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Article

Bridging the Gap between Academia and Industry:A Stakeholder-Based Evaluation of English Communication Skills Curriculum for Enhancing Employability among Diploma Engineering Students

Jayesh Patel[1], Mirav Patel[1]

[1]Research Scholar, Humanities and Social Science Department, Faculty of Engineering and Technology, Ganpat University, India – 384012
[1]Assistant Professor, Department of English, Ganpat University, India - 384012
Correspondence: jsp01@ganpatuniversity.ac.in

Abstract: Mismatch between the development of English communication competencies in the diploma engineering curricula and the competencies demanded by the industry still remains to be the major barrier to graduate employability. The present study offers a comprehensive stakeholder-based analysis of the existing English communication skills (ECS) curricula of the diploma engineering programmes from the perspectives of three key stakeholders, namely, the diploma engineering students (n=240), the faculty members (n=45) and the industry professionals (n=60). The research, using a mixed-methods research design that combines quantitative survey instruments with semi-structured interviews, reveals significant gaps in curriculum coverage, especially in the areas of workplace communication, technical writing, presentation skills and cross-cultural communication. The results show that although academic curricula place emphasis on formal grammar and reading comprehension, industry stakeholders consider collaborative communication, email etiquette and oral reporting as the most critical skills for employability. However, faculty perceptions are limited by institutional mandates and examination pressures that limit communicative, task-based instruction. The paper, reflecting the consensus of stakeholders, offers a revised ECS curriculum framework geared towards industry needs, proposing the integration of workplace simulation activities, digital communication literacies and formative assessment aligned with professional competency standards. Findings of this study contribute to the discussion on the reform of technical education and provide practical implications for curriculum developers, policymakers, and educators who are committed to bridging the gap between the academia and industry.

Keywords: English communication skills, diploma engineering, curriculum evaluation, employability, stakeholder analysis, technical education, academia-industry gap

1. Introduction

In the context of globalisation, rapid technological change and increasingly collaborative work environments, effective communication in English has become a professional competency non-negotiable for engineering graduates. The ability to communicate technical concepts accurately, to work productively with interdisciplinary teams, to write clear documentation, and to represent one's organisation to clients and stakeholders are as fundamental to engineering practice as technical knowledge itself (Spence & Liu, 2013; Wingate, 2015).

However, there is still huge gap between the communication skills of the diploma engineering graduates at the time of entering the job and the communication skills required in the industry. This gap is especially acute among students from diploma level polytechnic programmes, an educational segment that comprises a significant proportion of the technical workforce in countries such as India, Malaysia and other fast-industrialising economies. The quality of English Communication Skills (ECS) instruction is particularly critical to the labour market outcomes of graduates of diploma engineering programmes because these programmes generally have a strong vocational bias, shorter duration, and lower English proficiency entry criteria than undergraduate degree programmes (Ibrahim et al., 2018; Mohan & Subramanian, 2020).

Although communication is basic to engineering practice, it is still taught by traditional grammar-translation methods in many diploma engineering institutions in ECS that emphasize formal linguistic correctness rather than communicative ability. Such curricula often disregard the workplace-situated communication genres of emails, reports, presentations, meetings and collaborative digital communication which make up the majority of professional communication demands (Kassim & Ali, 2010; Crosling & Ward, 2002). The result is a cohort of technically competent graduates ill-equipped to deal with the communicative realities of contemporary workplaces. The effect is felt both at the level of individual career trajectories and in terms of the productivity of organisations.

The problem of curriculum-industry misalignment is compounded by the relatively little systematic, multi-stakeholder evaluation of ECS curricula in diploma engineering contexts. While there is extensive literature on English for Specific Purposes (ESP) and English for Occupational Purposes (EOP), there is comparatively little research on the triangulation of student, faculty and industry perspectives in the context of diploma engineering programmes. Such a three-way evaluation is necessary, as these three stakeholders have different perspectives based on their experience: students on learning and perceived readiness, faculty on curricular goals, pedagogical limitations, and institutional pressures, and industry workers on the communication demands of real work environments.

This paper seeks to address these gaps by presenting findings from a mixed-methods study that assesses existing ECS curricula within diploma engineering programmes from the perspectives of all three stakeholder groups. Specifically, the study aims to: (1) explore the English communication competencies presently emphasized in ECS curricula; (2) assess the perceptions of stakeholders regarding the adequacy and relevance of the curricula; (3) pinpoint the most crucial communication competencies for employability from the industry's perspective; and (4) suggest a revised curriculum framework, in line with stakeholder expectations, to bridge the academia-industry gap more effectively.

2. Literature Review

2.1 English Communication Skills and Engineering Employability

Numerous studies conducted in different countries and academic disciplines have highlighted the strong link between graduates' employability and their proficiency in English communication. A seminal work by Wingate (2015) and Hager and Holland (2006) conceptualises graduate employability as a multidimensional construct encompassing not merely technical knowledge but also a constellation of transferable competencies — chief among them communication, critical thinking, and collaborative problem-solving. This is supported by engineering specific literature, which consistently lists communication skills as a top ranked attribute sought by employers of engineering graduates (Shuman et al., 2005; Nair et al., 2009).

In the context of higher technical education in Asia, studies by Kassim and Ali (2010) in Malaysia and Mohan and Subramanian (2020) in India report a continuing mismatch between the formal English instruction provided in technical institutions and the communicative expectations of the engineering workplace. These studies suggest that curricula tend to overemphasize grammatical accuracy and literary reading comprehension to the detriment of functional communication genres like technical reports, project proposals, presentations to clients and professional email correspondence.

2.2 Curriculum Evaluation in Technical Education

The evaluation of curricula in technical and vocational education has tended to adopt stakeholder-centred frameworks that locate the views of learners, teachers and employers as joint constructors of curricular meaning and relevance (Stufflebeam & Shinkfield, 2007; Tyler, 1949). A commonly used framework for assessing the effectiveness of educational programmes in achieving their intended outcomes is the CIPP (Context, Input, Process, Product) model, developed by Stufflebeam (1983). Researchers such as Dudley-Evans and St. John (1998) and Hutchinson and Waters (1987) have adapted the CIPP model for evaluating ESP curriculums.

Needs analysis is at the heart of ESP curriculum design as it is the way that the gap between target situation requirements (what learners need to do with English in their professional roles) and present situation capabilities (what learners can currently do) is systematically identified (Dudley-Evans & St. John, 1998). A good needs analysis includes a variety of sources of information – students' self-evaluations, teachers' perspectives, and employer input – to offer a well-rounded picture of communicative needs and curricular deficiencies.

2.3 Stakeholder Perspectives in ECS Curriculum Design

Industry stakeholders repeatedly identify oral communication, teamwork, and written documentation as the most important skills required in engineering workplaces. The National Association of Colleges and Employers (NACE, 2020) surveyed employers in technical sectors and found communication proficiency as the most important attribute sought in new graduates. Similarly, studies on technical education in India (Rajasekaran & Sethunarayanan, 2020; Dhanya & Alamelu, 2020) report high industry demand for technical writing, professional correspondence and presentation skills in diploma-level engineering employment.

However, faculty perspectives are often constrained by institutional requirements such as examination board mandates, prescribed syllabi and resource limitations, which limit the scope for innovative, communicative pedagogy (Ibrahim et al., 2018). However, student perceptions tend to be characterized by a tension between an awareness of the professional importance of communication and a feeling of inadequate preparation for its manifestations in the workplace (Crosling & Ward, 2002). Therefore, triangulation of these three perspectives is needed for the design of curricula that are pedagogically sound, institutionally implementable and industry relevant.

3. Methodology

3.1 Research Design

This study employed an explanatory sequential mixed-methods design (Creswell & Plano Clark, 2018) whereby quantitative survey data were first collected and analysed with qualitative semi-structured interviews used to elaborate and contextualise the quantitative findings. The choice of this design was based on the dual advantages it offered in terms of producing both broad, generalizable trends across stakeholder groups and deep, contextualized insights into the mechanisms underlying those trends.

3.2 Participants

The participants were selected from three stakeholder groups: students in diploma engineering, faculty, and industry professionals. 345 participants were recruited in total across these groups. Table 1 summarizes participant demographics.

Stakeholder Group	N	Gender (M/F)	Experience/Year of Study	Sector/ Discipline
Diploma Engineering Students	240	148/92	1st-3rd year	Civil, Mechanical, Electrical, IT
Faculty Members	45	27 / 18	3- 25 years teaching	English / Communication Studies
Industry Professionals	60	44 / 16	5-30 years' experience	Manufacturing, IT, Construction, Services

Table 1. Participant Demographics

To ensure representation across disciplines and years of study, students from three diploma engineering institutions were selected through stratified random sampling from a major metropolitan region of India. The faculty participants were purposefully selected to include only those who teach or have taught English communication or language subjects in diploma engineering programmes. Professionals working in industries that commonly employ diploma engineering graduates were reached through professional networks and employers' associations. The sample was then expanded by asking participants to recommend other suitable professionals, following the snowball sampling approach.

3.3 Data Collection Instruments

Quantitative data for the study were gathered through a structured questionnaire designed specifically for this research. The questionnaire consisted of four sections. The first section collected demographic information from the respondents. The second section focused on evaluating the content of the existing English Communication Skills (ECS) curriculum using a five-point Likert scale, ranging from 1 (Not Covered) to 5 (Extensively Covered). The third section assessed the importance of various communication competencies for employability on a five-point scale, where 1 represented "Not Important" and 5 represented "Critically Important." The final section sought respondents' views on their overall satisfaction with the curriculum and their perception of how well it prepared students for workplace communication demands. The questionnaire was piloted to 30 participants (10 per stakeholder group) and revised for clarity and face validity before full administration. Cronbach's alpha values ranged from 0.81 to 0.89 for subscales confirming internal consistency.

Qualitative data were collected through semi-structured interviews with 15 purposively selected participants (5 from each stakeholder group). Interview guides were developed to probe key themes emerging from the quantitative data, including perceptions of curriculum relevance, barriers to effective communication instruction and suggestions for curriculum reform. Interviews ranged from 35 to 55 minutes, were audio-recorded with participant consent and transcribed verbatim for analysis.

3.4 Data Analysis

Quantitative data were analysed using IBM SPSS Statistics (Version 27) . Descriptive statistics were performed for all Likert scale items. Mean importance scores were compared between stakeholder groups using a one-way ANOVA with Tukey's post-hoc test. Eta-squared (η^2) was used to calculate effect sizes. Gap analysis was performed by subtracting the average faculty rating of the extent to which the competency was covered in the curriculum from the average industry rating of the importance of each communication competency.

Qualitative interview data were analysed using reflexive thematic analysis, following the six phase procedure outlined by Braun and Clarke (2006). Coding was done iteratively by two researchers to increase reliability and any disagreements were discussed. Member-checking increased credibility by providing an opportunity for participants to comment upon and review emerging interpretations.

4. Findings

4.1 Current Curriculum Coverage: Faculty and Student Perceptions

The highest coverage ratings reported by faculty respondents were for grammatical accuracy (M = 4.32, SD = 0.61) and reading comprehension (M = 4.18, SD = 0.74)—a reflection of the dominance of traditional ECS pedagogy oriented towards examinations. In contrast, workplace-situated skills such as professional email writing (M = 2.91, SD = 0.88), oral presentation skills (M = 2.64, SD = 0.93), and collaborative/team communication (M = 2.38, SD = 1.02) were rated as significantly less covered.

This pattern was also reflected in student perceptions, which pointed to a heightened sense of inadequacy in terms of real-world communication readiness. Students considered their proficiency in grammar and reading comprehension to be moderate (M = 3.54 and M = 3.31 respectively) but rated their confidence to communicate effectively in professional settings significantly lower: oral presentation (M = 2.27, SD = 0.97), writing technical reports (M = 2.41, SD = 1.04) and participating in workplace meetings (M = 2.18, SD = 1.11). Table 2 reports mean coverage and confidence scores across key domains of competency.

Communication Competency	Faculty: Coverage (M)	Student: Confidence (M)	Industry Importance (M)	Gap Score
Grammatical Accuracy	4.32	3.54	3.12	-1.20
Reading Comprehension	4.18	3.31	3.05	-1.13
Vocabulary building	3.97	3.22	3.38	-0.59

Professional Email Writing	2.91	2.68	4.61	+1.70
Technical Report Writing	2.74	2.41	4.53	+1.79
Oral Presentation Skills	2.64	2.27	4.71	+2.-7
Listening Comprehension	3.12	2.89	4.44	+1.32
Group/Team Communication	2.38	2.18	4.67	+2.29
Cross-cultural Communication	1.94	1.83	4.12	+2.18
Digital Communication Literacy	1.87	1.76	4.38	+2.51

Table 2. Mean Ratings and Gap Scores by Stakeholder Group (N = 345; Scale: 1–5). Positive gap scores indicate under-coverage relative to industry importance.

4.2 Industry Stakeholder Priorities

Industry professionals ranked as most important group/team communication (M = 4.67, SD = 0.52), oral presentation skills (M = 4.71, SD = 0.48), and digital communication literacy (M = 4.38, SD = 0.63), emphasizing the importance of dynamic, multimodal, and collaborative communication in today's engineering workplaces. Professional email writing (M = 4.61) and technical report writing (M = 4.53) were among the competencies that respondents regarded as particularly important for enhancing graduates' employability.

Grammatical accuracy, which occupies a significant place in the current curriculum, received only a moderate importance rating from industry respondents (M = 3.12). The findings suggest that while a basic level of linguistic competence is necessary, employers are more concerned with employees' ability to communicate clearly and effectively than with achieving perfect grammatical precision. The one-way ANOVA showed statistically significant differences between the groups in their ratings of the importance of oral presentation ($F(2, 342) = 43.17$, $p < .001$, $\eta 2 = .20$), team communication ($F(2, 342) = 51.94$, $p < .001$, $\eta 2 = .23$), and digital communication literacy ($F(2, 342) = 38.62$, $p < .001$, $\eta 2 = .18$).

4.3 Gap Analysis

The gap analysis, which compared industry ratings of importance with faculty ratings of curriculum coverage, highlighted several areas that require greater attention. The largest gaps were observed in digital communication literacy (+2.51), group and team communication (+2.29), cross-cultural communication (+2.18), and oral presentation skills (+2.07), indicating that these competencies are not adequately addressed in the current curriculum. In contrast, grammatical accuracy (-1.20) and reading comprehension (-1.13) received negative gap scores, suggesting that these areas receive more emphasis than their importance in the workplace would warrant. This imbalance points to a disproportionate focus on traditional language components at the expense of communication skills that are more closely aligned with industry needs.

4.4 Qualitative Findings: Interview Themes

Five overarching themes emerged from the thematic analysis of interview data: (1) The Grammar Trap; (2) The Examination Constraint; (3) Workplace Readiness Anxiety; (4) Pedagogical Innovation and Resource Gaps; and (5) Voices for Reform.

The Grammar Trap emerged as a strong theme across faculty interviews, with participants acknowledging a systemic over-reliance on decontextualized grammar teaching driven by board examination formats. "We know that students have to speak and write on the job, but the exam only tests grammar rules and comprehension passages," said

a faculty member. If we don't cover them, they fail the exam and we're blamed." This is supported by data from interviews with students who repeatedly said that they were aware that the communication training they received was not suited to the world of work: 'In college we memorise tenses. During the interview, however, I was asked to introduce myself and talk about a project. That's a whole lot different.

Workplace Readiness Anxiety was consistently identified by industry interviewees as a tangible organisational problem, with HR managers reporting long onboarding periods for diploma engineers due to communication deficiencies. There were strong calls for training in cross-cultural communication, digital communication skills and structured spoken English practice across industry interviews, reflecting the increasingly globalised and digitally mediated character of engineering workplaces.

5. Discussion

The findings of the present study offer strong empirical evidence for the existence of a significant and consequential mismatch between the English communication skills taught in diploma engineering curricula and those required for employment. This misalignment is not only anecdotal, but can be demonstrated quantitatively through the gap analysis methodology employed here, which shows systematic over-investment in traditional linguistic competencies and serious under-provision of workplace-situated communication skills.

These findings are generally consistent with previous research in the ESP and technical education literature (Kassim & Ali, 2010; Ibrahim et al., 2018; Dhanya & Alamelu, 2020), but extend these findings by providing a more detailed three-way stakeholder perspective that reveals the structural mechanisms that maintain the misalignment. The dominance of examination-driven pedagogy, however measured by quantitative coverage ratings or qualitative interview data, is a systemic constraint that individual faculty members are largely unable to overcome without institutional and policy reform.

Industry stakeholders are emphasizing group/team communication and digital communication literacy, reflecting broader changes in engineering work practice. Engineering work today, however, is undertaken in a context of geographically distributed project teams, asynchronous digital collaboration platforms, and frequent cross-functional communication with clients, suppliers and regulatory bodies – all of which demands a communicative repertoire well beyond grammatical accuracy and formal written prose. ECS curricula that ignore these realities are, in effect, training students for a workplace that no longer exists.

Interestingly, grammatical accuracy receives the greatest emphasis in the current curriculum, yet it is considered one of the less important competencies by industry respondents. This finding suggests that traditional approaches to English language teaching continue to exert a strong influence in diploma engineering education, despite decades of emphasis on communicative language teaching. One possible reason for this persistence is the continued reliance on examination patterns that favour knowledge of grammar over communicative ability. Therefore, improving students' communication skills requires not only changes in classroom practices but also reforms in assessment methods so that they place greater emphasis on the practical use of language and communicative performance.

Students' responses offer important insights into the issue. Many participants expressed a clear awareness of the gap between the current curriculum and the communication skills they believed were necessary for their future careers. This awareness was frequently accompanied by feelings of uncertainty about their readiness for the workplace and a sense that the existing curriculum did not fully meet their expectations and needs. This is in agreement with Wingate's (2015) conceptualisation of academic literacies as a site of institutional responsibility, suggesting that ECS curriculum reform is not simply about pedagogical efficiency, but about educational equity and student empowerment.

6. A Stakeholder-Aligned ECS Curriculum Framework

The findings lead to a proposed restructured ECS curriculum framework for diploma engineering programmes based on four core principles: industry relevance, communicative competence, contextualised practice and formative assessment. Table 3 summarises the proposed framework.

Module	Core Competencies Addressed	Pedagogical Approach	Assessment Mode
Workplace Communication Fundamentals	Professional email writing, mentors, meeting participation	Role-play, case studies, authentic workplace texts	Portfolio of workplace documents

Technical Communication	Report writing, technical proposals, data presentation	Project-based learning, peer review, industry mentors	Graded technical report + industry mentor feedback
Oral & Presentation Skills	Presentations, interviews, Verbal reporting, meetings	Simulated workplace presentations, video recording, peer feedback	Recorded presentation with reflective commentary
Digital & Cross-cultural Communication	Email, collaborative platforms, cross-cultural etiquette	Blended learning, virtual collaboration tasks	Digital communication portfolio
Integrated Professional Communication	Interdisciplinary project communication across modalities	Industry-linked capstone project	Capstone presentation to industry panel

Table 3. Proposed Stakeholder-Aligned ECS Curriculum Framework for Diploma Engineering Programmes

This framework is built on the principles of English for Specific Purposes (ESP) and Task-Based Language Teaching (TBLT) where the emphasis is on developing communication competence through authentic, workplace situated tasks rather than decontextualised grammatical exercises. Each module builds progressively on prior learning and the capstone module allows for integrative application of competencies across communicative modes.

Significantly, the suggested framework calls for a reform of assessment practices to fulfil communicative performance criteria. Suggested alternatives to, or supplements for, traditional written examinations are portfolio-based assessment, reflective commentary and industry panel evaluations to allow for the measurement of communicative competence in ecologically valid settings.

The implementation of this framework will require institutional investment in faculty development for building communicative and task-based pedagogical competencies, and it will require structural change to examination formats at the board level. Sustainable mechanisms for ongoing industry alignment are proposed such as industry-institution partnerships including guest industry sessions, mentorship programmes and curriculum advisory panels.

7. Conclusion

The study has provided empirical evidence on significant and consequential gaps between the English communication skills gained in diploma engineering programmes and those required for professional employability. A stakeholder-based mixed-methods evaluation with students, faculty, and industry professionals has shown that the existing ECS curricula are still over-invested in grammatical accuracy and underprepared for the workplace-situated communication demands of contemporary engineering employment.

The proposed stakeholder-aligned curriculum framework provides a pragmatic, evidence-based pathway towards addressing these gaps grounded in the principles of ESP, task-based learning and formative assessment. The findings suggest that diploma engineering institutions can better prepare students for the workplace by revising their English Communication Skills curricula to reflect industry requirements. Particular attention should be given to oral presentations, collaborative communication, technical writing, and digital communication skills, which are considered essential for graduate employability.

Limitations of this study include the regional focus, the cross-sectional design of the survey instrument and the potential social desirability bias in stakeholder responses. Future research should consider the longitudinal effects of curriculum reform, broaden the stakeholder sample to include alumni and graduate recruiters, and explore the intersectional effect of first-language background on ECS outcomes. Despite these limitations, the study makes a substantive contribution to the scholarship on technical education curriculum reform and provides actionable guidance for the institutions, policymakers, and educators committed to closing the academia-industry divide in English communication skills education.

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