

Mediating the Medium: When Language Becomes an Impediment to Learning

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Abstract

The complicated language policy of India engages with education in various ways throughout the entire period of formal learning. The Three Language Formula is implemented across schools, but tertiary (university-level) education is, dominantly, through the medium of English. At this level, differences in fluency become magnified and have wide-ranging impact on both the individuals and the institutions. The specific challenges for individuals have to do with transacting all learning activities in English and ensuring access to employment or other higher educational opportunities despite this difficult transition. The challenge for the institutions is to achieve the core aim of successfully training students in the sciences, without loss of resources in replicating language skills instruction or compromising on the educational outcomes. This paper will consider the mediation carried out in a science and technology institution, the particular challenges posed by English as a medium of instruction, and some effective ways in which learning can be enabled within the constraints posed by the curriculum and the available financial, infrastructural, and human resources, using principled introspection, dynamic course modification to learner responses, and outside-the-curriculum language instruction. Specifically, the paper discusses how the passive language competence of the students was extended into more active use in the course of study with encouraging results.

1. The Official Language Policy of India

The Constitution of India, which came into force on January 26, 1950, designated Hindi in the Devanagari script as the official language of India, but permitted the use of English for all official purposes for a further fifteen years. In 1965,

the Official Languages Act (GOI, 1963) permitted the continued use of English, essentially, in perpetuity. Crucially, the Act allowed for Parliamentary transactions in either of the official languages, but required that "the authoritative text" of all laws, parliamentary enactments and statutory instruments (Article 348 of the Constitution of India¹) be in English. It also required that the proceedings of the Supreme Court of India and the High Courts be in English and, further, that the administrative documents intended for the masses be in both languages. Thus, all administrative documents whether among various arms of the Centre, or between the Centre and the States, or between States were to be made available in both languages till such time as the country resolved, by an Act of Parliament, to discontinue the use of English.

The language policy was further complicated by the Eighth Schedule of the Constitution which recognized as official certain languages of India² several of which were mapped to the linguistically drawn state boundaries. These languages were intended to enrich Hindi and allow its progressive use, but obliged the Government to also devote resources for their independent development. The initial list of fourteen languages has been expanded to twenty-two, with tens of others awaiting inclusion.³

1.1 The Three Language Formula in Education

The use of language in education is driven by the Three Language Formula as outlined in the National Policy Resolution of the Ministry of Education, which provided for the study of "Hindi, English and a modern Indian language (preferably one of the southern languages) in the Hindi-speaking states and Hindi, English and the regional language in the non-Hindi speaking states" (GOI, 1968). This constituted an example of grassroots multilingualism in direct response to the demands of the non-Hindi speaking states. Schools across India may then have English (or Hindi) as a first, second, or third language, mixed with regional languages, Sanskrit, Arabic, or Urdu, or even a foreign

1 Retrievable from <https://web.archive.org/web/20100328031541/http://www.rajbhasha.gov.in/consteng.htm>

2 Out of about 447 living languages (Eberhard, Simons, & Fennig, 2019).

3 To Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Malayalam, Marathi, Odia, Punjabi, Sanskrit, Tamil, Telugu and Urdu in the initial list, were added Sindhi in 1967, Konkani and Manipuri in 1992, Nepali Bodo, Dogri, Maithili, and Santali in 2003.

language like French or German. In practice, most schools in Hindi speaking states adopt a Hindi-English-Sanskrit model and the non-Hindi speaking states adopt an English-Hindi-Regional Language model (e.g., Tamil Nadu) or even a Hindi-Sanskrit-Regional Language model (e.g., Gujarat). Despite the idea that "Every boy and girl must obviously know the regional language, at the same time he should be acquainted with the Federal language, and should acquire the ability to read books in English" (GOI, 1962, p. 285), the outcomes of high school language education are far from uniform in terms of both absolute exposure and in the language competency across the student body of the country.

The schools themselves face multiple challenges. Effective language teaching is hampered by a lack of (a) modern teaching aids, (b) training in language teaching methods, and (c) suitable on-line and off-line resources such as dictionaries and graded texts and storybooks. For the students, language learning is complicated by the need to learn multiple formal grammars and often multiple scripts since the emphasis is on literacy. This must be achieved together with the other intense curricular demands. Within the larger environment, there is no occasion to use the language(s) for practice and there is often no help at home or in the classroom. The outcome at the end of the school years is a somewhat fragmented linguistic background with passive competence in many languages without adequate fluency in any (i.e., core competence in all four skills). The teaching is also sufficiently exam-oriented in that it supports rote learning over more creative and productive language tasks which could be more usefully extended in higher education.

1.2 Tertiary Education in English

The same report from the University Commission of Education (whose Chairman was Dr. S. Radhakrishnan⁴) had the following lofty ambitions:

English, however, must continue to be studied. It is a language which is rich in literature-humanistic, scientific and technical. If under sentimental urges we should give up English *we would cut ourselves off from the living stream of ever growing knowledge*. Unable to have access to this knowledge, our stand-

⁴ Spalding Professor of Eastern Religion and Ethics, Oxford University and the 2nd President of India

ards of scholarship would fast deteriorate and our participation in the world movements of thought would become negligible. Its effects would be disastrous for our practical life, for living nations must move with the times and must respond quickly to the challenge of their surroundings. *English is the only means of preventing our isolation from the world, and we will act unwisely if we, allow ourselves to be enveloped in the folds of a dark curtain of ignorance.* Our students who are undergoing training at schools which will admit them either to a university or to a vocation must acquire sufficient mastery of English to give them access to the treasures of knowledge, and in the universities no student should be allowed to take a degree who does not acquire the ability to read with felicity and understanding works of English authors. A sense of the oneness of the world is in the making and *control over a medium of expression which is more widespread and has a larger reach than any of our languages today will be of immense benefit to us.*⁵

In practical terms at the tertiary levels of education, students with mixed linguistic background are expected to transition to education in the medium of English, especially in STEM institutions, many of which were set up as Institutes of National Importance.⁶ Although the entrance exams to these institutions could be in either Hindi or English (and somewhat restrictedly in a regional language), the education in the actual programmes is uniformly in English. Students drawn from all over the country and educated under a non-uniform Three Language Formula gather in a single educational space with English language abilities that vary widely – from elite schools with an all-English background to a complete school education in Hindi or a regional language. Equally mixed are the socio-cultural, geographic, and economic backgrounds. These differences become magnified in these college years and become challenging both for the students and the institutes of which they are a part, and, sometimes, turn into insurmountable and life-altering hurdles.

5 Emphases added.

6 Currently there are over 90 such institutions including Indian Institute of Technology (23), Indian Institute of Science Education and Research (7), Indian Institute of Management (20), National Institute of Technology (31), All Indian Institute of Medical Sciences (7), the Indian Institutes of Information Technology (5), and a few others.

2. English Usage at the Tertiary Level

It is useful to first consider the purposes for which English is used to help devise and evaluate possible solutions. English is the medium of instruction. Not surprisingly then, all class lectures, books and articles, lecture notes or slides, exam papers, report writing, classroom interactions, and learning management systems are in English. Extracurricular activities often use or emphasize English. All formal and semi-formal communication, including e-mail, hardcopy applications, and online media for class (or otherwise) use English. Just as important are the placement requirements (such as interviews and group-discussions), the exams for future education (such as GRE, TOEFL, GMAT), personal statements of purpose for admissions and internships, research reports, cover letters, journal publications, and more.

This is not a problem that is unique to India and students in many nations face the transition to English at tertiary levels. However, it is important to note the differences. In countries such as China, Japan, or Korea, English is a foreign language. Students attend certification courses and learn a single variety of English (either British or American) to achieve fluency; they develop writing and reading competence even though their speech and accent may still be non-native. These students are also raised with a single tongue (or regional varieties) and are motivated to succeed. This is comparable to Indian students on internships to European countries, who learn French, German, or Spanish to facilitate their stay. The situation in India with respect to English is quite different though. There is a wide variety of (Indian) English-es – almost as many as there are regional languages. There is no single, standardized Indian variety of English to learn, and the community of speakers is heterogeneous and numerous. Students' passive knowledge of English is quite high compared to other monolingual communities in the world and exposure to entertainment programming, Hollywood movies (without dubbing or subtitling), news broadcasts, and scientific terms is extensive. Bollywood and daily use of Hinglish add to this exposure. The STEM institutes, on their part, are required to achieve the core aim of successfully training students in the hard and soft sciences, without loss of resources in replicating language-skills instruction or compromising on the core educational outcomes. Multiple constraints are posed by the curriculum as well as the available financial, infrastructural, and

human resources. These, when combined with the varied linguistic profiles of the students, make for quite a pedagogical and administrative challenge.

3. Interventions and Outcomes

The first steps in addressing the challenges with formal assistance from trained professionals via the British Council Division began in 2014 at the Indian Institute of Technology Bombay, which is a premier technical institution and one of the Institutes of National Importance. Of the entering class of about 750 students,⁷ it was estimated that about ten percent faced the greatest challenges based on our prior experience with remedial English teaching requirements as well as the overall performance patterns of the students over two decades. The following testing protocol was adopted. On orientation day, a short writing exercise was administered to the entire batch of undergraduates. The students wrote a paragraph on one of several topics and also provided their English language profile.⁸ They were allotted thirty minutes for the task. The exercise was evaluated by senior students under the supervision of doctoral students in English and Linguistics with experience as teaching assistants. A shortlist of about 250 students was created. The British Council was engaged to evaluate the students on the shortlist via an online test⁹ and assign them to CEFR levels (Council of Europe, 2001) for placement. The CEFR level assignment (Table 1) enabled us to identify the students whose English competency was at the A1-B1 levels. Using finer details of the scores we were able to short-list 80 students who, after the dual assessments, were assessed as needing the most assistance. Typically, they constituted one Elementary batch, two Pre-Intermediate batches, and one Intermediate batch. The CEFR levels themselves do not indicate uniform abilities. There were significant variations within a level across the four language skills. We prioritised the comprehension and writing sections in our selection of students within the B1 level.

7 This number has changed over the years and is currently closer to 1000.

8 Answers to questions about years of schooling in English, medium of instruction at school, mother tongue(s), language in which the entrance exam was taken, and a personal assessment of fluency.

9 Typically the British Council Division's online test APTIS was used.

CEFR Levels	2015	2016	2017	2018
C1 Advanced	0	4	13	10
B2 Upper Intermediate	62	65	105	84
B1 Intermediate	126	90	136	114
A2 Pre-Intermediate	67	42	34	32
A1 Elementary	2	16	11	7
A0 Beginner	0	0	0	4
Total Number of Students	257	212	299	251

Table 1 – CEFR levels for four years

Below are two sample email messages and three extracts from the initial writing exercise that exemplify the competencies:

PARAGRAPH SAMPLE 1: *My favourite subject is mathematics in school. Mathematics is a popular subject. Mathematics not a ratification but mathematics is a conceptual subject. Reputation is mathematics very high. I believe in mathematics because mathematics takes mind capacity and ability but not study power. I enjoying when I am solving problems of maths. Very hard level question in mathematics is easily understand for me. I love mathematics.*

PARAGRAPH SAMPLE 2: *As when I first entered in IIT, I felt very glad & proud & also every student who were selected in such prestigious institute also have to feel proud on themselves. As in starting days, I and my family got little nervous about the love life of collage, and my parents have very tension and questions about my future college life and upcoming problems but I think It is most beautiful place to study, there environment is also nice in b/w the nature & whole facilities are in all the campus.*

PARAGRAPH SAMPLE 3: *First, I & my father came by bus. We are confuse about iit campus & prosses of admission & fee payment. we entered from wrong gate way & confuse. ... We were tide. When we entered in building office are close. We wait about 1.5 hour. We were in tension. In office they said about hostel and gave a key of room. In prosses they took 3 hour. I nervous by the service of employ of iit Bombay. they are not helpful in nature. but the facility of iit Bombay is good...*

EMAIL SAMPLE 1: *I am a student of HSxxx this semester. I am a migraine patient. Last year i suffered badly and recovered somewhat from it. But this semester due to my some reasons of heavy academics i have got into another migraine attack and thus i could give some of my endsems and today's HSxxx endsem. I kindly request you to please help me with respect to the conditions i am in.*

EMAIL SAMPLE 2: *I, xxxx (Roll No.: 15xxxxxxx) was not able to give one of the quizzes on xxx app, because the WiFi did not get connected, as the Computer Centre had changed some router configuration. You had said that that quiz would not count, or else some other quiz will be taken in its place. Please look into the matter, because as it stands, I will loose 3 marks, through no fault of mine.*

From the above samples, it is clear that many elements of the language are in place including everyday vocabulary, grammatical elements, and basic sentence structuring (though not completely grammatical or fully idiomatic). However, the students certainly lack the fluency required of them at the tertiary level.

3.1 Requirements

Since the ability to write and speak clearly, coherently, and in the right tone are absent, the passive language competence required extension into more active use for purposeful engagement inside and outside the classroom. The language course faced the following challenges. The first-year curriculum is very demanding and being in the subset that needed language instruction posed social and academic challenges to the selected students. The language course could not be incorporated into the programme of study formally (in terms of credit structure or grades received) so the investment of time had to be recognised in other ways. To address the first challenge, we used the student mentor network and teaching assistants to provide the requisite social and emotional support and, frequently, also academic support in other subjects. For the second, we used formal certification from the British Council as a reward. Periodic interactions were arranged with senior students who had faced similar difficulties and had successfully overcome them as additional motivation. During the course, academic and social support was also provided via social media with FAQs and daily challenges with rewards.

Given the various approaches to language teaching, we had to select one that would work in our context and meet our specific needs. First, General English courses (Hall, 2011) were unlikely to be successful since the students already have reasonable exposure to English and are impatient to move on with the curricular requirements. Further, the variation in their language abilities was too diverse to successfully pitch a general course. Second, an EFL-based approach was not an option given the socio-cultural and political status that English occupies in the nation. While the linguistic relationship may be a fraught one, the students do not question its importance in their professional lives. Finally, English for specific (academic) purposes (ESP and EAP) with the attention on language training for the purposes of higher education in specific fields was unlikely to work since the students had more than adequate preparation in the STEM fields and did not require domain specific language training. However, other goals of ESP/EAP were relevant and needed to be met. In particular, the course had to meet the needs of the (adult) learner, be purposeful, use real world examples and authentic texts, focus on appropriate language use (lexis, syntax, and discourse), use custom-made materials, build professional skills for research and scholarship, and keep motivation levels high by using a communicative, task-based, and pragmatic approach (Hyland & Shaw, 2016). The course was not to be seen as the end of language training but rather as a way to jumpstart continued engagement throughout the programme of study.

A more eclectic, pluralistic approach to language teaching seemed appropriate in this context. Rather than relying on single theory-based methods which could also become mechanical, our course was designed to use a variety of learning tasks which could be individual-centric, group-centric, peer-driven or could involve guided learning. The teacher of each division decided what methods or approaches engaged the students best given the overall goals of the course and the competence of the students. The advantages were four-fold. First, such an approach was more likely to maintain the interest and attention of the students. Second, it was more effective at addressing the diversity among the students. Third, it allowed the use of multiple methods to increase the chances of learning taking place. Fourth, it allowed the teachers to exploit materials better and manage unexpected situations.

3.2 Intervention

The course as constructed above was offered for four years. Four batches of twenty students each participated in a sixty-hour course over two semesters. An average full-semester course runs for forty hours but the English course was shortened to avoid the examination periods. Classes were held twice a week for ninety minutes each and included a teaching assistant who attended the lectures. Certified trainers and course materials were organised by the British Council and a course plan in terms of topics and skills to be covered was finalised in discussions prior to the start of each year. Evaluations were conducted weekly, and once at the end of each semester.

In years one and two, the emphasis was on spoken skills (short extempore speeches) and academic writing tasks (paragraphs). Grammar and vocabulary building were indirectly targeted through the speaking and writing tasks. The TAs acted as motivators and attempted to keep attendance and engagement levels high. Each year, the course plan and activities were revised with principled introspection based on the feedback from students, TAs, and instructors together with the scores in various tests. While the response was encouraging and learning visible, the students did not feel that they had made enough progress, that they had not been challenged enough, and that it still felt too much like a regular English course. In addition, they felt the need for more cultural contextualization of activities, and, surprisingly, they felt both a social divide (in terms of the English-competency of the instructors) and an English-Science divide (or "two cultures" problem). In years three and four, we enabled dynamic course modification to learner responses within the course where the instructors were free to alter the activities or permit the students to direct the kind of task they wished to do. The overall focus was still on writing and speaking, but those skills were now embedded within tasks such as group discussions, semi-formal presentations, summarising or expanding on certain topics, argumentation, and sequencing. The tasks were centred more on collaborative work under the assumption that peer-to-peer engagement would be less isolating and more motivating. Classwork was augmented by extra-curricular language instruction with the help of the TAs, who held weekly meetings to watch movies, to do an extension of in-class activities, to simply chat, or even to tutor in other subjects. This helped bridge some of the perceived divide,

and also made the TAs more involved in the learning outcomes. Textbooks and materials still emphasized academic skills, but increased use of WhatsApp, Facebook, and Edmodo groups were more effective in engaging a social-media generation.

3.3 Outcomes

The evaluation over the course of the year was on spoken and written skills and, indirectly, grammar and vocabulary. After 60 hours of instruction on average, there was a 20% improvement in scores in writing skills and a 25% improvement in scores in speaking skills. While it is difficult to quantify the outcomes over a short span of time and assess their impact on the students' academic lives, the instructors and the TAs noticed improved confidence, a greater willingness to express opinions, more fluency, and absence of pauses and hesitation. Some of the comments in the feedback forms, included below, are indicative of the changes that had been wrought:

- *I learned how to do public speaking and how to express my opinions and that was so useful.*
- *I found the courage to communicate with other people, helped me a lot.*
- *Learning how to connect, how to start a discussion, how to plan for a speech is what I feel the most useful.*

4. Conclusions

This initiative at addressing the linguistic needs at the earliest point in entry into college offers several advantages to the students and the institution. The domino effect that poor language skills can have on academic performance and career prospects are neutralized by active intervention. This not only saves time and resources, but makes for a more equal educational environment.

However, the efforts will continue to bear fruit only if the stakeholders meet their individual responsibilities. The students need to show continued commitment, to remain motivated, and to look constantly for ways to enrich their language skills especially through their peers. They need to realize that the course was just the beginning and that they need to devote time to writing and speaking well, and to have realistic expectations of their linguistic growth.

The faculty members on their part would serve the student population well by building language skills into many courses through tasks such as writing-intensive assignments, peer review of those assignments, class presentations, proof-reading of reports, and so on. Paying attention to language in exams and providing feedback even when it is not just about the "marks" will support the language learning habits of the students. While the course only supports eighty students, at least a couple of hundred others could use language support. Such partnership is critical in the long-term. The institution for its part needs to take a wider view of education and move beyond the immediate needs of the programme. There are, of course, a number of opportunities for the students to learn about, engage in, and improve on many professional and life skills. To support language learning, a culture where such skills are respected is equally important. The educational environment needs to foster and uphold good language practices even in official communication such as circulars, e-mail messages, webpage information, forms, and information brochures. It is important to provide quality teaching and learning resources and to not confuse the process of language learning with training in the soft-skills.

While four years is a short time in an institution's lifespan, the outcomes support the conclusion that the efforts are in the right direction. However, the challenge of providing comprehensive language support across the larger student body remains.

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