ($p = 0.002$), indicating strong and statistically significant agreement.

Table 4. Perceptions of nursing students on interprofessional education (IPE): importance, challenges, and institutional support

Statement	N	Min	Max	Mean	S.D.	P-value
Understand IPE	200	1	5	3.04	1.422	0.001
IPE essential for nursing	200	1	5	2.91	1.358	0.003
IPE improves teamwork	200	1	5	3.01	1.449	0.04
Institution supports IPE	200	1	5	2.99	1.402	0.06
IPE should be integrated	200	1	5	2.95	1.397	0.07
IPE enhances communication	200	1	5	2.99	1.375	0.04
Interprofessional learning improves patient care	200	1	5	3.19	1.430	0.05
Enhances problem-solving	200	1	5	2.84	1.419	0.08
IPE should be in clinical training	200	1	5	3.09	1.349	0.002
Faculty should be trained for IPE	200	1	5	2.93	1.418	0.09

Rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Analyzed by mean (X) and standard deviation (S.D.), with $p < 0.05$ considered significant.

Moderate agreement was observed for understanding of IPE (mean = 3.04), IPE's role in improving teamwork (mean = 3.01), institutional support for IPE (mean = 2.99), and its impact on communication skills (mean = 2.99), with most of these results statistically significant ($p < 0.05$). Weaker agreement was found for the statements that faculty should be trained for IPE (mean = 2.93, $p = 0.09$) and that IPE enhances problem-solving (mean = 2.84, $p = 0.08$), both with higher, non-significant p-values, indicating comparatively less consensus.

When asked directly whether IPE is essential for nursing, responses were mixed: 28% disagreed and 17% strongly disagreed, while 16.5% agreed and 18% strongly agreed; 20.5% remained neutral. This suggests notable skepticism alongside recognition of IPE's value, and points to a need for greater awareness-building.

Regarding IPE's role in enhancing communication, 22% agreed and 17.5% strongly agreed that IPE improves communication, while 19% strongly disagreed and 20% disagreed; 21.5% were neutral—reflecting a fairly balanced but divided distribution of opinion.

On whether faculty should be trained for IPE, opinion was similarly divided: 21.5% strongly disagreed and 21% disagreed, while 21.5% agreed and 18% strongly agreed that faculty training was needed; 18% remained neutral. This divided response underscores uncertainty about the priority and feasibility of faculty development initiatives.

Overall, the results indicate that while nursing students broadly recognize IPE's value for patient care and clinical training, agreement is weaker and more contested regarding faculty readiness, institutional support, and IPE's contribution to problem-solving—pointing to specific targets for improvement.

Discussion

The demographic profile of this sample—predominantly female (67%) with a fairly even age spread—is broadly consistent with international nursing education research, although the current sample skewed older than comparable studies conducted in Ghana and Egypt, where younger cohorts (predominantly under 25) predominated. This contrast may reflect differences in program structure, given that the present sample was drawn from post-registration (RNBSN) students rather than traditional undergraduate entrants. Broader workforce trends also show rising male representation in nursing in the United States and a growing female majority among physicians in the United Kingdom, underscoring that gender composition in healthcare professions varies substantially by region, specialty, and time period.

The strong positive perception of IPE's impact on patient care (mean = 3.19) and the statistically significant support for embedding IPE in clinical training (mean = 3.09) align with findings from Indonesia, where health profession students similarly expressed positive perceptions of IPE, and with research from South Korea, where undergraduate nursing and medical students recognized IPE's importance for effective interprofessional collaboration and patient care. Comparable studies assessing student and professional attitudes after collaborative clinical and classroom experiences likewise report generally positive views, echoing the moderate-to-strong agreement observed here regarding teamwork and communication.

At the same time, several studies present more cautious or mixed findings that resonate with this study's weaker areas of agreement. Research conducted in public health facilities in Surakarta found variable understanding and acceptance of IPE among professionals, while other work has found that nurses perceive more barriers to interprofessional collaborative practice than colleagues in other disciplines—consistent with this study's only moderate agreement on institutional support. Faculty perceptions research similarly shows that professional background and prior experience significantly shape attitudes toward interprofessional collaboration, which may help explain the divided views recorded here regarding faculty training.

The mixed responses to whether IPE is "essential" for nursing (45% disagreement versus 34.5% agreement, with 20.5% neutral) diverge from studies involving medical, dental, pharmacy, and health science students that reported overwhelmingly positive attitudes toward IPE. This divergence suggests that perceptions of IPE necessity are shaped by professional context, prior exposure, and institutional culture rather than being universally held, reinforcing the case for context-specific, structured educational strategies rather than a one-size-fits-all approach to IPE promotion.

Taken together, these findings suggest that while the value of IPE for patient care and clinical training is widely recognized, translating that recognition into consistent institutional support, faculty readiness, and problem-solving benefits requires deliberate, sustained investment—particularly given that only half of the sampled students reported any IPE exposure at all.

It is also worth noting that the gap between strong agreement on IPE's clinical relevance and weaker agreement on faculty readiness is not unique to this setting; it recurs across the comparative literature and points to a structural rather than a purely attitudinal issue. Students appear able to recognize the value of collaborative practice even where the surrounding infrastructure to teach it consistently is underdeveloped. This distinction matters for how institutions prioritize investment: building student buy-in may be less of an obstacle than building the faculty capacity, scheduling flexibility, and simulation infrastructure needed to deliver IPE at scale. Programs that have made the most demonstrable progress in the comparative studies reviewed here tend to be those that

paired curricular redesign with parallel investment in faculty development, rather than treating IPE as a matter of course content alone.

Conclusion

This study provides insight into the demographic characteristics, academic distribution, institutional affiliations, and perceptions of nursing students regarding interprofessional education. Findings reveal diverse representation across age groups, academic levels, and institution types, with a notable majority of participants drawn from public institutions. Although half of participants had been exposed to IPE, the other half had not, highlighting inconsistent access and potential implementation barriers.

Overall, students hold a generally positive outlook on IPE's role in improving patient care and clinical training, with statistically significant agreement on its importance. However, only moderate support was found for teamwork, institutional backing, and communication skills, and skepticism persists regarding faculty training and IPE's contribution to problem-solving. These findings point to the need for enhanced faculty preparation, stronger institutional commitment, and more structured, consistent integration of IPE into nursing curricula to fully realize its benefits for collaboration, communication, and patient outcomes.

Recommendations

1. Enhance faculty training through targeted programs that improve educators' understanding and facilitation of IPE, addressing existing skepticism and strengthening delivery.
2. Integrate IPE structurally into both theoretical coursework and clinical training to reinforce collaboration, communication, and teamwork.
3. Increase awareness and advocacy through campaigns and workshops that highlight IPE's benefits for patient care and interdisciplinary collaboration.
4. Strengthen institutional support by allocating policies and resources—facilities, faculty expertise, and learning opportunities—to sustain IPE initiatives.
5. Expand student participation in IPE, given that only half of participants reported any exposure, through simulation exercises and collaborative case studies.
6. Support continuous research and evaluation of IPE implementation through ongoing surveys and feedback mechanisms to identify gaps and refine effectiveness.

Limitations and Strengths

The study's generalizability is limited by its focus on a specific population of nursing students, and self-reported data are subject to potential bias. The even 50–50 split in IPE exposure constrains assessment of IPE's full impact, and the cross-sectional design precludes analysis of change over time; differences between public and private institutions may also have influenced responses. Nonetheless, the study's strengths include a diverse participant base across age groups, academic levels, and institutions; a balanced comparison between students with and without IPE exposure; statistically rigorous analysis using means, standard deviations, and p-values; and comprehensive coverage of multiple dimensions of IPE, providing a solid foundation for targeted educational reform.

Study Implications

The findings support integrating IPE more systematically into nursing curricula to strengthen collaboration, teamwork, and patient care outcomes. They point to the need for institutional policies and resources that promote IPE implementation, structured faculty training programs to build educator confidence and competence, and awareness campaigns that address misconceptions and encourage broader acceptance among nursing students. The strong agreement on IPE's role in clinical training further suggests that healthcare institutions should expand hands-on interprofessional learning experiences to improve patient outcomes.

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