

Evaluating ESP Curriculum Relevance: A Survey of Engineering Students' Perspectives in Rajshahi, Bangladesh

Md Ahsan Ul Kabir (ahsanulkabir30@gmail.com), M.Phil. Fellow
Institute of English and Other Languages (IEOL), University of Rajshahi, Bangladesh



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Abstract: This study evaluates the relevance of English for Specific Purposes (ESP) curriculum from the perspectives of 107 engineering students across three universities in Rajshahi, Bangladesh: Rajshahi University of Engineering and Technology (RUET), University of Rajshahi (RU), and Varendra University (VU). A mixed-methods design was employed using a 41-item structured questionnaire with Likert-scale and open-ended items across six thematic areas. Descriptive statistics, Pearson correlation, multiple linear regression, and Kruskal-Wallis H tests were applied. Results revealed a significant gap between perceived importance of English ($M = 4.15/5.00$) and satisfaction with ESP courses ($M = 3.24/5.00$). Skill development ($\beta = 0.815, p < .001$) and perceived curriculum irrelevance ($\beta = -0.194, p < .05$) were the strongest predictors of satisfaction ($R^2 = .741$). No significant differences across institutions ($H = 1.772, p = .412$) or year of study ($H = 4.304, p = .231$) confirmed that identified gaps are systemic rather than institution-specific. Thematic analysis and syllabus review corroborated quantitative findings, highlighting over-reliance on general English content, inadequate speaking practice, and lack of discipline-specific vocabulary. Strong support was recorded for needs-based curriculum reform, with 82.2% endorsing project-based, interdepartmental approaches. The study contributes empirical evidence to ESP quality discourse in Bangladeshi engineering education and proposes actionable recommendations.

Keywords: Engineering Students, ESP Curriculum, Needs Analysis, Technical English, University of Rajshahi

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1. Introduction

In recent years, English for Specific Purposes (ESP) has grown into a focal point of language instruction in technical and professional degree courses throughout the world. ESP is based on a systematic analysis of learners' communicative needs in relation to specific areas of discipline and profession, unlike general English (Hutchinson & Waters, 1987). The pedagogical and career implications of ESP course development and delivery are significant for engineering students in a setting where English is the medium of advanced academic study, international professional communication, and upward socioeconomic mobility.

Although there has been a surge of interest in the field of ESP in South and Southeast Asian higher education settings, empirical studies focusing on the relevance of ESP curricula from the engineering students' point of view remain limited in Bangladesh. The need for a purpose-based ESP syllabus for Bangladeshi engineering students has been pointed out by Bhuiyan (2021), who found existing ESP courses to be inadequate. Bhuiyan and Khan (2022) also identified systemic issues in ELT syllabi at engineering universities where the curriculum was inconsistent with workplace communicative skills. Ali and Hamid (2025) further revealed that while English communication is required for professional tasks such as reading manuals, writing reports, and technical meetings, graduates are inadequately prepared for these demands.

The present study fills this gap by surveying 107 engineering students across RUET, RU, and VU to examine the relevance of ESP courses. Specifically, this study poses the following research questions: (1) What are engineering students' perceptions of the importance of English proficiency for their academic and professional life? (2) What are students' perceptions of the design, content, and outcomes of their present ESP courses? (3) What critical gaps do students identify? (4) What changes do they recommend? (5) Which aspects of course quality best explain overall student satisfaction?

This paper provides statistically sound and pedagogically relevant recommendations for curriculum designers, ESP practitioners, and educational policy makers in Bangladesh and similar contexts.

2. Literature Review

2.1. Theoretical Frameworks in ESP

The concept underpinning ESP is based on the assumption that language teaching should be grounded in extensive analysis of the communicative needs of target learners (Dudley-Evans & St. John, 1998). Hutchinson and Waters (1987) identified three overlapping sets of needs: target needs, learning needs, and present situation analysis. This tripartite structure shaped needs analysis methodology, which is now a commonplace tool in ESP course design. A systematic review by Musrina et al. (2024) covering 26 ESP studies from 2018 to 2023 confirmed that needs analysis is the most common methodology, with language research, pedagogy, and student learning as recurrent themes.

Flowerdew and Peacock (2001) noted that genre analysis is a crucial aspect of ESP for academic and professional writing. Hoang et al. (2024) recently showed that functional communication skills such as technical presentation, report writing, and cross-functional meetings are top priorities for professional engineers, highlighting the genre-functional approach in contemporary ESP designs. Basturkmen's (2010) research informs this study's survey methodology by insisting that learner orientation in ESP curriculum development requires learners' opinions on course relevance.

2.2. ESP in Engineering Education

English communication is widely considered a key competence in engineering practice. The Bangladesh Accreditation Council (BAC) sets communication as a programme learning outcome for engineering programmes, but implementation into effective ESP teaching is not uniform (Islam & Stapa, 2017). Bhuiyan (2021) revealed that structural problems at engineering universities in Bangladesh include insufficient credit hours for English and students' tendency to prioritize technical courses.

In Pakistan, engineering students identified written and oral professional communication as the most important English language skills but stated that ESP courses were not adequately geared towards these skills (Ahmed, 2014). Damio et al. (2022) found that chemical engineering students in Malaysia desired technical writing and oral presentation skills, yet most contact hours were allocated to grammar and general reading—a mismatch mirroring the Bangladeshi context. Changpueng (2023) similarly reported that communicative English requirements in workplace meetings were almost entirely neglected by ESP courses for Thai undergraduate engineering students.

2.3. Curriculum Relevance and Student Satisfaction

Curriculum relevance in ESP refers to the alignment of course objectives, instruction, materials, assessment, and learners' communicative needs (Tomlinson, 2011). Mulyadi et al. (2023) showed that ESP learners who perceived course tasks as professionally authentic reported higher engagement and autonomy. Conversely, courses that do not relate to students' future aspirations produce pervasive disengagement (Basturkmen, 2010).

Over-dependence on general English materials, lack of four-skills integration, and lack of discipline-specific teacher competence have been identified as contributors to ESP learner dissatisfaction (Boyle, 1995; Huhta et al., 2013). Kamaruddin et al. (2021) showed that needs-analysis-based ESP course redesign positively influenced learner motivation and proficiency, and that contextual task relevance was the highest predictor of learner motivation.

2.4. The Bangladeshi Context

Bangladesh presents a complex sociolinguistic environment in which English occupies a coveted yet contested position in higher education and professional life. Hamid and Erling (2016) found English to be a major factor in socioeconomic progression in Bangladesh, while Rahman et al. (2019) reported that the grammar-translation

approach still prevails in tertiary English instruction despite policy rhetoric favouring communicative approaches. Ali and Hamid (2025) relied on workplace diary data to show that engineers engage in communicative activities—reading technical documents, writing emails and reports, interacting professionally—that are poorly represented in general English curricula.

Bhuiyan and Khan (2022) identified serious structural gaps in the ELT syllabi of Bangladeshi engineering universities, including the lack of workplace simulation activities, overemphasis on grammatical knowledge in assessment, and absence of authentic engineering texts. The present study interprets its data in the context of these findings.

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3. Methodology

3.1. Research Design

This study employs a mixed-methods research design, combining quantitative survey data (Likert-scale responses) with qualitative data (open-ended student responses). The quantitative component involved three statistical analyses: descriptive statistics, bivariate Pearson correlation, and multiple linear regression, along with Kruskal-Wallis H tests for group comparisons. The study design is cross-sectional, with data collected during the academic year 2023–2024.

3.2. Participants

A total of 107 engineering students participated across three institutions: RUET (n = 40), University of Rajshahi (n = 44), and Varendra University (n = 25). Departments represented included CSE (n = 43), EEE (n = 28), Mechanical Engineering (n = 13), Civil Engineering (n = 5), Architecture (n = 3), ICE (n = 4), and others. Year-of-study distributions were: 1st year (n = 8, 7.5%), 2nd year (n = 26, 24.3%), 3rd year (n = 44, 41.1%), and 4th year (n = 29, 27.1%). Gender composition: male (n = 89, 83.2%), female (n = 17, 15.9%), and prefer not to say (n = 1, 0.9%).

3.3. Instrument

The survey consisted of 41 questions divided into seven sections: (1) demographics; (2) perceived importance of English skills (Q1–7, Likert); (3) course design and clarity (Q8–12, Likert); (4) skill development and content relevance (Q13–24, Likert); (5) critical observations and gaps (Q25–29, Likert); (6) reform recommendations (Q30–35, Likert); and (7) overall satisfaction and career readiness (Q36–38, Likert). Three open-ended items (Q39–Q41) elicited qualitative responses. Likert responses were rated on a 5-point scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The full questionnaire is provided in Appendix A.

3.4. Composite Score Construction

Six composite scores were created by averaging item scores within each thematic cluster: ImportanceScore (Q1–7), CourseDesignScore (Q8–12), SkillDevScore (Q13–21), CriticalScore (Q25–29), RecoScore (Q30–35), and SatisfactionScore (Q36–38). These composite variables were used in subsequent correlation and regression analyses.

3.5. Statistical Analysis

All 38 Likert items were analyzed using descriptive statistics (means, standard deviations, percentage agreement). Pearson correlation coefficients (two-tailed) were computed between all composite section scores and the criterion variable SatisfactionScore. Multiple linear regression with ordinary least squares (OLS) estimation was performed to identify predictors of SatisfactionScore ($df = n - k - 1 = 101$). Model fit was assessed using R^2 and Adjusted R^2 . Kruskal-Wallis H tests were used to examine group differences in SatisfactionScore, CourseDesignScore, and SkillDevScore by institution and year of study, given the ordinal nature and unequal group sizes. Mann-Whitney U tests were conducted for post hoc pairwise comparisons. All quantitative analyses were conducted in Python 3 using pandas and scipy.stats. Qualitative data from the open-ended items were analyzed following Braun and Clarke's (2006) six phases of thematic analysis.

4. Institutional Syllabus Analysis

4.1. Overview of Course Offerings

Analysis of institutional syllabi reveals considerable variation in ESP and Technical English course structures. RUET's department-specific courses—EEE's Hum 1111 (Technical English, 3 credits), ETE's Hum 1115 (Communicative English, 2 credits), and ECE's Hum 1117 (Technical English, 3 credits)—share common content in grammar, reading, writing, and professional communication but differ in depth and assessment design. ME and MTE departments supplement literary texts with more complex technical writing skills, including APA-style writing, emails, and reports. Sessional components (0.75–1.5 credits) complement theory courses in many departments. VU's ENG 1001 (English Fundamentals, 3 credits) explicitly links course learning outcomes (CLOs) to programme learning outcomes (PLOs) and identifies aligned assessment strategies. RUET's ENG 1111 maps to engineering programme outcomes (PO1, PO2, PO4, PO12) with a high examination-based weighting: 70% final examination, 20% class tests and assignments, and 10% participation.

4.2. Common Structural Gaps

Cross-institutional analysis identifies structural gaps consistent with Bhuiyan and Khan's (2022) critique of ELT syllabi in Bangladeshi engineering institutions. First, although professional writing is nominally included, syllabi lack authentic engineering documents—technical manuals, project briefs, and field reports—that align with discipline-specific conventions. Second, speaking and listening receive little structured attention in theory courses. Third, vocabulary instruction focuses on general scientific terms rather than discipline-specific corpus-based integration. Fourth, collaborative or project-based activities are absent across all analyzed syllabi, contrary to TBLT recommendations (Kamaruddin et al., 2021; Mulyadi et al., 2023). Fifth, the 70% final examination weighting at RUET structurally prioritizes recall over communicative skill development, which conflicts with effective ESP pedagogy (Basturkmen, 2010).

5. Results

5.1. Descriptive Statistics: Section Means

Table 1 presents the composite score means for the six thematic areas. The perceived importance of English ($M = 4.15$) is substantially higher than all course evaluation dimensions. The lowest-rated dimensions are course design ($M = 3.33$) and overall satisfaction ($M = 3.24$), while critical observations of curriculum inadequacy score highly ($M = 3.81$), indicating students' awareness of course shortcomings.

Composite Score	Items	M	SD	Range	Ranking
Perceived Importance (ImportanceScore)	Q1–7	4.15	0.63	1.71–5.00	Highest
Recommendations (RecoScore)	Q30–35	4.11	0.59	1.67–5.00	2nd
Critical Observations (CriticalScore)	Q25–29	3.81	0.83	1.00–5.00	3rd
Skill Development (SkillDevScore)	Q13–21	3.44	0.76	1.00–5.00	4th
Course Design & Clarity (CourseDesignScore)	Q8–12	3.33	0.70	1.00–5.00	5th
Overall Satisfaction (SatisfactionScore)	Q36–38	3.24	0.91	1.00–5.00	Lowest

Table 1: Composite Section Score Descriptive Statistics ($N = 107$)

Note. M = Mean on 5-point Likert scale; SD = Standard Deviation.

5.2. Item-Level Findings: Perceived Importance

Students rated all seven importance items highly ($M = 4.15$). The highest-endorsed items were reading engineering textbooks and manuals ($M = 4.36$; 90.7%) and writing reports, proposals, and emails ($M = 4.29$; 90.7%). English proficiency enhancing employability also scored highly ($M = 4.21$; 86.9%), reflecting strong instrumental motivation across institutions and disciplines.

5.3. Item-Level Findings: Course Evaluation and Gaps

Course design evaluations revealed significant dissatisfaction: only 46.7% found course content relevant to their engineering field ($M = 3.25$); only 38.3% considered course length appropriate ($M = 3.17$); and only 38.3% agreed that course content reflected real engineering practices ($M = 3.20$). Regarding curriculum gaps, 75.7% agreed that the ESP course over-focused on general English ($M = 3.95$), 74.8% reported receiving more training in general essays than engineering reports ($M = 3.90$), and 63.6% believed the ESP course did not adequately prepare them for professional communication ($M = 3.74$). Table 2 summarizes selected item-level results.

Item	Statement (abbreviated)	M	% Agree+
Q1	Reading engineering textbooks is important	4.36	90.7%
Q2	Writing reports and professional emails is important	4.29	90.7%
Q7	English proficiency increases employability	4.21	86.9%
Q9	Course content relevant to engineering field	3.25	46.7%
Q12	Course duration was sufficient	3.17	38.3%
Q17	Content reflected real engineering practices	3.20	38.3%
Q21	Speaking activities improved my confidence	3.74	68.2%
Q25	ESP course over-focused on general English	3.95	75.7%
Q29	Course did not prepare for professional communication	3.74	63.6%
Q31	English-Engineering dept. collaboration necessary	4.19	82.2%
Q36	Overall satisfied with the ESP course	3.25	37.4%
Q38	Course prepared for engineering workplace communication	3.22	39.3%

Table 2: Selected Item-Level Results ($N = 107$)

Note. M = Mean; % Agree+ = combined Agree and Strongly Agree.

6. Inferential Statistical Analyses

6.1. Pearson Correlation Analysis

Table 3 presents Pearson correlation coefficients between all composite section scores and SatisfactionScore. The strongest positive relationship with satisfaction was SkillDevScore ($r = .850$, $p < .001$), followed closely by CourseDesignScore ($r = .775$, $p < .001$). Both correlations are large by conventional benchmarks (Cohen, 1988), suggesting that perceived improvement in disciplinary skills and course design quality are the primary co-determinants of student satisfaction. A significant negative relationship emerged between CriticalScore and satisfaction ($r = -.346$, $p < .001$), indicating that students who identified more curriculum gaps reported lower satisfaction. ImportanceScore showed a small but significant positive correlation with satisfaction ($r = .260$, $p < .01$), reflecting an instrumental motivation effect. No significant correlation was found between RecoScore and satisfaction ($r = -.057$, $p = .559$).

	Importance	CourseDesign	SkillDev	Critical	Reco	Satisfaction
Importance	—	.271**	.297**	.203*	.465**	.260**
CourseDesign	.271**	—	.782**	-.268**	.236*	.775***
SkillDev	.297**	.782**	—	-.267**	.244*	.850***
Critical	.203*	-.268**	-.267**	—	.065	-.346***
Reco	.465**	.236*	.244*	.065	—	-.057

	Importance	CourseDesign	SkillDev	Critical	Reco	Satisfaction
Satisfaction	.260**	.775***	.850***	-.346***	-.057	—

Table 3: Pearson Correlations among Composite Section Scores (N = 107)

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed significance.

6.2. Multiple Linear Regression

A multiple linear regression was performed with SatisfactionScore as the dependent variable and ImportanceScore, CourseDesignScore, SkillDevScore, CriticalScore, and RecoScore as predictors (Table 4). The overall model was highly significant, with $R^2 = .741$ and Adjusted $R^2 = .728$, indicating strong model fit for educational survey research.

SkillDevScore was the strongest and most significant predictor ($B = 0.815$, $SE = 0.125$, $t = 6.539$, $p < .001$), meaning that a one-unit increase in SkillDevScore was associated with a 0.815-unit increase in satisfaction, holding all other predictors constant. CriticalScore also emerged as a significant predictor ($B = -0.194$, $SE = 0.089$, $t = -2.188$, $p = .031$), confirming that perceived curriculum irrelevance independently suppresses satisfaction. CourseDesignScore approached but did not reach significance ($B = 0.169$, $t = 1.282$, $p = .203$), likely due to multicollinearity with SkillDevScore ($r = .782$). ImportanceScore ($B = 0.006$, $p = .954$) and RecoScore ($B = 0.133$, $p = .184$) were non-significant predictors.

Predictor	B	SE	t	p	Significance
Intercept	0.049	0.477	0.103	.918	
ImportanceScore	0.006	0.110	0.058	.954	
CourseDesignScore	0.169	0.131	1.282	.203	
SkillDevScore	0.815	0.125	6.539	< .001	***
CriticalScore	-0.194	0.089	-2.188	.031	*
RecoScore	0.133	0.099	1.339	.184	
	$R^2 = .741$	Adj. $R^2 = .728$	N = 107		

Table 4: Multiple Linear Regression: Predictors of Overall Satisfaction (N = 107)

Note. Dependent variable: SatisfactionScore (composite of Q36–Q38). * $p < .05$. *** $p < .001$.

6.3. Kruskal-Wallis Tests: Institutional and Year-of-Study Comparisons

Kruskal-Wallis H tests revealed no statistically significant differences between institutions for SatisfactionScore ($H = 1.772$, $p = .412$), CourseDesignScore ($H = 1.995$, $p = .369$), or SkillDevScore ($H = 2.819$, $p = .244$). Pairwise Mann-Whitney U post hoc tests confirmed no significant pairwise differences in satisfaction (RUET vs. RU: $U = 965$, $p = .240$; RUET vs. VU: $U = 508$, $p = .924$; RU vs. VU: $U = 445$, $p = .294$). Table 5 presents descriptive statistics and H statistics by institution.

A Kruskal-Wallis test by year of study was also non-significant ($H = 4.304$, $p = .231$), though a directional trend emerged, with satisfaction increasing monotonically from 1st year ($M = 3.00$) to 4th year ($M = 3.53$). The absence of significant institutional or year-of-study differences strongly suggests that the identified ESP curriculum gaps are systemic rather than institution-specific or cohort-specific, considerably reinforcing the policy implications of these findings.

Outcome	RUET (n=40) M (SD)	RU (n=42) M (SD)	VU (n=25) M (SD)	H	p
SatisfactionScore	3.36 (0.92)	3.10 (0.89)	3.31 (0.85)	1.772	.412
CourseDesignScore	3.43 (0.73)	3.20 (0.68)	3.41 (0.69)	1.995	.369
SkillDevScore	3.59 (0.77)	3.30 (0.77)	3.41 (0.73)	2.819	.244

Table 5: Kruskal-Wallis H Tests by Institution (N = 107)

Note. No pairwise comparisons reached significance at $\alpha = .05$. H = Kruskal-Wallis H statistic.

7. Qualitative Findings: Student Voices

7.1. Most Useful Course Aspects

Four themes emerged from qualitative responses to Question 39. Speaking and presentation activities were most commonly cited as high-impact: students noted that interactive classes and presentations were the most useful activities, which corresponds to the relatively high mean for Q21 ($M = 3.74$). Professional writing tasks (technical reports, CVs, cover letters) were endorsed across institutions. Vocabulary and grammar instruction, and listening and reading practice, received more moderate endorsement.

7.2. Areas Needing Improvement

Responses to Question 40 coalesced around three themes. The most common concern was lack of engineering specificity: students noted that writing tasks were not related to their respective fields, and called for ESP content enriched with technical English rather than general grammar. A second theme was the lack of interactive practice, with students requesting more focus on actual language use in speaking and discussion rather than theoretical grammar. A third theme related to teacher qualifications, with students expressing that instructors should have knowledge of both English teaching and engineering contexts. These qualitative findings directly corroborate the regression result that CriticalScore independently predicts lower satisfaction.

7.3. Additional Skills Desired

Responses to Question 41 identified several common themes. Workplace communication was the most frequent request, including professional email writing, client communication, and meeting discourse. Technical documentation skills were also highly valued, encompassing project proposals, manuals, and lab reports. There was general demand for public speaking and presentation skills, including mock vivas. Students explicitly advocated for engineering terminology instruction and corpus-based vocabulary teaching. Advanced students sought alignment with IELTS and GRE requirements and integration of AI and digital literacy. One student's response was particularly illustrative: "ESP should not be a marks-earning course but a skill-development mission which should last at least 2 years."

8. Discussion

8.1. The Importance-Satisfaction Gap and Its Predictors

The most prominent finding of this study is the gap between students perceived importance of English ($M = 4.15$) and their overall satisfaction with ESP course outcomes ($M = 3.24$). Regression analysis reveals that this gap is primarily explained by perceived skill development rather than general course organization or reform aspirations. Skill development (SkillDevScore) was the strongest predictor of satisfaction ($\beta = .815$, $p < .001$), indicating that curriculum interventions focusing on reading, writing, and presenting authentic engineering texts will yield the greatest impact on student satisfaction. This aligns with Kamaruddin et al. (2021), who found that contextual task relevance is the strongest mediating variable between course design and learner outcomes.

Even after controlling for skill development and course design, CriticalScore remained a significant negative predictor of satisfaction ($\beta = -0.194$, $p < .05$), indicating that perceived curriculum irrelevance independently suppresses satisfaction. This parallels Basturkmen's (2010) finding that perceived mismatch between course content and professional contexts functions as a structural demotivator in ESP settings. The non-significance of RecoScore suggests that students who advocate most strongly for change are not necessarily the most dissatisfied; rather, dissatisfaction is most directly linked to the absence of discipline-relevant skill development in existing courses.

8.2. Systemic Nature of Curriculum Gaps

The absence of significant institutional differences ($H = 1.772$, $p = .412$) and year-of-study differences ($H = 4.304$, $p = .231$) carries important theoretical and policy implications. These results indicate that the identified ESP curriculum gaps are not institution-specific or cohort-specific but reflect systemic structural characteristics of engineering ESP provision across Rajshahi universities. This is consistent with Bhuiyan and Khan (2022), who identified sectoral structural problems in ELT syllabi including insufficient contact hours, over-reliance on general English, and lack of authentic engineering materials.

The directional trend of higher satisfaction among 4th-year students ($M = 3.53$ vs. 1st-year $M = 3.00$) may reflect a retrospective reappraisal effect: senior students who have encountered the practical demands of English in internships and project work may assign higher retrospective value to their ESP courses. This interpretation corroborates Hoang et al. (2024), who argued that engineering students' English needs become clearer with professional exposure, and that ESP curriculum design should integrate industry partnerships to make course relevance explicit throughout training.

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8.3. General English vs. Discipline-Specific Communication

A particularly significant finding is that 75.7% of respondents considered ESP courses overly focused on general English. Syllabus analysis provides a structural explanation: courses labelled 'Technical English' or 'ESP' continue to rely on general English texts (literary texts, general composition, précis writing) rather than authentic engineering genres and professional discourse. This is consistent with evidence from Bangladesh (Bhuiyan, 2021; Bhuiyan & Khan, 2022; Ali & Hamid, 2025), Malaysia (Damio et al., 2022), and Thailand (Changpueng, 2023), where comparable mismatches between ESP course content and engineering communication demands have been documented.

The solution implied by both the literature and the present data is systematic needs analysis conducted prior to curriculum revision, incorporating authentic engineering documents as input materials and discipline-specific communication tasks as outputs, ensuring that pedagogy is task-based and contextualized rather than decontextualised and grammar-focused (Mulyadi et al., 2023).

8.4. Implications for Curriculum Reform

Five priority directions for reform are indicated by the converging regression, correlation, and qualitative evidence. First, curricula must shift focus to skill development, directly targeting the strongest predictor of satisfaction by replacing general English materials with authentic engineering communication exercises—technical report writing, project proposals, engineering emails, and oral presentations of engineering concepts. Second, needs-analysis-based design must address perceived curriculum irrelevance, as the regression results and qualitative data both confirm that course relevance to professional engineering practice independently determines student satisfaction. Third, assessment must be redesigned away from the 70% final examination model towards portfolio assessment, communicative assessment, and formative feedback. Fourth, professional development of ESP instructors is essential, including discipline immersion and co-teaching with engineering faculty. Fifth, the absence of significant institutional differences argues for coordinated UGC policy action to pursue these reforms at the sector level rather than through individual institutional initiatives.

9. Conclusion

This study has provided statistically rigorous, multi-method evidence of a substantial importance-satisfaction gap in ESP provision at engineering universities in Rajshahi, Bangladesh. Students' recognition of English proficiency as professionally valuable ($M = 4.15$) substantially exceeds their satisfaction with ESP course outcomes ($M = 3.24$). Perceived skill development was the most powerful predictor of satisfaction ($\beta = .815$, $p < .001$, $R^2 = .741$), and perceived curriculum irrelevance exerted a significant independent negative effect ($\beta = -0.194$, $p < .05$). Kruskal-Wallis tests confirmed that these patterns are consistent across institutions, greatly reinforcing the policy implications of this study. Qualitative findings and syllabus analysis triangulate and corroborate the quantitative evidence, highlighting over-reliance on general English content, insufficient

speaking practice, absence of authentic engineering materials, and examination-oriented assessment formats as the primary structural weaknesses.

These findings contribute to a growing empirical evidence base on ESP quality in Bangladeshi engineering education (Bhuiyan, 2021; Bhuiyan & Khan, 2022; Ali & Hamid, 2025) and provide actionable input for needs-analysis-based, task-oriented, and professionally relevant ESP curriculum reform. Future research should further examine the predictive factors identified in the regression model from the perspectives of alumni and employers, and longitudinally investigate the impact of specific curriculum interventions on the predictors of student satisfaction identified in this study.

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APPENDIX

(Appendix A: Survey Questionnaire – ESP Curriculum Relevance Survey)

All the data collection/questionnaires and result analysis have been verified and the same is available at the Author, **Md Ahsan Ul Kabir** (ahsanulkabir30@gmail.com).

AUTHOR'S BIO-NOTE

Md Ahsan Ul Kabir is a researcher affiliated with the Institute of English and Other Languages, University of Rajshahi, Bangladesh. His research interests include English for Specific Purposes (ESP), curriculum design and evaluation, applied linguistics, and language pedagogy in engineering and technical education contexts. Contact: ahsanulkabir30@gmail.com