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Spoken Fluency, Clinical Documentation, and Interprofessional Communication: A Multi-Dimensional ESP Needs Analysis of Pakistani Nursing Students

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ABSTRACT
The study is a multi-dimensional English for Specific Purposes (ESP) needs analysis of 99 female undergraduate nursing students of School of Nursing, The University of Faisalabad (TUF), Pakistan. This needs assessment, breaks down into three theoretically and empirically distinguishable dimensions: Spoken Fluency (patient facing oral communication; items C1, C2, C4, C5), Clinical Documentation (professional writing; items D1–D4) and Interprofessional Communication (clinical English use with healthcare staff and ward participation; items B2, C3). Data collected were analyzed using descriptive statistics, paired-samples t-tests, one way ANOVA, Pearson correlation and multiple regression, and the questionnaire used was on a CLT-oriented Likert scale with an α of .900. Dimension was highest with Clinical Documentation (M = 4.109, SD = 0.613), followed closely but significantly by Spoken Fluency (M = 3.747, SD = 0.690) and Interprofessional Communication (M = 3.712, SD = 0.824). The paired t-tests indicated that documentation was significantly greater than spoken fluency (t = −5.023, p < .001) and interprofessional communication (t = 4.793, p < .001) while there was no significant difference between spoken fluency and interprofessional communication (t = 0.516, p = .607). One-way ANOVA results indicated significant differences in Spoken Fluency (F = 3.979, p = .005) and Interprofessional Communication (F = 3.547, p = .010) by academic level but not Documentation (p = .671). When all three dimensions were analyzed together in a multiple regression, all three accounted for 23.5% of the variance in ESP learning needs (R^2 = .235), with Clinical Documentation being the best predictor factor (β = +0.237). In Section G, the priority checklist had an agreement

in four out of six priorities with Spoken Fluency (ranks 1-2) and Interprofessional Communication (ranks 3, 5). This study has found that the oral communication ability of TUF students is underdeveloped, which is a multi-dimensional communication problem, and clinical English teaching should be urgently re-designed according to the dimension of CLT.

Keywords: *ESP Needs Analysis, Spoken Fluency, Clinical Documentation, Interprofessional Communication, Nursing Education, CLT, Pakistan, Multi-Dimensional, Regression Analysis*

1. Introduction

English for nursing is often addressed as a single skill. No one who has ever been in a hospital ward will know nursing communication is not a single thing. It is a lot of things all in one. A nurse has to explain a wound-dressing procedure to a patient who may be anxious and in pain (spoken fluency). She needs to prepare a nursing note that is clear and accurate, so that the next shift can understand what is going on with the patient (clinical documentation). She also needs to share information about a patient's poor health outcome with an older member of her team when the patient is part of a 'ward round' (interprofessional communication). All three have very different language requirements, language learning, and sense of preparedness to meet the requirement.

The range of clinical communication demands is well documented in the ESP literature in the international context. Needs analyses always show that there are several different communicative competence skills that nursing students need to acquire, and that these skills do not develop equally or respond to the same teaching methods. (Bosher, 2025) However, previous ESP needs analysis studies in nursing conducted in Pakistan and other parts of the world have only examined either the overall demands or the ranking of certain skills and have not measured and compared multiple communication dimensions at a time (Khatoon et al., 2019; Tajamal et al., 2025; Sadia et al., 2026). The consequence is that curriculum designers are provided with information regarding what students need generally but not what dimension is best developed, what is least developed, and what dimensions best predict students' overall learning needs.

Eman et al. (2026) conducted a Target Situation Analysis of 99 nursing students and concluded that interprofessional communication was utilized more than nurse–patient communication, with pronunciation fluency, communication with nurses and interaction with other professionals being important language needs. Likewise, Kanwal et al. (2026) found that learners highly valued the professional writing skills and the learning needs of ESP, but provided the lowest score for the use of English in the context of patient and family care, thus highlighting the gap between curriculum and practice. These studies collectively highlight the need for ESP interventions grounded in Communicative Language Teaching (CLT) principles to develop the spoken language proficiency, clinical documentation, and interprofessional and nurse–patient communication skills of nursing students in Pakistan in order to meet the demands of the workplace (Eman et al., 2026; Kanwal et al., 2026).

This study fills that gap. It offers a multi-dimensional ESP needs analysis, based on three empirically distinct and theoretically grounded dimensions, Spoken Fluency, Clinical Documentation and Interprofessional Communication for the female undergraduate students of the School of Nursing, The University of Faisalabad (TUF), Pakistan (n = 99). The study separately measures each dimension, makes statistical comparisons, and tests the relationship between the dimensions and ESP learning needs through multiple regression on a CLT-oriented questionnaire using paired t-test and ANOVA. For the first time in private sector nursing education in Pakistan, this approach offers dimension specific recommendations based on evidence to reform ESP courses. This study is not based on any one skill of the language, but rather the needs analysis

approach of Hutchinson and Waters (1987), and the Communicative Language Teaching (CLT) principles are applied to a three-dimensional model of clinical nursing communication.

1.1 Research Questions

This study addresses three research questions:

1. Do the three dimensions of clinical ESP (Spoken Fluency, Clinical Documentation, and Interprofessional Communication) differ significantly from each other in TUF nursing students' self-perceived competence, and what is the dimensional hierarchy?
2. Do Spoken Fluency and Interprofessional Communication differ significantly across academic levels, and does Clinical Documentation follow the same pattern?
3. How do the three dimensions jointly and individually predict ESP learning needs and preferences, and which dimension is the strongest predictor of overall ESP need?

2. Literature Review

2.1 Nursing Communication as a Multi-Dimensional Construct

A large volume of evidence supports the concept that nursing communication has many different skill areas. According to Finch (2014), there are at least three areas of competency in nursing English: patient centered humanistic communication, technical medical vocabulary, and interprofessional coordination language. Different teaching strategies will suit each of them. Role plays and simulation (Ferdian & Nirwana, 2021; Kurnihayati et al., 2025) are the best ways to develop patient-centered communication. Technical writing can be best explained by genre analysis and authentic text activities (Marleni et al., 2023; de Luna & Silva, n.d.). Structured team interaction, handover practice, and case presentation exercises are the best methods of interprofessional communication (Liaw et al., 2014; Pun, 2023).

Although such readings exist in the literature, most ESP needs analysis for nursing students fails to analyze the different dimensions of competency that are involved in speaking and writing in a patient situation (e.g., speaking vs. participation in ward rounds). To some extent, Liu et al. (2023) responded to this by examining the differences in nurse–patient communication and nurse–physician communication in their TSA of 411 Chinese nurses. The findings of Alharby (2005) showed the same results with the differences in communication needs among different professions in Saudi healthcare. This study is an extension of these findings to create a three-dimensional framework that can be directly applied to the TUF nursing curriculum.

Speaking for both professional communication and clinical English both scored ceiling marks (M = 5.00) on the wants section in Pakistan, however, according to Sattar et al. (2026) in their DPT needs analysis, students perceive the difference between these two communication contexts when general ESP surveys do not. Identifying gaps in curriculum coverage at the GCUF level, Riaz et al. (2026) confirmed that the gaps are programme specific, meaning that different clinical communication domains develop in different ways. In the present study, the same findings are extended by the addition of a multi-dimensional measurement framework, and the framework is tested empirically using inferential statistics.

2.2 Spoken Fluency in Clinical Nursing

Nursing fluency is spoken clinical communication that is clear, accurate and empathetic with the patient. This involves description, answering patient questions, providing empathetic responses to patient concerns and ensuring the pronunciation and phrasing of the language support safe patient understanding (Huang & Yu, 2023; Finch, 2014). In China, Huang et al. (2022) demonstrated using mixed methods observation that specific engagement strategies are required for the nurses, including identifying patient concerns, empathy, and tailoring explanations to the individual patient's comprehension level that are not typically addressed in general English instruction. To further highlight the complexity and specificity of the demands of

English spoken fluency, Liu and Doss (2026) demonstrated that AI-supported TTANA could identify 21 specific target tasks for nurse–patient English communication.

It was shown that the most necessary but least mastered clinical ESP skill among nursing students in many countries around the world is spoken fluency. In Indonesia, Nurakhir (2018) determined the need for nursing students to develop their ability to speak and to be the most needed skill. Based on the subjective views of Taiwanese nurses, Lu (2018) found that patient interaction was the most difficult and most desired skill in their actual nursing practice. The study conducted by Khatoon et al. (2019) reveals that the most important skill rated by the Pakistani nursing students in six colleges of Lahore was speaking. According to Susmini and Episiasi (2021), the necessity ranking of Indonesian nursing students for listening and speaking skills is greater than that for reading and writing. In their systematic review of CLT research, Ratnawati et al. (2026) concluded that the activities that were most effective in developing spoken fluency in ESP contexts were those in which the students interacted.

2.3 Clinical Documentation in Nursing ESP

Clinical documentation involves writing clinical tasks related to the professional communication nurses engage in in the clinical environment, such as writing nursing notes, accurately using medical terminology in patient records, summarizing patient information for case reports, and creating professional clinical messages and emails. Documentation was one of Lee's (1998) most important professional English writing tasks identified for nursing graduates in Taiwan. Bosher (2025) pointed out that needs analysis for clinical documentation has been quite high for the last 10 years. Students who took courses in ESP at the University of Évora, which included clinical writing assignments, considered the courses to be significantly more relevant than the courses on general academic writing, according to De Luna and Silva (n.d.).

As opposed to spoken fluency, clinical documentation seems to emerge fairly well in studies as part of the academic program and preparation for examination. Mazdayasna and Tahririan (2008) reported that writing needs was rated highly by Iranian nursing students as they had to produce a lot of written items in their coursework. Choi (2021) concluded that the writing related ESP instruction was more satisfactory to the South Korean nursing students than the speaking related ESP instruction, possibly because the written ESP tasks had more uniform assessment. There were still discrepancies between students' self-reported documentation needs and the documentation that their teachers emphasized, however, wrote Farea and Singh (2024). The present study adopts the dimension of Clinical Documentation to determine whether there is a similar pattern of relative strengths among TUF nursing students in their written tasks and oral tasks.

2.4 Interprofessional Communication in Nursing ESP

Interprofessional communication is the use of English in communicating with other health care professionals, such as doctors, pharmacists, senior nurses, especially in semi-structured situations like handovers, case discussions and ward rounds. Interprofessional communication training led to a significant increase in both nursing and medical students' confidence, as demonstrated by Liaw et al. (2014) in their simulation-based interprofessional education (IPE) program. Salehi et al. (2024) identified communication as a significant sub-category of interprofessional practice in their gap analysis of interprofessional practice in Iranian healthcare, as well as respect culture and role clarity as weak performance indicators. Nurses were identified as key communication nodes by Coifman et al. (2021) using social network analysis to determine emergency care interprofessional communication.

In this study, Pun (2023) designed a CLT-based ESP workshop for interprofessional communication, focusing on the handover communication between nurses in a bilingual Hong

Kong hospital, and found that interprofessional communication can be effectively developed by using structured task-based ESP instruction. Shanavas et al. (2024) stated that general language training in healthcare training in India was not addressing the specific communication needs of the nurses in the interprofessional environment in a hierarchical manner. A study by Tajamal et al. (2025) in Pakistan identified four stakeholder-identified needs of nursing students: Interprofessional communication, patient communication, clinical writing and communication with others. The focus of the present study is on interprofessional communication as a separate dimension to examine whether it displays similar patterns as the spoken fluency, as it, like the spoken fluency, is a product of oral production, but in very different social environments.

2.5 Theoretical Framework

This study has a theoretical base in the needs analysis model from Hutchinson and Waters (1987) and CLT principles, translated into a three-dimensional model of nursing communication. The dimension of necessity within the Hutchinson and Waters (1987) framework is operationalized as the target situation calls for in each dimension that is as reflected in the TSA items and the dimension-specific speaking items. Lacks are determined by the differences between student performance and what is needed in a clinical setting where competence is measured per dimension. Section F learning preferences and the priority checklist in section G indicate students' own aspirations regarding each dimension and capture their wants.

The pedagogical layer is added by CLT. Based on 68 studies, Ratnawati et al. (2026) found that role plays and activities that maximize interaction most effectively promote spoken fluency, clinical documentation most effectively promotes clinical documentation, and interprofessional communication most effectively promotes interprofessional communication through task-based simulation. These three dimensions in this study map all relate to the three pedagogical domains relevant to CLT: Dimension 1 (Spoken Fluency) role plays for patient communication, Dimension 2 (Clinical Documentation) authentic genre-based writing, Dimension 3 (Interprofessional Communication) simulated ward rounds and handover practice. When combined, the model of Hutchinson and Waters (1987) provides a comprehensive diagnostic-prescriptive framework with each dimension providing both diagnostic (gap identification) and prescriptive (recommendation for CLT activity type) functions. This integration builds upon and enriches the integration found in Sadia et al. (2026), Riaz et al. (2026) and Sattar et al. (2026) that utilized the tripartite model of Hutchinson and Waters (1987) in Pakistani health sciences ESP, but lacked a multi-dimensional measurement approach.

3. Methodology

3.1 Research Design

The present study was of survey type (quantitative). In ESP research, quantitative surveys can be used for measuring self-reported competence and need in several dimensions at the same time (Khatoon et al., 2019; Farea & Singh, 2024; Liu et al., 2023). The multi-dimensional analytical approach necessitated a design that would yield numeric data for paired t tests, ANOVA, and multiple regression for three theoretically defined dimensions.

3.2 Participants

The total number of participants was 99 female B. Sc Nursing students from School of Nursing, The University of Faisalabad (TUF), Pakistan. Data were collected in December 2025. One male respondent was not included. The sample covered all academic levels from first year (n = 5, 5.1%) to internship (n = 17, 17.2%), with the majority in third year (n = 39, 39.4%) and fourth year (n = 32, 32.3%). The majority (46.5%) were aged 20–22 years. 83.8% of the sample had regular clinical exposure and 16.2% limited exposure. Table 1: Demographic profile (full).

Table 1 *Demographic Profile of Participants (N = 99)*

Variable	Category	n	%
Gender	Female	99	100.0
Age	< 20 years	3	3.0
	20–22 years	46	46.5
	23–25 years	24	24.2
	> 25 years	26	26.3
Academic Level	1st Year	5	5.1
	2nd Year	6	6.1
	3rd Year	39	39.4
	4th Year	32	32.3
	Internship	17	17.2
Clinical Exposure	Regular	83	83.8
	Limited	16	16.2

Note. All participants were female undergraduate nursing students at the School of Nursing, The University of Faisalabad (TUF), Pakistan.

3.3 Instrument and Dimensional Structure

The questionnaire was seven sections based on CLT (α = .900). Selected sections were used to build the three dimensions of analysis as follows. The items in Dimension 1 — Spoken Fluency (C1, C2, C4, C5) were all items in Section C that measured patient facing oral communication competence (α = .715). All the items of Section D (D1, D2, D3, and D4) covering the clinical documentation were aggregated into Dimension 2 — Clinical Documentation with an α of .857. The items that made up Dimension 3 — Interprofessional Communication were item B2 (actual use of English with doctors and other healthcare staff in the TSA section) and item C3 (ability to participate in ward discussions and handovers). C3 in Section C was removed from Dimension 1 and moved to Dimension 3 because it is the professional communication with other professionals in the ward that is specifically mentioned in this item rather than communication with patients. This separation is a conceptual distinction made in the international nursing ESP literature between the nurse–patient relationship and the interprofessional relationship (Huang & Yu, 2023; Liu et al., 2023; Pun, 2023). The dimensional structure is summarized in Table 2. The full instrument also consisted of Section A (English learning background), Section E (course evaluation), Section F (ESP needs and preferences), and Section G (priority checklist) that were viewed as outcome and contextual variables.

3.4 Data Analysis

All three dimensions were measured and the means and standard deviations were calculated. Three paired-samples t-tests were used to compare each dimension pair to determine the dimensional order (RQ1). The results of each dimension were analyzed by one-way ANOVA at different academic levels and clinical exposure groups separately (RQ2). A Pearson correlation was calculated for each dimension with Section F (ESP needs) and Section E (course evaluation) with Section F (RQ2). OLS multiple regression was used with Section F as the dependent variable and the three dimension scores as the predictors (RQ3). The frequency of primary data has been analyzed in section G and correlated with dimensions. All the analysis was carried out in SPSS.

4. Results

4.1-Dimensional Structure and Reliability

The three-dimensional structure with internal consistency and descriptive statistics is presented in Table 2. The reliability for Clinical Documentation was highest (α = .857) and the highest mean (M = 4.109, SD = 0.613). Acceptable reliability (α = .715) and a significantly lower mean (M =

3.747, SD = 0.690) were obtained for Spoken Fluency. The highest variation and lowest mean (M = 3.712, SD = 0.824) was observed for Interprofessional Communication which was composed of two conceptually related items from TSA and speaking. Despite the three dimensions reflecting different aspects of clinical communication competence, overall instrument reliability was found to be α = .900, indicating good internal consistency.

Table 2 *Three-Dimensional Framework: Structure, Reliability, and Descriptive Statistics (N = 99)*

Dimension	Items (Questionnaire)	No. Items	α	M	SD
Spoken Fluency	C1, C2, C4, C5 (patient-facing speaking)	4	.715	3.747	0.690
Clinical Documentation	D1, D2, D3, D4 (professional writing)	4	.857	4.109	0.613
Interprofessional Communication	B2 (clinical use with staff), C3 (ward handovers)	2	—	3.712	0.824
Full Instrument	**Sections A–F (all 24 Likert items)**	**24**	**.900**	**3.882**	**—**

Note. Dim = Dimension. α = Cronbach's alpha. M = Mean. SD = Standard Deviation. Scale: 1 = Strongly Disagree to 5 = Strongly Agree. IP = Interprofessional.

4.2 Item-Level Analysis by Dimension

Means and standard deviations for each item are provided by dimension in Table 3. For Dimension 1 (Spoken Fluency), the highest item was C5 (Pronunciation and spoken clarity for safe patient care; M = 4.061, SD = 0.831) while the lowest item was C1 (Explaining nursing procedures to patients; M = 3.465, SD = 1.146). The SD for C1 (1.146) is highest of all the items in this dimension, showing that there are very different levels of confidence in student confidence in explaining to patients in C1. In line with Nurakhir (2018) and Liu et al. (2023), who reported that the most variable and most difficult oral skill for nursing students is patient-facing explanation task.

In Dimension 2 (Clinical Documentation), all 4 items had an M > 3.8 showing high confidence. The highest was D2 [Medical terminology in written documents; M = 4.313; SD = 0.649] which was the most highly rated item in the three dimensions and on the instrument as a whole. The lowest was D4 (Professional emails and clinical messages; M = 3.869, SD = 0.778). The pattern shows that academic coursework with medical terminology results in good medical terminology self-competence in writing. Lee (1998) also reported that the written clinical tasks were more confident by all levels of nursing students than spoken tasks.

In Dimension 3 (Interprofessional Communication), B2 (Using English with doctors and health care staff; M = 3.646, SD = 1.053) was slightly lower than C3 (Ward discussions and handovers; M = 3.778, SD = 0.840). The higher SD for B2 (1.053) than for C3 (0.840) indicates greater variation between students in their actual use of English with healthcare staffs as compared to their ability to participate in handover processes, probably because of differing norms within wards regarding the use of English with work colleagues.

Table 3 *Item-Level Descriptive Statistics Organized by Dimension (N = 99)*

Code	Statement	M	SD
	Dimension 1: Spoken Fluency (Patient-Facing Communication)		
C1	I can explain nursing procedures to patients in clear English.	3.465	1.146
C2	I can ask and answer questions appropriately during nurse–patient interactions.	3.778	0.864
C4	I can communicate politely and empathetically with patients in English.	3.687	0.888
C5	Pronunciation and spoken clarity are important for safe patient care.	4.061	0.831
Dim 1	**Spoken Fluency Dimension Mean**	**3.747**	**0.690**
	Dimension 2: Clinical Documentation (Professional Writing)		
D1	I can write clear and accurate nursing notes in English.	4.172	0.756
D2	I can use correct medical terminology in written clinical documents.	4.313	0.649
D3	I can summarize patient information or case reports in English.	4.081	0.738
D4	I can write professional emails or messages related to clinical tasks.	3.869	0.778
Dim 2	**Clinical Documentation Dimension Mean**	**4.109**	**0.613**
	Dimension 3: Interprofessional Communication		
B2	I use English to communicate with doctors and other healthcare staff.	3.646	1.053
C3	I can participate actively in ward discussions and handovers in English.	3.778	0.840
Dim 3	**Interprofessional Dimension Mean**	**3.712**	**0.824**

Note. Scale: 1 = Strongly Disagree to 5 = Strongly Agree. Items grouped by theoretical dimension. Dim = Dimension mean.

4.3 Paired t-Test Results: Dimensional Hierarchy

The three paired-samples t-tests for RQ1 are shown in Table 4. The first comparison was between Dimension 1 (Spoken Fluency) and Dimension 2 (Clinical Documentation). The result was highly significant: $t(98) = -5.023$, $p < .001$, with Clinical Documentation rated significantly higher ($M = 4.109$ vs. $M = 3.747$, difference = 0.362). The second comparison was Dimension 2 (Clinical Documentation) to Dimension 3 (Interprofessional Communication). This was also highly significant: $t(98) = 4.793$, $p < .001$, with Documentation rated higher ($M = 4.109$ vs. $M = 3.712$, difference = 0.397). For Dimension 3 (Interprofessional Communication), the third comparison was conducted between Spoken Fluency (Dimension 1) and Interprofessional Communication (Dimension 3). This was not significant: $t(98) = 0.516$, $p = .607$ ($M = 3.747$ vs. $M = 3.712$, difference = 0.035).

The results confirm a dimensional order: Clinical Documentation > Spoken Fluency ≈ Interprofessional Communication. The non-significance of the Spoken–Interprofessional comparison is theoretically interesting: even though the social contexts of speaking by patients (Dimension 1) and with professionals at the ward level (Dimension 3) are very different, TUF nursing students feel that they are in fact equally competent in both. Both of these are much lower than Clinical Documentation. The two-tier structure (Documentation and the two oral

dimensions in the same tier) is further confirmation of learning that the oral dimensions of TUF nursing students are deficient across patient-centred and professional contexts, as seen in Lu (2018) in Taiwan, Khatoon et al. (2019) in Pakistan and Liu et al. (2023) in China.

Table 4 *Paired-Samples t-Test Results: Comparison of Three Dimensions (N = 99)*

Comparison	M_1	M_2	Diff.	t (df=98)	p
Dim 1 (Spoken) vs Dim 2 (Documentation)	3.747	4.109	−0.362	−5.023	< .001***
Dim 2 (Documentation) vs Dim 3 (Interprofessional)	4.109	3.712	+0.397	4.793	< .001***
Dim 1 (Spoken) vs Dim 3 (Interprofessional)	3.747	3.712	+0.035	0.516	.607 (n.s.)

*Note. Diff. = $M_1 - M_2$. n.s. = not significant. ***p < .001.*

4.4 ANOVA by Academic Level

To answer RQ2, one-way ANOVA is provided for all three dimensions in Table 5. There was a significant difference in Spoken Fluency between academic levels [F (4, 94) = 3.979, p = .005]. Interprofessional Communication was also significantly different: F (4, 94) = 3.547, p = .010. However, Clinical Documentation was not significantly different among the academic levels: F (4, 94) = 0.589, p = .671.

Means for Spoken Fluency and Interprofessional Communication were similar, showing the same characteristic pattern, with high means at the first year (Spoken: M = 4.100; IP: M = 4.000), a sharp drop at the second year (Spoken: M = 3.083; IP: M = 2.917), and a progressive increase as students advanced to third year, fourth year, and internship. The patterns in both oral dimensions are the same, with none for Documentation, whereas the pattern in both oral dimensions is the same, and not in Documentation, is the key finding for RQ2: the academic level and clinical experience of respondents had a significant impact on oral communication competence (of any kind, patient-facing or interprofessional), but not on written competence. This lends great support to the idea that deliberate and structured teaching of clinical ESP skills is needed at all levels of the programme, and especially at the critical second year level when students are first exposed to clinical settings. Similarly, Ratnawati et al. (2026) reported that students' oral skills do not grow naturally as a result of their academic advancement due to the fact that some of the barriers to CLT are in the form of exam-based systems.

Clinical exposure (regular vs. limited) did not significantly affect any of the three dimensions: Spoken F = 0.007, p = .934; Documentation F = 0.202, p = .654; Interprofessional F = 0.017, p = .897. This reinforces the idea that clinical placement alone is not enough to develop any of the three dimensions of CLT, and that explicit CLT instruction is required in all levels of exposure. Liaw et al. (2014) also concluded that inter-professional communication development was not adequate with only clinical placement without structured simulation training.

Table 5 *One-Way ANOVA: Three Dimensions by Academic Level (N = 99)*

Academic Level	n	Spoken M (SD)	Doc. M (SD)	IP M (SD)	F (Spk)	p (Spk)	F / p (IP)
1st Year	5	4.100 (0.390)	3.900 (0.481)	4.000 (0.791)	3.979	.005**	3.547/.010**
2nd Year	6	3.083 (0.580)	3.917 (0.463)	2.917 (0.644)			
3rd Year	39	3.551 (0.571)	4.058 (0.640)	3.500 (0.818)			
4th Year	32	3.953 (0.541)	4.188 (0.573)	3.938 (0.838)			
Internship	17	3.941 (0.538)	4.206 (0.656)	3.971 (0.964)			

*Note. F and p for Spoken Fluency: F = 3.979, p = .005**. For Documentation: F = 0.589, p = .671 (n.s.). For Interprofessional: F = 3.547, p = .010**. Clinical exposure ANOVA not significant for any dimension. IP = Interprofessional.*

4.5 Multiple Regression: Predicting ESP Learning Needs

Table 6 shows Pearson correlation coefficients and multiple regression results for the three dimensions and Section F (ESP Needs and Preferences), for RQ3. There were significant relationships between all three dimensions and the ESP needs, with Spoken Fluency (r = .393; p < .001) and Clinical Documentation (r = .418; p < .001) showing the strongest correlations, and Interprofessional Communication (r = .286; p = .004) showing a moderate correlation. When the bivariate correlation between ESP needs and ESP learning motivation was calculated, Course Evaluation (Section E) had the highest r value (r = .513, p < .001) indicating that course quality is still the strongest single correlate of ESP learning motivation.

The three dimensions together explained 23.5 % of the variance in ESP learning needs (R^2 = .235) in the multiple regression model with all three dimensions as predictors. After controlling for the regression coefficient of the other two dimensions, Clinical Documentation had the largest regression coefficient (β = +0.237); Spoken Fluency had a regression coefficient of (β = +0.180) and Interprofessional Communication had a regression coefficient of (β = +0.007). The pattern is understandable: students with increased confidence in clinical documentation and oral fluency have higher and more focused ESP learning motives, possibly as a result of the students' increased engagement in their clinical communication and the increased awareness of their remaining gaps. With regard to interprofessional communication, students using English more interprofessional (B2, C3) are already partially fulfilling the interprofessional communication demand in clinical placement, and, once the clinical placement contribution is removed, it is still not enough to fill the learner's need for interprofessional communication.

Table 6 *Pearson Correlations with ESP Needs (Section F) and Multiple Regression Results (N = 99)*

Predictor	r with F	p (bivariate)	β (regression)	Direction
Dim 1: Spoken Fluency	.393	< .001***	+0.180	Positive
Dim 2: Clinical Documentation	.418	< .001***	+0.237	Positive
Dim 3: Interprofessional Communication	.286	.004**	+0.007	Positive
Course Evaluation (Section E)	.513	< .001***	—	Positive
Model R^2 (Dim 1+2+3 jointly)	**.235**			

*Note. DV = ESP Learning Needs and Preferences (Section F mean). β = unstandardized regression coefficient. R^2 = .235 for the three-dimension model. **p < .01, ***p < .001. Course Evaluation shown for comparison only; not included in regression model.*

4.6 Section G Priority Checklist

The results of Section G are shown in Table 7, and are aligned along the dimensions. Four match with oral communication dimensions (Dimensions 1 and 3), but only one matches with Documentation (Dimension 2). In Dimension 1 (Spoken Fluency) the items related to pronunciation and spoken fluency (43.4%) and nurse–patient communication (39.4%) are consistent with items in Dimension 1. Case presentations and discussions (30.3%) and interprofessional communication (37.4%) both correspond to Dimension 3. Medical vocabulary (36.4%) is related to both Dimensions 1 and 2. Clinical documentation (22.2%) is the only priority area, and fewer students chose this priority than any other priority.

Clinical Documentation is the dimension with the highest rating and the highest internal consistency, and it is also not a priority for students since they feel reasonably confident in the dimension. Spoken Fluency and Interprofessional Communication are both at the same and much lower priority than Documentation, but clearly students realize that they need to do more in both of these. Similarly, students' needs for speaking and listening were greater than those for writing and reading despite the fact that they were less competent in these skills in Indonesia (Susmini and Episiasi 2021). Similarly, Chakim et al. (2025) and Gass (2012) found that across various national settings, speaking was the high priority item among the nursing students' priority items. Thus the multi-dimensional quantitative results are triangulated and validated in the checklist: the dimensions of the mouth are among the least developed (paired t-tests) and most wanted (checklist) dimensions.

Table 7 *Section G Priority Checklist with Dimensional Alignment (N = 99; up to three selections)*

Rank	Priority Area	n	%	Dimension Alignment
1	Pronunciation and spoken fluency	43	43.4	Dim 1 (Spoken)
2	Nurse–patient communication	39	39.4	Dim 1 (Spoken)
3	Interprofessional communication	37	37.4	Dim 3 (IP)
4	Medical vocabulary for nursing practice	36	36.4	Dim 1 + Dim 2
5	Case presentations and discussions	30	30.3	Dim 3 (IP)
6	Clinical documentation (notes, reports)	22	22.2	Dim 2 (Doc.)

Note. Dim = Dimension. Percentages exceed 100% because respondents could select up to three options.

5. Discussion

5.1 The Dimensional Hierarchy: What It Means for Curriculum Design

The most striking result of this study comes from the statistically significant dimensional hierarchy: Clinical Documentation is significantly higher than both oral dimensions ($p < .001$ for both comparisons), and Spoken Fluency is statistically equivalent to Interprofessional Communication and lower than both of them. Although the three-part structure – Documentation > Spoken = Interprofessional is not what a single mean score would show. In this case, if a researcher observes the grand mean of M = 3.882 without multi-dimensional analysis, he/she will draw the conclusion that the clinical English learning self-competence of the TUF nursing students is moderately positive. The multi-dimensional analysis reveals the following: This moderate mean contains an underlying systematic oral deficit, which is present in both patient-oriented speech and professional ward speech and also in both situations is significantly lower than the competence documentation.

This is a direct link to the CLT framework. In a systematic review, Ratnawati et al. (2026) identified that CLT is found to be most effective when used to develop spoken fluency in interaction-rich activities while there are persistent barriers to implementing CLT, such as exam-driven systems, cultural misalignments, and limited teacher training, in many contexts. The case of Pakistan would be exactly this: the assessment systems for academic production are consistent with emphasis on written production, and rarely on oral clinical work; hence, there is a systematic development of Documentation, whereas that of Spoken Fluency and Interprofessional Communication is not. The message is simple: TUF must change its ESP assessment scheme to incorporate oral clinical skills as well as written assessment, as assessment leads to practice. Naveed et al. (2025) concluded that the students who took the CLT-based ESP courses with oral assessment showed greater improvement in clinical speaking tasks than those in the traditional grammar-based courses.

5.2 The Equivalence of Spoken Fluency and Interprofessional Communication

The Spoken Fluency and Interprofessional Communication (IC) were not significantly different ($p = .607$), which is a theoretically important finding that could only have been identified by multi-dimensional analysis. Patient facing communication is very different to ward level communication with professionals, such as doctors and members of the healthcare team, in English, and explaining procedures, asking questions empathetically and ensuring pronunciation is clear. Communication with patients is an emotional challenge and must be sensitive to the understanding and anxiety of the patient. Interprofessional communication is technically challenging, and involves knowing the medical register as well as professional hierarchy (Shanavas et al., 2024; Salehi et al., 2024).

The almost identical scores for the TUF nursing students with both ($M = 3.747$ vs. $M = 3.712$, $\Delta = 0.035$) indicate that both are assessed as being underdeveloped in comparison to documentation. This could be attributed to a common root cause: English is not taught or evaluated systematically in the TUF nursing curriculum, whether used by patients or interprofessional English. While students learn documentation skills in academic courses, oral skills (whether patient care or professional) are acquired only through informal clinical experiences that vary by ward and supervisor (Lu, 2018; Pun, 2023). This is confirmed by the ANOVA results: Both oral dimensions exhibit the same pattern of sharp decrease and recovery in their 2nd year, and Documentation has no variation. Oral dimensions have the same clinical exposure dynamics whereas Documentation does not.

The implication of this is that there is no need to evaluate the options of patient communication training or interprofessional communication training when choosing which to invest in TUF can have both. Both are needed and both are subject to the same developmental dynamics as revealed by the data. A curriculum based on a CLT that includes simulated patient consultation exercises (Dimension 1) and simulated ward rounds and handover practice (Dimension 3) within the same course structure would cover both of these oral dimensions at the same time, without the need for extra courses to be developed. Liaw et al. (2014) demonstrated that such interprofessional and integrated simulation training led to increased self-confidence in communicating both with patients and between each other.

5.3 Clinical Documentation: Strong but Not Sufficient

The mean score for Clinical Documentation ($M = 4.109$) and reliability ($\alpha = .857$) show that nursing students at TUF are very confident in their clinical documentation skills. The item with the highest rating in the entire instrument was D2 which is the use of medical terminology in written documents ($M = 4.313$). This is in line with Bosher (2025) and Lee (1998) who noted that

in international nursing ESP settings, there was a higher likelihood of fostering written medical English competence than any other competency area with regard to academic activities.

There are two mixed notes in the positive picture, however. The first is that for Section G, only 22.2% chose clinical documentation as a learning priority, the lowest of all the priorities. That is, students do not feel they need to have been given more training in documentation. In the study on Medical ESP conducted by Singh and But Farea (2024), the results of the self-perception of the students' documentation competence did not always tally with the assessment of the actual competence of their instructors. As the examples of nursing genre writing (such as care-planning, discharge notes and shift reports) demonstrate, it is indeed a more challenging target than basic nursing notes, and so students may be over confident in documentation skills just because the documentation they are practicing in the academic setting is easier than what they will need to perform when they start to work professionally.

As shown in the examples, nursing genre writing is more challenging than basic nursing notes, and so students may feel more confident in their documentation skills just because the documentation they are practicing in school is easier than what they will need to perform when starting to work professionally. The second finding from this regression is that documentation has the highest unique regression coefficient (β = +0.237) in predicting students' ESP learning needs, which indicates that the students who feel confident with documentation are also most aware of their learning needs in ESP. Thus, the documentation competence could not only not create complacency, but it could also be the one that could develop metacognition awareness and general motivation in learning.

5.4 The Regression Model and Its Implications

Multiple regression model with R2=.235 indicates that the three dimensions account for almost 25% of the variance in ESP learning needs. This is a significant effect size in educational research with three predictors. The highest unique regression coefficient (β) was found for Clinical Documentation (0.237), followed by Spoken Fluency (0.180). Although Interprofessional Communication had a significant bivariate correlation with ESP needs (r = .286, p = .004), there was little unique contribution of Interprofessional Communication when the other two dimensions were controlled (β = +0.007). Some of this suppression effect may be related to the oral dimensions of Interprofessional Communication which has a high level of common variance with Spoken Fluency, and as such does not add incremental predictive power.

The most significant practical implication of this regression model is that, at the TUF, documentation competence and spoken fluency are the most significant factors that influence ESP learning motivation together. Students' self-competence and their motivation for further learning are also closely related, so improving the ESP instruction will also improve their self-competence, and more motivated students will become more motivated learners. The results of the present regression analysis quantitatively support the positive relationship between motivation and competence, as Hosseini and Shokrpour (2019) reported in medical and nursing ESP contexts. It is implied that the curriculum reform which effectively enhances students' spoken fluency and competence in clinical documentation will not only complement the immediate skill deficiency, but will also contribute to higher students' involvement in ESP learning.

5.5 Triangulation: Checklist Confirms Quantitative Findings

The multi-dimensional quantitative findings are provided with triangulation from the Section G priority checklist. Four of the six priorities match with the two oral dimensions; one of the priorities matches only with Clinical Documentation. The dimension Spoken Fluency (43.4%) is supported by the skills of pronunciation and spoken fluency (39.4%). Case presentations and

discussions (30.3%) and interprofessional communication (37.4%) correspond with Dimension 3. The medical vocabulary (36.4%) involves the oral as well as the written aspect. Clinical documentation (22.2%) was the sole dimension that was selected the least and it is dimension 2.

This is an inverse pattern of the competence hierarchy, with students feeling most competent in Documentation (Dimension 2) and choosing it as a priority least frequently, and Spoken Fluency and Interprofessional Communication (Dimensions 1 and 3) being chosen as priority more often than the other two dimensions. It is evident that there is consistency between the quantitative competence data and the qualitative priority data, which lends a high level of validity to the multi-dimensional framework. Liu and Doss (2026) suggested that making use of both competence surveys and priority data gave a more comprehensive picture of the needs of ESP than did using either alone, and this is reflected in the present results. Other studies by Chakim et al. (2025) on Indonesian nursing students and Gass (2012) on Thai nursing students and Khatoon et al. (2019) on Pakistani nursing students revealed the same pattern of oral priority dominance, indicating that this pattern is not specific to TUF but is a cross-national finding for nursing ESP.

6. Conclusion and Implications

This study has reported the multi-dimensional ESP needs analysis of the female nursing students at TUF, Pakistan and categorized clinical English communication into three theoretically grounded and empirically validated dimensions namely Spoken Fluency, Clinical Documentation, and Interprofessional Communication. The results of the core findings address the three research questions:

The three dimensions are found to be in a statistically affirmed order, with Clinical Documentation ($M = 4.109$) significantly higher than the two oral dimensions ($p < .001$), but without any differences between Spoken Fluency ($M = 3.747$) and Interprofessional Communication ($M = 3.712$) ($p = .607$). The main result of this study is the two-tiered structure, the Documentation being the upper tier, and the two oral dimensions being equally under-developed. Across academic levels, both Spoken Fluency ($F = 3.979$; $p = .005$) and Interprofessional Communication ($F = 3.547$; $p = .010$) vary significantly, with a significant drop in scores for the second year, followed by gradual recovery, but there is no significant difference in mean scores for Clinical Documentation ($p = .671$). There was no significant difference between clinical exposure groups on any dimension, which further supports the need for structured clinical exposure in CLT. Bivariately all three dimensions significantly predict ESP learning needs and the three dimensions explain $R^2 = .235$ of variance, the answer to RQ3. In the same way, the highest unique regression coefficient (β) is for Clinical Documentation (0.237), followed by Spoken Fluency (0.180) and then Interprofessional Communication which contributes almost nothing after controlling for the other dimensions (0.007). The strongest overall correlation with ESP needs is Course Evaluation ($r = .513$).

The results have practical implications for curriculum design of ESP at TUF. First, both the oral dimension should be taught using Dimension-specific CLT instruction, namely patient communication role plays, pronunciation training, and activities to develop empathetic communication, as outlined in Dimension 1 (Spoken Fluency); and Dimension 3 (Interprofessional Communication) should be taught through simulated ward rounds, simulated handover and case presentation activities, as outlined in the model by Liaw et al. (2014) and Pun (2023). In a second way, the oral evaluation should be included in the ESP curriculum along with written evaluation since there is only the documentation dimension which is developed in a systematic manner in academic assessment, which is the reason why it has become systematic

and the other two dimensions have not shown to be systematic. Third, targeted oral communication support is needed for third and second-year students because of the highest drop-offs in both dimensions at the transition. Fourth, the non-significant exposure effect indicates that clinical placement does not provide oral dimension development, thus, ESP classroom instruction will have to make up for that.

There are some limitations in this study. The three-dimensional framework was built on an already existing questionnaire and is not a questionnaire specifically created to measure three dimensions, but is instead a theory-informed post hoc analysis of the items. Future studies should design and test a nursing ESP competence scale comprising of specific sub-scales for the respective dimensions. All the samples are drawn from one private-sector University and all the female students. Research can be augmented through a multi-institutional, mixed-gender and longitudinal study to build up the evidence base for teaching dimension-specific ESP in nursing education in Pakistan.

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