The Employability Paradox: Assessing the Disconnect Between Technical Proficiency and Communication Skills in Engineering Graduates

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Abstract*—In the contemporary landscape of Indian technical education, a troubling dichotomy has emerged: the "Employability Paradox." This phenomenon describes a generation of engineering graduates who possess high-level technical competencies—capable of complex coding or mechanical design—yet lack the fundamental communicative frameworks to articulate their expertise to prospective employers. This paper investigates this widening chasm between hard technical skills and soft communication skills, with a specific focus on the socio-linguistic context of Government Polytechnics in Telangana. Drawing on qualitative data from semi-structured interviews with final-year diploma students and industry recruiters, the study argues that the root cause is not merely a deficit in vocabulary or "Mother Tongue Influence" (MTI). Instead, it appears to be a structural and pedagogical failure in which English is taught as an isolated academic subject rather than as a vocational tool. The findings suggest that for students in vernacular-medium programs, the cognitive load of translating technical thought into a foreign language creates a "silence of incompetence," which is often misread by recruiters as a lack of technical knowledge. This paper concludes by proposing an integrated pedagogical model—moving towards English for Specific Purposes (ESP)—to bridge this gap, ensuring that language becomes the vehicle for technical delivery rather than a barrier to entry.

***Keywords*— Engineering Education, Employability Skills, English for Specific Purposes (ESP), Vernacular Medium Learners, Technical Communication, Pedagogy.**

I. INTRODUCTION: THE "SILENT" TECHNICIAN

The scenario is all too familiar in the recruitment halls of India's technical institutes. A candidate enters, armed with a transcript that speaks of academic excellence—distinctions in Thermodynamics, high grades in Embedded Systems, and a solid final-year project. Yet when the interview panel poses a simple, open-ended question such as *"Could you walk us through the challenges you faced during your project?"* the room descends into an uncomfortable silence. The candidate, technically proficient but linguistically paralysed, offers fragmented, monosyllabic responses.

This phenomenon, which this paper terms the "Employability Paradox," represents a critical crisis in Indian technical education. While the nation churns out millions of engineering graduates annually, industry reports consistently flag a staggering percentage of them as "unemployable. The paradox is that these students are not technically incompetent; they are communicatively invisible.

As a Lecturer in English at a Government Polytechnic in Nagarjunasagar—a semi-urban region where a significant demographic of students transitions from Telugu-medium schooling—I have observed that this issue is rarely one of intellect. These students are resourceful, bright, and technically adept. However, they perceive English communication not as a medium of expression, but as an arbitrary academic hurdle, a "theory subject" to be cleared alongside Physics or Math.

Current academic discourse often attempts to address this through generic "soft skills training" modules. However, this paper seeks to move beyond such superficial remedies to investigate the *why*. Is the silence rooted in anxiety? Is it a byproduct of a curriculum that divorces language from logic? Or is it a deeper sociological barrier where rural students view English as the language of a social class they do not belong to? By exploring these questions, this study aims to dismantle the employability paradox and offer a structural path forward.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. The Global Skills Gap

The disconnect between educational output and industry requirements is not unique to India, but it is acutely felt here. Academic literature has long critiqued the "siloed" nature of technical curricula. Traditional frameworks tend to compartmentalise learning: students attend laboratories to learn engineering and separate classrooms to learn English. These two domains—the technical and the linguistic—rarely intersect in the classroom, yet they are inextricably linked in the workplace. Research indicates that while technical skills get a candidate to the interview door, it is the "soft" skills of communication and adaptability that secure the position.

2.2. The Vernacular Challenge and Cognitive Load

Previous studies have quantified the employability gap, noting that recruiters often prioritise communication parity with technical skill. However, fewer studies examine the psychological dimension of this gap among students of vernacular media. When a student transitions from a regional language medium (e.g., Telugu) to an English-medium technical diploma, they face an immense cognitive load. They are not merely learning a new language; they are restructuring their cognitive processes to learn complex technical concepts in that foreign language.

This suggests that the "gap" is less about grammar and more about confidence and cognitive translation. A student may perfectly understand the mechanics of a motor but fears that a grammatical error in explaining it will lead to judgment. In this hesitation, the recruiter perceives a lack of technical knowledge, when in reality, it is a failure of translation. This aligns with recent findings that emphasise the psychological barriers vernacular students face, often leading to avoidance strategies where they simply choose not to speak to avoid the "shame" of error.

III. METHODOLOGY

To move beyond the limitations of quantitative surveys, which often yield sterile "Yes/No" data, this study adopted a qualitative, phenomenological approach. The objective was to capture the lived experiences of the stakeholders involved in this paradox.

3.1. Participants

Over the course of two academic semesters, data were collected from two primary groups:

- Group A: 50 Final-year Diploma students from Electrical and Civil streams at Govt. Polytechnic, Nagarjunasagar.
- Group B: 10 Recruiters and HR Managers from mid-sized Construction and IT firms who frequently conduct campus drives at polytechnics.

3.2. Data Collection

The study utilised informal structured discussions and semi-structured interviews. The goal was to elicit narratives rather than statistics.

- Student Prompt: *"When do you feel most stuck while speaking? Describe the moment your mind goes blank."*
- Recruiter Prompt: *"At what exact moment during an interview do you decide to reject a candidate who otherwise seems technically sound?"*

IV. OBSERVATIONS AND DISCUSSION

The analysis of the qualitative data revealed three dominant themes that challenge the conventional understanding of communication skills training.

4.1. The "Mother Tongue" Scapegoat

In ELT (English Language Teaching) circles, there is a pervasive tendency to blame "Mother Tongue Influence" (MTI) for poor employability. However, the data from this study suggest MTI is a "red herring." Recruiters indicated a surprising tolerance for accents and minor grammatical errors. One HR manager explicitly noted, *"I don't care if they have a heavy accent. I care if they can structure their thought."*

The critical deficit, therefore, is not *pronunciation* but *cohesion*. Students struggle to sequence their technical ideas logically. They often begin with a conclusion, jump to a minor detail, and omit the foundational premise. This indicates that current teaching models focus disproportionately on phonetics and syntax, neglecting the vital skills of logic, narrative flow, and technical argumentation.

4.2. The Compartmentalisation Trap

A recurring and troubling theme in student feedback was the rigid categorisation of English as an "exam subject." One student candidly admitted, *"Sir, in the lab, we just show the output. We don't have to talk."*

This insight exposes a critical flaw in assessment. If technical grading is purely output-based—i.e., whether the machine runs or the code compiles—the

student never practices the *language of process*. They never learn to articulate the troubleshooting journey: *"I tried method A, it failed due to overheating, so I switched to method B."* Consequently, when faced with an interview asking for that narrative, they lack the linguistic scaffolding to construct it.

4.3. The Socio-Economic Silence

There is a subtle but potent socio-economic critique embedded in these findings. For many rural students, English is perceived as the language of the elite—a marker of social status rather than a functional tool. This perception breeds a paralysing anxiety. When they speak, they feel judged not just for their clarity but also for their intelligence and social standing. This creates a feedback loop: the fear of "sounding wrong" leads to silence; silence leads to a lack of practice; and lack of practice solidifies the inability to speak. It is a vicious cycle that technical proficiency alone cannot break.

V. A PATH FORWARD: INTEGRATED PEDAGOGY

The findings of this study imply that the solution does not lie in increasing the hours of traditional English instruction. Drilling grammar rules on a blackboard has historically failed to produce fluent speakers in this context. Instead, we must advocate for a shift toward Integrated English for Specific Purposes (ESP). This involves dissolving the walls between the "Lab" and the "Language Class".

Proposed Interventions:

1. Verbal Lab Assessments: We must reimagine the laboratory environment. Imagine a curriculum where 20% of a lab grade is reserved for a verbal explanation of the experiment. If a student builds a circuit but cannot explain its function in three clear sentences, the task should be considered incomplete.
2. Normalisation of Imperfection: Educators must create safe spaces for "broken" English. We need to encourage students to speak, even if it is fragmented—*"Current flow... high... so wire burn"*—and then guide them to refine it. If we wait for grammatical perfection before allowing speech, we effectively silence them forever.
3. Process-Oriented Teaching: English curricula must pivot from literature and grammar to *technical narration*—teaching students how to describe processes, troubleshoot errors, and summarise data.

VI. CONCLUSION

The employability paradox is not an inevitable consequence of rural education. It is a byproduct of a systemic failure to treat communication as a core component of technical competence. As educators, specifically in the polytechnic sector, our mandate extends beyond correcting syntax.

We are tasked with building a bridge. We must demonstrate to our students that their technical knowledge is valuable "cargo," but language is the "vehicle" required to deliver it to the world. Without the vehicle, the cargo remains stuck in the warehouse, and the student remains unemployed. The disconnect is bridgeable, but only if we stop teaching English as a subject to be studied and start teaching it as a vocational skill to be used—messily, imperfectly, but effectively.

REFERENCES

[1] Aspiring Minds. (2019). *National employability report – Engineers*. Aspiring Minds Assessment Pvt. Ltd.

[2] Bhadra, S. S. (2016). *Difficulties faced by students from vernacular medium background – a qualitative study of the ordeals and coping mechanisms*. [Unpublished research report]. Tata Institute of Social Sciences.

[3] Brilianti, D. F., & Rokhim, A. (2024). The importance of English for Specific Purposes based on the engineering students' perceptions. *Academic Journal Perspective: Education, Language, and Literature*, *11*(1), 70–78.

[4] Clement, A., & Murugavel, T. (2015). English for employability: A case study of the English language training needs analysis for engineering students in India. *English Language Teaching*, *8*(2), 116–125.

[5] Evangeline, J. C. K., & Ganesh, K. (2016). A need analysis of technical writing skill of engineering students in India. *SHS Web of Conferences*, *26*, Article 01090.

[6] Kaushal, U., & Vaghela, K. (2023). Change in the demand for employability skills of engineers: An Indian study. *Journal of Engineering Education Transformations*, *37*(1), 120–133.

[7] Mohapatra, S. S. (2016). Communicative challenges faced by engineering students – A diagnostic study. *Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism and Management Practices*, *1*(9), 42–47.

[8] Pal, Y. (2016). *A framework for scaffolding to teach programming to vernacular medium learners* [Doctoral dissertation, IIT Bombay]. IIT Bombay CSE Repository.

[9] Wu, Y., Xu, L., & Philbin, S. P. (2023). Evaluating the role of the communication skills of engineering students on employability according to the Outcome-Based Education (OBE) theory. *Sustainability*, *15*(12), 9711.