

Selection of Teaching Material for Undergraduate Students in Engineering Stream

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ABSTRACT

This article discusses the possible options vis-a-vis the present syllabus of English for students of engineering stream in the University of Delhi. The study is based on data collected from first-semester engineering students of Delhi University to find out their feedback on the course of English being taught presently. It was found that a change was needed and that a change in the direction of new and recent material was expected. Also, communication skills were found to be rated high. A review of the syllabus presently in the course has been done. A new syllabus, catering to the needs of the students has also been conceived.

KEYWORDS

Teaching materials; English for Engineering; Communication skills; Syllabus.

Introduction

This article deals with the syllabus of a course named as Humanities and Liberal Studies. In actuality, it consists of essays, stories, plays in English and exercises in English grammar. Though this course has not been updated for some time now, there is a lot of scope for including topics which will be relevant to students of engineering in the present times.

The purpose of having named the course so means it will allow the intellect of engineering students to go beyond the usual, normal or conventional perception and thinking. It, in fact, means to liberate the mind and intellect from the clasps of stereotyped human thinking. To me, it means the perfect union of intellect with arts and arts with technology. An engineer navigating through such a course should be able to explore the unknown or the abstract and bring it to others in a medium (English) to benefit the society at large. The role of the teacher of languages, in this

case, English, is to enable, support and guide would-be engineers to a better level of proficiency. Whatever the nomenclature and the content, the English language still needs to be studied as a discipline and more seriously as a tool of self-reliance and expression.

Background

Though the of Technology Policy Statement, 1983, S & T Policy Statement, 2003 and later National Policy on Education, Government of India, 1986 envisaged the use of technology for betterment of the society, in reality all these failed to relate the student to real concerns of the society in which he/she lived. It has been found that disciplines offering engineering courses do not prepare the students for an education which sensitizes them to issues like poverty or social discrimination or child labour which plagues their society. There is thus a need to “educate” the aspiring

students of technology in a broader sense, bearing in mind the image of an engineer who is incomplete without humanities and social sciences. In this way, the engineers would be able to deal with and understand people and society effectively. At stake is the fine tuning of the would-be engineers to such issues in a medium which is understood and is used to apply their learning to a milieu in and around them.

According to G E Mapstone 1978, the importance of humanities to technical subjects is lost because of the failure of a proper communication system. Had English been recognized as a worthy subject, this failure in underestimating the relationship between humanities and engineering disciplines would not have taken place. The language English is important because it becomes an engineering tool for an engineer- a tool with which he communicates with his fellow men and colleagues. This ability to communicate will lead him towards other subjects and other worlds of knowledge. Huckin and Olson 1983, in a survey to determine the most needed subjects for engineers, held that communication skills were the most sought-after skill.

Studies on curriculum development for engineering studies have also shown that adding social science subjects into engineering syllabus will promote both oral and written communication skills. It should be incorporated throughout the engineering programme. Limited communication skills may impede professional growth. Therefore, communication skills programmes in engineering colleges should be revamped to suit the requirements of the evolving curriculum and the world of work outside the college. Introduction of technical writing in engineering courses was also held as important for engineers.

Purposes

1. Access to the world outside India: Countries other than India are

moving fast in terms of academics. In order to be able to reach out to such advancements engineering students have to have a grasp of the language English. In the same way, students of India can have an audience outside India if, and only if, they have a command of the subject in a certain language.

2. Use of the proper register: As compared to English, the regional languages of India are far behind in terms of vocabulary and terms of engineering. There is thus a greater need to enhance the language skills of English.
3. As they get into jobs the need for a good performer depends to a large extent, good communication skills. Good communication skills with a high level of competence in the English language is a much sought after attribute.
4. International communities reach out to India because of India's capability to communicate in the English language.
5. The potential employer is satisfied if he finds the prospective employee well acquainted with a language which is globally accepted.
6. The potential employee is able to articulate well his thoughts and ideas through his work only because of a proper hold on the language.
7. Good communication skills enable the students to look forward to jobs with better prospects.

Existing Syllabus

In all, there are only ten (10) chapters to be done from prescribed text namely 'Essays, Short Stories and One Act Plays'. The chapters prescribed are a few essays- 5 in all, short stories- 3 in all and plays-2 in all. While some essays in the course deal with the theme of in/equality in society hinting at discrimination or

subjugation prevalent in the society, it allows the student to also get a fair idea of socialism, communism and fascism. One of the essays on Nehru is a portrayal of Nehru as a true leader and the builder of the nation. There are discussions on the working of a government, democracy, the voters and leaders and the media. One gets a fair idea of the responsibilities of a voter and a non-voter, bureaucracy, the rule of law and the rule of men, the making of the constitution and the opposition. Going through these essays a student does a little retrospection- if this what the course implies. The essays become boring and tend to remain in textbooks only as a means to an end- to pass the exams. One of the essays paints the students in a bad light- in fact, it raises a lot of debate on the role of students today. But it does paint the students in a sordid vein. Only one of the essays is enjoyable- the one that is narrative and talks of a group of people typified as bores. G B Shaw's notion of freedom does not go down very well with the students- it is termed as far too stretched, tiring, whimsical and torturous approach to the concept of socialism. If the inclusion of such essays envisioned a heated debate, it has failed to do so. The plays and the stories were a welcome change.

There was also a grammar part named as English language practice which included exercises in English grammar- word formation, correction of sentences, use of idioms, dialogue/speech writing and technical description of objects and appliances.

Study

A survey was made to ascertain the views of students desiring changes in the existing syllabus. The survey was undertaken at Netaji Subhas Institute of Technology (NSIT), University of Delhi. This course- Humanities- is a common course for all branches of engineering. The feedback was collected from 200 students

of Information Technology and Electronics and Communications Engineering. The sample consisted of 66 respondents, selected randomly from 200 feedback forms, who were in the first semester. The respondents were given a questionnaire to answer in the class. Among the questions that were asked were regarding the course- its depth and coverage by the instructor, about answer scripts and their grading and the question "In what way/s can the course be changed?" on which the study is based. This survey has taken account of a part of the feedback form, namely the question of how the course can be improved upon.

Table 1 gives a detailed account of changes that respondents looked forward to. While 54 out of 66 wanted a change, 5 out of 66 wanted no change and 7 out of 66 did not answer the question.

Table 1: Percentages of students wanting change/no change

No	Kind of Changes	No of Students	%
1	Written / spoken / recent / change w/o suggestion	54	81.8
2	No change	5	7.5
3	No answer	7	10.6
	Total	66	

It was found that 81.8% wanted a change in the syllabus and also suggested the kind of change- more written exercises or grammar, spoken exercises and inclusion of recent topics. 10% did not answer the question while 7.5% wanted to continue with the same course.

Next, the category-wise distribution of changes expected by the students was worked out. The categories of changes (written / grammar, spoken and recent topics) and the number of students wanting such changes were calculated.

Table 2: Category-wise distribution of changes

No	Category-wise change	No of students	%
1	Written or grammar	6	9.09
2	Spoken skills	14	21.21
3	Recent or scientific topics	29	43.93
4	Change without suggestion	5	7.57
5	No change	5	7.57
6	No answer	7	10.60
	Total	66	

From the above table, the following can be concluded:

1. The number of students wanting changes in the form of introduction of new/recent/scientific topics was the highest at 43.93%.
2. The next highest was the students who wanted changes with the introduction of more spoken skills (21%).

Thus it can be inferred that the students wanted more recent works to be incorporated the most. The following table (Table 3) prepared by leaving out students not wanting changes or not having answered (nos 5 & 6) makes the picture clearer:

Table 3: Percentage Breakup of students in terms of categories

No	Category-wise Change	No of Students	%
1	Written or grammar	6	11.11
2	Spoken skills	14	25.92
3	Recent or scientific topics	29	53.70
4	Change without suggestion	5	9.25
	Total	54	

The findings show that:

1. The highest number of students (53.70%) wanted changes by way of introducing topics which were recent – scientific or otherwise.

2. The second highest percentage (25.92%) wanted their spoken skills to be improved.
3. 11.11% students wanted more grammar or written tasks to be included in the course.

To further the notion of the importance of communicative skills to them the students were asked to answer, what according to them was the most effective factor in teaching. The responses given were in terms of the following: communicative skills, ability to connect or friendliness of the instructor, knowledge of the subject and strictness.

Table 4: Factors Responsible for Effective Teaching

No	Factors	No of Students	%
1	Communicative skill	20	30.30
2	Friendliness	12	18.18
3	Strictness	3	4.54
4	Knowledge	18	27.27
5	No response	13	19.69
	Total	66	

The following can be deduced:

1. Communicative ability (No. 1) is the highest rated ability responsible for effective teaching standing at 30.30%
2. By adding communicative skill and knowledge (Nos. 1 and 4), the % rises to 57.57%.
3. By adding 1,4 and 2 (Friendliness) the % rises to 75.57%
- 4.

Envisioned Syllabus

Keeping in mind the suggestions of students, the new syllabus should aim at improving proficiency levels of spoken and written English, particularly clarity of thought and expression. The students should be exposed to select pieces of writing in English to acquaint them to different genres of writing, including language practice with emphasis on

nuances of meaning and hone spoken skills by means of presentations, group discussions and debates. The main topics should be

■ **Language practice:** redoing basics of English language and grammar; writing practice of SOPs, CVs, summaries; preparation of brochures, notes, manuals, the concept of Standard English and English as a global language.

■ **Literature:** contemporary expository writing stimulating and thought-provoking and debatable since the meaning conveyed with the interplay of style, attitude, sensibility; tasks in unseen comprehension. (*India: 2020* or *Ignited Minds* by A P J Abdul Kalam)

■ **Spoken proficiency:** presentations, group discussions and recitations to boost the self-confidence of speakers and overcome the hurdles in spoken English leading to communicative competence.

■ **Conclusion**

The existing syllabus needs to be revised. More topics on recent writing, scientific and otherwise should be included. Also, communicative competence is the need of the hour. Based on students' feedback more emphasis should be put on improving speaking skills which are very important to them.

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