ENGLISH COMMUNICATION SKILLS FOR ENGINEERINGSTUDENTS:REVIEWING THE TEACHING-LEARNING IN THE INDIAN CONTEXT

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ABSTRACT

Effectiveness in Communication Skills is significant for students of Engineering and other professional courses because it is the medium of instruction in higher academics besides being the lingua Franca of all global transactions. It is positive change that that people in the field of technical and professional education have now acknowledged the emerging scenario and are supporting the view that Communication Skills are important factors to have prosperous career. However through a study of data and published literature on the subject of English language proficiency of engineering students in the Indian context and observation by the authors themselves it is observed that in spite of intervention programs, a vast number of our graduating engineers lack appropriate proficiency in English, which frustrates their attempt to acquire the required communication skills in order to be employable.
This paper therefore does a brief content analysis to understand the related significant factors in teaching-learning and their impact on the communicative proficiency of engineering students in India.

Introduction

Communication is crucial component of everyone's life. Everyone needs to communicate to share their understanding and information with others. However, the level of its effectiveness depends upon your personal communication skills. The functions of communication could be many but the most important one is to understand how to communicate efficiently. Communication is a two way process and therefore involves complete understanding among communicators. Therefore, it is necessary to have detail study on communication skills. The objective of this study is to assess the English language needs of learners of engineering colleges in Maharashtra. The main purpose of this study is to examine the current English syllabus of different engineering colleges in Maharashtra and to study how effectively they have been implemented at the classroom level. It will also attempt to find out how language skills along with life-skills can be learnt effectively by engineering students for proper utilization by them in real life situations. The study attempts to answer the questions: First, is there a gap that exists between students' academic and professional needs and the present English language syllabi in engineering colleges? Second, is there a need to revise and modify the present English language course so that it caters to the requirement of the engineering students' needs to apply it in real-life situations?

Anyone engaged in scientific work and incapable of making a systematic report is not a scientist but a technician, is a mechanic but not an engineer. Since interests of individual language learning vary widely, a uniform teaching methodology and material may not achieve the desired results. This study therefore suggests a viable, learner-centered curriculum and methodology to match different learner groups for gaining of proper language skills.

In the Indian context, an engineering student's success in the campus recruitment is mainly based on demonstration of their communication skills. As per National Association of Software and Services Company (NASSCOM) ex-president Kiran Karnik, only 25% of the technical graduates are suitable for employment in the outsourcing industry due to their lack of abilities to speak and write well in English.

In the engineering colleges of Maharashtra, mostly in self–financing engineering colleges, English is approached casually because of which passing the semester-end examination becomes the sole objective. In spite of its

innumerable instructional objectives like the aural-oral skills of listening and speaking, graphic skills of reading and writing, mastery in business communication, etc. The demand for candidates with good communication skills by employers, especially during campus placements, and the setting up of private Spoken-English institutes even in rural areas show that there is a need to modify the English teaching-learning process in the engineering curricula.

Literature Survey

Patra and Mohanty (2016) have concluded that the aspirations of Global India can only be met by making effective and immense use of technology so as to empower its citizen's especially young learners with reasonable English language skills.

The necessity for engineering students to acquire communication skills has been gradually communicated by educators and industry professionals. Various essential communication skills mentioned include conflict resolution, teamwork, and awareness of social justice, ethics and sustainability. Riemer (2002) claims the graduate engineer must be able to present this knowledge with an excellent standard of communication skills along with engineering knowledge and technical expertise.

According to Najar (2002) The engineering degree can be divided into two primary constituents; the technical component, comprises the knowledge of physical and mathematical principles, analytic techniques and modeling along with a set of generic skills which include ability for team working, effective communication, problem solving and critical thinking ability and a variety of other issues associated with the profession of engineering.

HR training firm, Aspiring Minds, says that "43 percent of engineers cannot write correct English and lack accuracy in English grammar. It is further understood from the report that 25-35 per cent of engineers are unable to comprehend effectively written and spoken discourses in English, which include day-to-day conversations, academic lectures and texts" (Page 2).

The firm, on the basis of a test conducted covering a very large group of candidates, has found that a mere 3.25% of the engineering graduates are ready for the software-industry, and ready to be hired without needing further training. Almost 73 per cent of those who took the test conducted by the firm were found to lack capability to communicate in English, while 95 per cent were found to be short on technical skills. The report goes on to observe, "This is, and in the future shall become, a major impediment to the growth of entrepreneurship and IT companies in India" (Page 3). It adds that this could even affect the growth of the economy of our country.

HimanshuAggarwal, CEO, Aspiring Minds, said "Looking at state-wise distribution of employable talent, we can see that while certain states produce huge quantity of engineers, the average employability is significantly low," ....It is clear that states need to be conscious towards better education quality rather than building more capacity" (Page 4).

Professionals from industry lament that a vast majority of the engineering students lack basic communication skills and proficiency in using the language. With globalization and the ever-increasing international exchanges, there has been gap between the professional competencies and the corresponding communication competencies. One of the major problems of professionals in India is communicating effectively in English which is most evident in the field of science & technology.

Materials and Method - Content Analysis of English language curriculum

SavitribaiPhule Pune University (SPPU), formerly known as the University of Pune has been selected for content analysis. SPPU has a huge standing in India and is considered as one of the best in the business of education. With a legacy of more than 60 years, SPPU is popularly known as the 'Oxford of the East'. It has about 307 recognized research institutes and 612 affiliated colleges offering graduate and under-graduate courses. Something like 900 institutions is under the control of SPPU. The three districts of Maharashtra to which

SPPU caters, Pune, Ahmednagar, and Nasik are big and major districts of the state.

Based on the theoretical framework and in consultation with experts following methodology was planned for the content analysis of the curriculum about English communication for engineering students. The method of content analysis chosen was conceptual analysis.

1. Identify the curriculum related to English communication for engineering students
2. Compile the identified syllabus for various classes
3. Select a representative sample for evaluation
4. Coding for evaluation
5. Line-by-line evaluation of the content
6. Analysis and results

Coding for evaluation

Generally for the knowledge imparted to students, LEVELS are established depending on the stage of learner. For example, three premier accounting professional institutes in India, for their curriculum, specify a level of knowledge for each of the subjects. On similar lines, following codes of levels were formulated for evaluation of the English language syllabus –

Table 1 Coding and quantification of levels for content analysis

Sr. No.	Code	Level	Quantified Value
1	BAS	Basic	1
2	WOR	Working	2
3	ADV	Advanced	3
4	EXP	Expert	4

Evaluation

The representative syllabus of SE Computer (210249) and SE E & TC (204191) was taken component-by-component and level codes were assigned to each of the component as under –

Table 2 Content analysis of syllabus for courses 210249 & 204191

SE Computer - Course 210249		Level Code	Value
	Component of Content		
Unit II Communication Skills			
1	Significance of Communication- types	BAS	1
2	barriers of communication	BAS	1
3	effective communication	BAS	1
4	Verbal and non-verbal Communication	BAS	1
5	Speaking Skills – Importance of speaking effectively	BAS	1
6	speech process	BAS	1
7	message	BAS	1
8	audience	BAS	1
9	Speech style	BAS	1
10	feedback	BAS	1
11	conversation and oral skills	BAS	1
12	fluency and self expression	BAS	1
13	body language phonetics and spoken English	BAS	1
14	speaking techniques	BAS	1
15	word stress	BAS	1
16	correct stress patterns	BAS	1
17	voice quality	BAS	1
18	correct tone	BAS	1
19	types of tones	BAS	1
20	positive image projection techniques	BAS	1

21	Public Speaking	WOR	2
22	Group discussion	WOR	2
23	Listening Skills: Virtues of Listening	WOR	2
24	Barriers and filters	BAS	1
25	Fundamentals of Good Listening	BAS	1
26	Reading Skills: Comprehension	BAS	1
27	reading research papers	WOR	2
28	Communication in a Digital World.	BAS	1
Unit III Language and Writing Skills			
29	Vocabulary: One - Word Substitutes	BAS	1
30	Words often Confused - Pairs of Words	BAS	1
31	Synonyms and Antonyms	BAS	1
32	Foreign Phrases	BAS	1
33	Phrasal verbs derived from the dynamic verbs	WOR	2
34	Business Writing: Note Making	WOR	2
35	Letter writing	BAS	1
36	Writing Formal Letters. Technical Report Writing	WOR	2
37	Memo	WOR	2
38	Notices/Circulars Agenda and Minutes of a Meeting	WOR	2
39	E-Mail	BAS	1
40	Essay writing. Employment Communication: Job Application	BAS	1
41	Preparation of CV and Resume writing. Presentation skills: Professional Presentation	BAS	1
42	Nature of Oral Presentation	BAS	1
43	Planning a Presentation	BAS	1
44	Preparing the Presentation	BAS	1
45	Delivering the Presentation.	BAS	1

(Source: SavitribaiPhule Pune University)

SE E & TC - Course 204191			
Unit I :Soft Skills & Communication basics (4Hrs)			
	Component of Content	Level Code	Value
46	Soft skills Vs hard skills	BAS	1
47	Skills to master	BAS	1
48	Interdisciplinary relevance	WOR	2
49	Global and national perspectives on soft skills. Resume	WOR	2
50	Curriculum vitae	BAS	1
51	How to develop an impressive resume	BAS	1
52	Different formats of resume – Chronological	BAS	1
53	Functional	BAS	1
54	Hybrid	BAS	1
55	Job application or cover letter	BAS	1
56	Professional presentation- planning	BAS	1
57	preparing and delivering presentation	BAS	1
58	Technical writing	BAS	1
Unit IV: Grammar and Comprehension (4 Hours)			
59	English sentences and phrases	BAS	1
60	Analysis of complex sentences	WOR	2
61	Transformation of sentences	WOR	2

62	Paragraph writing	BAS	1
63	Story writing	BAS	1
64	Reproduction of a story	BAS	1
65	Letter writing	BAS	1
66	précis writing	BAS	1
67	Paraphrasing and e-mail writing	BAS	1
		Total	**80**

(Source: SavitribaiPhule Pune University)

Analysis and Results

A total of 67 components spread over 4 units of two courses (210249 & 204191) were evaluated. The assignment of level to each component was done in the context of today's overall level of the language. For example if we look at the curriculum of pre-primary and primary sections of Freedom International School, Bengaluru, it is found that things like Power-point presentation, worksheets and internet based research are taught to the KG and Ist Division students. Thus content of this nature has been assigned the level Basic. The total of 67 components evaluated had a total score of 80. Thus the average score was 1.19 which is quite close to 1 which is the value for Basic Level. This average score of 1.19 leaves nothing much for discussion as it is enough in itself to tell the entire story of the level of English language curriculum that is taught at the engineering colleges.

Discussion and Conclusion

Evaluation and analysis of the curriculum for English communication for the engineering students clearly show that the level of knowledge being imparted is quite basic. In today's learning environment, things like power-point presentations, email, spreadsheets and even internet research are taught at pre-primary and primary school levels. With some advancement these are being taught as English communication skills at the engineering college level. The overall average score of the 67 components of the syllabus was just 1.19 on a scale of 4. This then explains things like 97% of the engineering students not being able to speak English which is required for getting an IT job, or 61% of students possessing grammar skills that are equivalent to 7th class students, etc.

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