Journal Homepage: www. ijarpr.com ISSN: 3049-0103 (Online)

International Journal of Advance Research Publication and Reviews

Vol 02, Issue 09, pp 651-656, September 2025

Engineering Global Citizens: Motivations and Challenges in Learning German Among First-Year Engineering Students

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ABSTRACT

In an increasingly interconnected world, foreign language acquisition is no longer the exclusive domain of the humanities. This study examines the motivations and challenges encountered by first-year B. Tech students in India who have chosen to study German as part of their curriculum. Drawing from qualitative interviews, classroom observations, and reflective journals, the paper highlights how students perceive German not just as a linguistic skill but as a gateway to global employability, academic mobility, and cultural capital. However, their journey is riddled with linguistic anxieties, unfamiliar pedagogies, and the pressure of engineering workloads. The paper also examines the mismatch between institutional language policies and the learners' aspirations, revealing a complex interplay of personal ambition, systemic limitations, and cultural negotiation. In giving voice to students from predominantly non-English, non-urban backgrounds, this study contributes to a deeper understanding of how global citizenship is imagined and enacted in Indian technical education spaces through language learning.

Keywords: German Language Learning**,** Engineering Education**,** Global Citizenship**,** Language Motivation, Challenges

1. INTRODUCTION

In today's globalised economy, language skills have become an essential part of a student's toolkit, especially for those pursuing technical and professional education. As more Indian engineering graduates look toward international internships, higher studies abroad, and global workspaces, the role of foreign language learning within engineering education has gained new urgency. Among the languages offered in Indian technical institutions, German stands out due to Germany's prominence in engineering, automotive, and research sectors, as well as its strong academic ties with India through initiatives like DAAD scholarships and university collaborations.

Yet, introducing a new language to students who are already navigating the demanding landscape of engineering education comes with its complexities. Many first-year B.Tech students, particularly those from non-English medium backgrounds, enter the German classroom with a mix of excitement and anxiety. While they are motivated by the promise of international opportunities and cultural exposure, they also struggle with fear of pronunciation, grammar, low test performance, and being unable to meet classroom expectations.

This paper explores the lived experiences of these students and the perspectives of German language instructors working within technical institutes in India. Drawing from classroom observations, teacher reflections, and student feedback, it identifies the key motivations and barriers in learning German during the first year of engineering education. It also considers broader structural issues such as semester duration, student-teacher ratios, and curriculum design. This study

argues that with thoughtful pedagogical intervention and policy-level support, foreign language instruction can become a meaningful avenue for shaping globally aware, linguistically confident engineers.

2. RESEARCH CONTEXT AND METHODOLOGY

This study was conducted in the context of a private university in South India, where German is offered as a foreign language elective to first-year B. Tech students. Many of these students come from non-English medium backgrounds, including semi-urban and rural regions of Tamil Nadu and neighbouring states. For many, this is their first formal exposure to a third language beyond their mother tongue and English. The student cohort typically consists of learners between the ages of 17 and 19, many of whom express a desire to pursue internships or master's programs in Germany or other German-speaking countries.

The research followed a qualitative methodology grounded in classroom ethnography and teacher-student narrative accounts. Data was collected over two semesters through the following methods:

- Classroom Observations: Regular classes and a summer intensive German course were observed to understand variations in student engagement and instructional strategies.
- Teacher Reflections: Notes and reflections from German language instructors were gathered, focusing on pedagogical challenges and classroom dynamics.
- Student Feedback: Informal interviews and written reflections were collected from students to understand their motivations, anxieties, and learning experiences.

A comparative lens was used to examine the differences between the regular semester classes (with a student-teacher ratio of approximately 72:1) and a summer course (where the ratio dropped to about 13:1). Additionally, institutional policies regarding semester-wise duration and assessment structures were reviewed about the Goethe-Institut's recommendation of at least 75 instructional hours for basic German proficiency.

This grounded approach enabled a more human-centred understanding of the German language learning experience in an engineering academic setting, focusing on both emotional and systemic dimensions of language acquisition.

3. DISCUSSION

3.1 Student Motivations and Interest in German

Despite the challenges of learning a foreign language alongside a demanding engineering curriculum, many first-year B. Tech students demonstrate a genuine interest in learning German. Their motivations are multifaceted and reflect a desire to connect with the world beyond their immediate academic environment.

A primary driver is the aspiration for global opportunities. Several students express the hope of pursuing higher studies, internships, or jobs in Germany, where technical education is highly respected and relatively affordable. Some have already heard of DAAD scholarships or Indo-German academic collaborations and see German as a strategic tool for academic mobility. For others, the motivation is more career-oriented: knowing German is perceived as a competitive edge in global companies, particularly in engineering sectors like automobile, automation, and software.

Beyond these utilitarian reasons, many students are also culturally curious. They mention a fascination with German festivals like Oktoberfest, the precision of German engineering, and even the sound of the language itself. Teachers have noted that when cultural videos or music were introduced in class, student engagement increased visibly. This suggests that their interest is not instrumental but also emotional and imaginative.

However, this motivation is often accompanied by underlying fear. Students carry a preconceived notion that "German is hard," especially when it comes to grammar and pronunciation. Even before beginning the course, many arrive with anxiety about speaking in class or performing in oral exams. Still, what stands out is their willingness to try. Most students, even those who struggle, continue to show up, participate, and ask questions. This resilience speaks to a quiet but strong motivation: they want to learn, even if they are scared.

In short, students view German not just as another subject, but as a gateway to a wider world; a means to imagine themselves as part of a global community. Their enthusiasm, though often masked by fear, reflects a powerful form of aspirational learning that deserves institutional support.

3.2 Key Challenges in Learning German

While student motivation to learn German is evident, it is equally clear that their learning journey is shaped by multiple challenges, both psychological and structural. These barriers often affect confidence, classroom participation, and test performance.

One of the most prominent difficulties students face is language anxiety, especially around spelling, pronunciation, and grammar. German's compound words, gendered nouns, and unfamiliar sentence structures can feel overwhelming for students who are still grappling with English grammar. Many reports feeling anxious while speaking, worried they might pronounce words incorrectly or be laughed at. Teachers note that students often hesitate to participate in speaking activities or oral tests for fear of making mistakes, despite knowing the correct answer.

Grammar, in particular, emerges as a major obstacle. Students repeatedly describe grammar exercises and tests as intimidating. Even those who are genuinely interested in the language find themselves scoring poorly, which erodes their confidence and leads to a sense of defeat. A few students mentioned that while they enjoy the cultural aspects of German, the pressure to perform in grammar-heavy assessments dulls their enthusiasm.

Another challenge is preconceived fear, often rooted in what they have heard from seniors or social media, that German is a "tough" language. These beliefs become self-fulfilling: students begin the course expecting failure, which amplifies their hesitation and reduces risk-taking in class.

Moreover, the assessment structure often favours written grammar tests over communicative competence. As a result, students who may understand spoken German or enjoy listening and speaking activities still underperform due to test-related stress. Teachers express concern that such evaluation methods do not reflect the full scope of a student's engagement or capability in the language.

Despite these challenges, most students remain eager to learn. Their difficulties are not due to a lack of effort but rather a misalignment between the course structure and their learning needs. These struggles underline the importance of rethinking not just what we teach, but how we teach and evaluate language in technical education.

3.3 Structural and Pedagogical Barriers

In addition to psychological hurdles, students and teachers face several systemic and pedagogical challenges that significantly affect the quality of German language instruction within the engineering curriculum. These issues are less about student effort and more about how institutional structures shape the learning environment.

One recurring concern raised by instructors is the limited duration of the German course. In most technical institutes, German is taught over a single semester, often squeezed into a 40-hour framework. However, the Goethe-Institut recommends at least 75 instructional hours for students to reach the basic A1 level of proficiency. This gap leaves both students and teachers feeling rushed. Important concepts must be taught quickly, leaving little room for revision, repetition, or informal conversational practice. Teachers report that they are often forced to skip interactive activities or reduce speaking sessions to accommodate written grammar lessons and test preparation.

The problem is further compounded by the high student-teacher ratio. In regular semester courses, a single teacher may be assigned to a class of 72 to 75 students. In such large groups, it becomes nearly impossible to give individual attention, correct pronunciation, or provide speaking time to each student. Students themselves mention feeling "lost in the crowd," unable to clarify doubts or receive meaningful feedback.

A stark contrast was observed in a summer intensive course, where the student-teacher ratio was significantly lower at 1:13. In this setting, teachers reported being able to complete the full syllabus, integrate group activities, conduct oral drills, and focus on weaker students. Learners, in turn, described the experience as more engaging and less stressful. Interestingly, many students who had earlier struggled in the semester class were able to gain confidence and perform better in this smaller, more interactive setting. This suggests that class strength, more than just instructional hours, plays a critical role in shaping outcomes.

Teachers also expressed frustration with the assessment-driven structure that emphasises written grammar over communicative skills. In such environments, creative teaching methods like storytelling, role play, or multimedia-based learning are often sidelined in favour of rigid test preparation. This not only limits the students' linguistic growth but also drains the energy and innovation from the classroom.

The structural constraints, such as short course duration, overcrowded classrooms, and exam-heavy curricula, create a learning environment. The motivation is often stifled by logistical and pedagogical limitations. Addressing these barriers is essential if we are to support students in their desire to become confident, globally competent language learners.

3.4 Suggestions for Improvement

Both students and teachers agree that German language instruction in engineering colleges holds great potential, but to unlock it, certain pedagogical and structural changes are urgently needed. These recommendations arise directly from classroom experiences, student reflections, and teacher insights gathered during this study.

First, there is a clear consensus that one semester is insufficient to build even foundational language competence. The Goethe-Institut's guideline of 75 hours for A1-level proficiency cannot realistically be achieved within the existing semester framework, especially with multiple cancellations, engineering exam schedules, and institutional holidays. Extending German instruction to two semesters or offering an optional extension module would allow students to absorb the language at a sustainable pace and build confidence through repeated exposure and practice.

Second, the student-teacher ratio must be addressed. Large classes of over 70 students inhibit personalised feedback, peer interaction, and oral practice. A maximum class size of 25–30 would enable a more communicative, activity-rich environment where students can participate freely without fear of embarrassment. Alternatively, breaking larger groups into smaller tutorial sessions, even once a week, could dramatically improve outcomes.

Third, the teaching methods and assessment strategies must be diversified. Students responded positively to storytelling, role-playing, videos, songs, and games that brought the language to life. They appreciated when teachers connected language with German culture, including food, festivals, traditions, and even technological innovation. These cultural elements increased motivation and reduced anxiety. Incorporating language apps, online platforms, and gamified learning tools (like Duolingo, Kahoot, or Quizlet) could make grammar and vocabulary practice more accessible and enjoyable, especially outside the classroom.

Fourth, students voiced a desire for more opportunities to speak and listen. Oral activities were often rushed or skipped due to time constraints. Dedicated speaking labs, conversation circles, or even partnerships with German-speaking student volunteers (online or offline) could provide a low-stakes environment for practising the language.

Finally, teachers suggested that orientation sessions at the beginning of the course could help students overcome their initial fear. If students better understand the structure, expectations, and learning strategies from day one, their anxiety might lessen. By this, their engagement could improve.

Together, these suggestions aim to create a more learner-centred, culturally rich, and psychologically supportive space for foreign language education within engineering institutes, turning German from a feared subject into a meaningful, empowering skill.

4. CONCLUSION

The journey of learning German among first-year B.Tech students in India reveals a delicate balance between aspiration and anxiety. On the one hand, students show genuine interest in the language, driven by dreams of international mobility, academic opportunities, and cultural exploration. On the other hand, they face substantial challenges such as linguistic fears, grammar anxiety, overloaded classrooms, and insufficient instructional time.

This study demonstrates that students are not passive recipients of language instruction; they are active, motivated learners who often feel constrained by the system rather than by their capacities. Their struggles are not due to a lack of will, but a lack of support; structural, emotional, and pedagogical.

At a time when engineering education is expanding its global reach, the inclusion of foreign languages like German must move beyond token gestures. If institutions are serious about producing global citizens, then language programs must be designed with care, continuity, and cultural depth. Extending the course beyond one semester, reducing class sizes, adopting interactive tools, and revising assessments can make a significant difference, not just in students' marks but in their confidence, fluency, and global readiness. Teaching German to engineering students is not just about grammar or vocabulary. It is about shaping a mindset: open, intercultural, and communicative. With the right environment, these young learners can move beyond fear and become truly global engineers: one sentence, one word, one conversation at a time.

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