CHAPTER 3

Review of Current Scenario of ELT in Gujarat and Maharashtra with Reference to

English Education: A Methodical Framework

English is the *lingua franca* of Engineering education in India and thus an essential prerequisite for gaining employment and acquiring advanced knowledge. The 11th plan of India focuses on quality and employable education to more people and to provide access to study in world class institutions. According to Daggubati Purandareshwari Union Minister of State for Human and Resource Development, Government of India, “the educational system will be restructured to impart competitive skills and capabilities of global standards”.

Employability practices in India focus on depositing English and Communication Skills sets to individuals. On one hand globalization has influenced educational institutions to create skill sets as demanded by the labor market educationalists are of the opinion that employability orientation in the curriculum has compromised the basic purpose of education.

English is now almost learned by every student because people have found that knowledge of English is a passport for better career, better pay, knowledge and communication with the entire world. English is also learned to know its richness that it possesses and for the variety of rich opportunities it provides.

In globalized context students of Engineering and Technology need a specific set of language skills for their success in education and career. The aim of the English course in engineering colleges at present is to teach language skills (LSRW) through natural acquisition of language.
English for learning Science and Technology poses a challenge to them. Industries are voicing their concerns for students to possess better Communication Skills. Therefore there is a need to revamp the English programs in engineering colleges so as to suit the requirements of employer’s needs and progression of engineering employee.

Today the Engineering aspirants represent the upward trend of middle class students entering into engineering of a resurgent India. They know that in order to survive and succeed they need to have competitive “Communication Skills” in the English language. The employers demand it and the Universities are waking up to provide them.

In the present context of Globalization the need for English has become more important. It is not just a library of language or language used for some occupational purposes is enough but, today’s engineers have to communicate with more number of his counterparts across globe. A large number of engineers have to now travel to many countries for further studies or to do global jobs away from home. Also among the scientists, technologists and business experts from culturally and linguistically different communities English has become the only language for communication. Technical writing itself is now a discipline of studies. Business process outsourcing center’s now demand engineers who can write without mistakes.

The role of English for Specific Purposes (ESP) professionals in engineering colleges is not only to impart linguistics skills in students but also many soft skills. As the range of employment for engineers and technologists expanding in the 21st century, there is a need to teach multiple skills to these students. As engineering students are required to communicate effectively in different situations, think creatively and critically, demonstrate good interpersonal and team skills have set of soft skills demanded by recruiters. The English course for them needs to be modified accordingly. But the question arises does our curriculum meet this demand? Are the available
study materials sufficient? Is the methodology appropriate? Is it time for us to take a fresh look at ELT in engineering colleges? The answer to all these questions is yes.

India is now looked upon as one of the rapidly growing economies of the world. The country has a stable and democratic political system and has made significant progress in many human endeavors after independence, including engineering education. Over the last four decades, India has embarked on a massive expansion in the sector of engineering and technical education and, the nation presently faces many challenges due to rapid growth in unemployment and this is primarily due to exponential growth in the number of engineering institutions in the country.

Siddhartha Bagchi (2002:4) traces the history of engineering education in India. The earliest engineering colleges were opened as early as in the late 18th century by the British Government of India, whose sole purpose was to train Indians to become public works engineers. He attributes the increase in the number of engineering colleges in recent years to States support, as well as the entry of private players into the field of education. However, at the same time, the exponential growth of technical institutions in India in general, and in the state of Gujarat and Maharashtra in particular, has raised many concerns regarding its quality. Bagchi (2008:5) further adds that in India there are no appreciable differences in curriculum between various educational and technical institutions teaching engineering related subjects. He problematizes the fact that there is no emphasis on humanities in the engineering curriculum in these Indian institutes.

3.1 English and Engineering Education in India:

In this era of English as an International language, English has become the primary means of communication between many professions around the World. English has held a very important
position and is increasingly becoming the medium of international communication. Moreover, ESP is viewed by Essen (2000) as a major reason for the existence of English as an international language (EIL) hence a variety of English as a Lingua Franca: Widdowson (1994:144) (3) argues that EIL and ESP are coterminous. “Otherwise it would not have spread, and would not have achieved first place of an effective means of global communication. Due to this it has been adopted for learning at school and University levels. In other words the prevalence of English as a global language is of greater interest in specific context such as learning as a foreign or second language, Essen (2000)

English as a Lingua Franca, as defined by Seidlofer (2007:339), is “a way of referring to communication in English between speakers with different first languages” which seems to suit the needs of engineering students rather well.

3.1.1 The Status of English in India in Engineering Colleges:

In India, English is taught as a foreign language. In its general ELT contexts India, like many other countries, has also been influenced by the dominance of English developed in various domains as an international language. Thus the requirement to learn about native speaker’s pronunciation and style for most ESP students, including engineering students, might be perceived as old-fashioned since their communications happens mostly with non-native speakers in their multinational professional setting. English spoken by students is used as instrumental tool and utilized in cross-cultural settings.

3.1.2 Current Status of English

Today ELT has been influenced by the emergence of many varieties of English due to increase in the number of non-native English speakers in the World. The apparent dominance of non-native speakers of English suggests the need for a change in ELT practices. English has proved to be a
medium of international communication in several domains and spheres and it plays a fundamental role within communication in multinational settings such as business, science, technology and medicine at a global level. The spread of English in every sphere of life is a significant side effect of globalization. The use of English is increasing and appears to have been growing as an intra-national and has become like an international currency in engineering placements. English has always been the dominant medium of international communication in the engineering field.

3.2. The Growth of Technical Education in India

India has the second largest population in the world, and was the second largest producer of university degrees in 2002. India has also contributed substantially to the global higher education by delivering 687,000 university degrees in 2000. There has been a tremendous expansion of facilities at the higher education sector in India. At the time of regaining independence in 1947, the number of universities and colleges of all types stood at 27 and 370 respectively. By the year 1996-1997, there were 228 universities and 6,759 affiliated colleges, indicating the stark and tremendous growth in this vital area of Indian education. The number of students at the university stage, which stood at 0.2 million in 1950-51, has since risen to over 6 million during the last decade. The literature survey also shows that there has been a substantial growth in the number of engineering and technology institutes during the last four decades. Indeed the four southern states of India alone produce about 75% of the country’s total engineering workforce, which is more than that produced by the USA.

The State of Maharashtra contributes more than 50% of this educational enrolment. For instance, in Maharashtra, the intake for diploma and undergraduate engineering courses was 1,940 and 952, respectively, in the year 1960-1961; this has increased to 35,440 and 45,797, respectively in
the year 2000-2001. (5). The population of engineering graduates has increased from 453,920 in 1920 to 1,034,753 in 2000. This represents dramatic growth by a factor of almost 4.36 over last 10 years.

![Figure 3.1. Growth of Engineering students in Maharashtra.](image)

The progressive intake for diploma and undergraduate engineering students in state of Maharashtra over the past four decades and is represented in figure 3.1. However engineering diploma and undergraduate courses provided to them posed the biggest academic challenge in terms of the status and quality and quantum of salary.

It should be noted that the State Government has already granted academic autonomy to many government-aided polytechnics and degree courses, which enabled them to design and introduce their own curricula. However, this has led to disharmony of the level of standardization in this regard. The remaining institutions have a common syllabus that was formulated, designed and controlled by the Maharashtra State Board of Technical Education (MSBTE), and of by Board of studies of each University independently.
3.3. Engineering and Technology Education in the Asia-Pacific region:

Over the last two decades, the growth of Higher Education in general and Technical Education in particular, in the Asia-Pacific region has been drastically increased. Several reports on economics and higher education have pointed out the substantial rise of Higher Education. India has pioneered in Technical Education independence; this is especially so for the state of Maharashtra.

Figure 3.2: Brief Outline of the Structure of Technical Education in India.

Figure 3.2 gives a brief outline of the structure of Technical Education in India and the entry requirements for the various levels from the Secondary School Certificates (SSC) and Higher Secondary School Certificates (HSSC).
Engineering and technical education in India, and so in the State of Maharashtra, is generally imparted at three different levels. These are as follows:

- Trade certificate courses and vocational technical courses for skilled workers, which are carried out at Industrial Training Institutes (ITI), higher secondary schools and junior level technical schools;
- Diplomas in engineering and technology courses to produce middle level technicians which are conducted at polytechnics;
- Undergraduate and postgraduate engineering and technology courses, which are conducted at the Degree and Postgraduate levels at engineering Institutes, Colleges, Regional Engineering Colleges (REC), Indian Institutes of Technology (IIT) and Indian Institute of science (IISC) etc.

3.4. Objectives of Technical Course:

The Mumbai University CS and PCT syllabi are taught in the I<sup>st</sup> and III<sup>rd</sup> Semester. Out of total VIII Semester examination to become an engineer the ratio of marks for learning these important subjects are less than 45. Whereas the student when he is going for placement, he is required to impress the employees in terms of language and Communication Skills. At times his knowledge of core engineering subject becomes secondary. This is unfortunate but a true tragedy faced by engineering graduates, where employer is more interested in marketing skills than the quality of the product.

The objectives of teaching Communication Skills and Communication Skills are:

- To help learners improve their vocabulary and to help them to use words appropriately in different contexts.
• To familiarize learners with different rhetorical functions of Scientific English.
• To help learners develop key techniques that could be adopted while reading texts.
• To help learners develop listening skills for academic and professional purposes.
• To help learners acquire the ability to speak effectively in English in real life situations.
• To provide practice in realizing the meaning potential of a text and to make the learners become familiar with different reading strategies.
• To help learners acquire interpretive and study skills, including library and internet reference skills.
• To train learners in organized academic and professional writing, Technical Paper writing, and Writing Reports.
• To develop aural competence and oral fluency of learners.
• To help learners achieve proficiency in the effective use of language in authentic career-related situations.
• To help them develop their soft skills and people skills, which will make the transition from college to workplace smoother and help them excel in their jobs.
• To enhance students’ performance at placement interviews, group discussions and other recruitment exercises.
• To identify the language needs of engineering professionals as per his speculation.
• To learn Business Communication

3.5. Course Structure

• The engineering and technology education course structure in the State of Maharashtra and Gujarat have been somewhat similar in nature as compared to other states. However, the
entry requirements for both, diploma and undergraduate engineering courses, is uniform all over the country.

- These States have introduced the Common Entrance Test (CET) for the engineering admissions. The courses from academic year 2006-2007 for diploma by board and degree by University are as follows.

3.5.1. Diploma Courses:

- The engineering diploma courses in the State are of three years’ duration, and taken after 10 years of formal education. The eligibility required that the candidate must have passed his/her Secondary School Certificate (SSC) examination with at least 50% marks in aggregate in subjects of general science, elementary mathematics or algebra, geometry, as well as English.

- Students of the first year engineering diploma course have common curricula with uniform teaching and examination patterns all over the State. However, with academic autonomy being granted too many polytechnics, standardization has been reduced with different curricula being designed and introduced. The remaining institutions have common syllabi which were formulated, designed and controlled by State Board of Technical Education.

- Diploma holders tend to be middle level technocrats and are mostly suitable on the production floor or in the maintenance department, mostly remain at the supervisory level.

3.5.2 Degree Courses

- Undergraduate engineering courses in the States are of four years’ duration, coming after 12 years (10+2) of Higher Secondary Examination. The eligibility criteria require that the candidate must have passed Higher Secondary School Certificate (HSSC) examination with at least 50% marks in aggregate.
Since undergraduate professional engineering courses in the state are in high demand, admissions are strictly done on a merit basis, and the merit list prepared with respect of marks obtained in three subjects at HSC examination namely: Physics, Chemistry, and Mathematics.

Academic autonomy has been granted to many engineering colleges; as such standardization has been diminished due to different curricula designed differently by different autonomous institutions and the remaining institutions have a common syllabus for the first year engineering courses that has been formulated, designed and controlled by the Director of Technical Education (DTE) with the approval of the All India Council for Technical Education (AICTE). Annexure 5 is the syllabus, Mumbai university

3.6. Observations on Course Curricula:

A number of observations and findings have been made; these are listed below.

In the cases of diploma students:

- The increasing competition for admissions and the strategic failure of Vocational and Technical courses in terms of knowledge, depth and poor expression skills in increasing unemployment rate of diploma holders.
- In the Technical Education structure and their employment scenario, the position of diploma holders in the employment market is sandwiched between skilled workers and engineering graduates.
- The heterogeneous groups of students are taught in the same class of Engineering Diploma courses as Higher Secondary Certificate holders and have the option to carry over, or seek exemption from, some of the subjects.
• Students with English as the main medium of instruction for their high school education are enrolled in the same group as those from a non-English medium of instruction.

• It has been observed that Diploma holders face several challenges in the employment market because of low self-confidence; this is primarily due to lack of Communication Skills. The main reasons for this are as follows:
  ➢ Poor English language proficiency;
  ➢ Lack of oral and written Communication Skills;
  ➢ Lack of proper representation techniques.
  ➢ Inadequate teaching of technical language.
  ➢ Vernacular background.

• Most Diploma students (66%) lack confidence while facing interviews during the selection procedure. The reason cited by students and faculty members is the lack of skills and attributes which are essential for personality development.

In the case of undergraduate students:

• The estimated employment of engineering students in India is just 30% as companies do not find the candidates suitable from the point of view of soft skills and proficiency in English language.

• Due to a lack of proper placement opportunities and industry-institute interaction, the vocationally and technically qualified candidates turn to undergraduate degree education, rather than the taking the minimum skilled working employment. This in turn, places a burden on the undergraduate unemployment.

• It has been observed that the majority of students enrolled in first year engineering undergraduate courses in the State have a Marathi speaking background, which is part of
their secondary education other than English. The vernacular medium students start learning English from std. 5.

- Students are taught in heterogeneous groups in the same class; consequently, there is the same curriculum for the Communication Skills subject for English speakers as for non-English speaking students.
- Out of a total content of an engineering curriculum of first year undergraduate courses in the State, Communication Skills contributes less than 4% with only 3 credits.
- Since the subject Communication Skills have been introduced for first year students, and that based mostly on theoretical assessments with just two practical sessions in the form of speeches, students lack a sufficient level of oral Communication Skills required after graduation.
- Communication Skills taught in the third Semester second year, also has only few practical sessions so it is difficult for the students to gain proficiency in language.

3.7. Rationale:

The rationale behind the choice of this topic for research is the fact that the present courses in Communication Skills and Communication Skills do not measure up to the mark from the point of view that there is not 100% employability for these students only due to lack of English proficiency as well as lack of soft skills which cannot be taught in one Semester. The changes in the curriculum, course designing will set higher demands on the teachers too, as they will have to play a more professional role. They can no longer be mere teachers of Technical English; they will be expected to play the role of soft skills trainers and Communication Skills consultants.

The engineering students in Maharashtra and Gujarat are admitted to the first year degree courses at the age 17-18 years. After doing their Higher Secondary School Certificate (HSC) at school or
Junior College respectively. These students come from varied background, those who had instructions in either English or their regional language. Some would have learned English for 6 years or some for 12 years. The majority of students come from regional language medium schools. Teaching and learning English in rural areas is a serious issue in the State of Maharashtra and Gujarat. As we are familiar with the fact that along with the regional language number of dialects are also spoken. The problem of linguistics competence grows more severe because of this.

There are several other reasons that add to the complexity, like:

- Psychology of the student.
- Lack of awareness.
- Paucity of social exposure.
- Apathy of teachers and educational institutions for effective teaching.
- Paradox in syllabus.
- Less exposure to the subject.
- Poor curriculum for the subject.

In principle, they join the first year college course with some knowledge of English and they are supposed to understand and express themselves in workable English while pursuing the course. The cultural and linguistic diversity and the rural-urban divide are posing a great challenge to both the curriculum developers and the practicing teachers. English is the medium of instruction in the field of professional education but language proficiency is not a criterion for selection in engineering college. The aptitude is assessed through a common entrance test(CET), which only has the knowledge level of basic sciences and those who gain admissions should have passed the HSC or its equivalent. Most students “do” their English with the main aim to pass their
examinations and they are able to do so with the help of notes and rote-learning. Even most teaching in English language is geared to prepare the students for the examinations rather than to enable them to learn the language. The linguistics competence of these students is far from satisfactory. They have acquired the rules of language and may manage to convey their ideas often in faulty English. The English teacher of the advanced learners is beset with the problem of making the students unlearn faulty usages they have acquired over the years.

Most students therefore, when they join college, suddenly realize that they are poor in English. They wish to become engineers with at least having learnt as a library language. In short, there is always a wide gap in reality between the entry level proficiency of the first year college students with reference to general English and the take-off point in the teaching of English at college level that invariably results in deficit of communicative language.

Therefore the topic chosen for the research is “Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of current practices. The approach to handle this problem shall be based upon the introduction already placed here. It is necessary to understand the problem of speaking, understanding and communicating in English language in job situations and practices and also understanding and interpreting the language at advanced levels at National and International scenarios. As students encounter this problem, no matter whether they come from English medium schools or vernacular medium schools for learning engineering courses. The data shall be collected on Secondary School passed out and students entering Higher Education in Maharashtra and Gujarat with the composition of students coming from local language education stream and English language education stream.

In our studies the data will be collected with respect to progression of the students from 10th to 12th with respect to percentage scored by them in core science subjects and English language
with reference to respective streams and the comparison shall be made based on their results respect to language proficiency and progression of students.

Comparisons shall be drawn between the State’s Higher Education with respect to the streams of languages i.e. local, vernacular and English and also the percentage of students entering into non-professional and professional courses.

School of Higher Secondary in every State shall be selected to generate the data and analysis with respect to the areas discussed above. The problem associated with current practices of designing and testing of students vis-à-vis their proficiency shall be evaluated and innovative practices shall be suggested so that students will find it easy to study the course of core engineering science with English as a leading language and recommendation shall be made to design for such kind of courses which shall facilitate the ease of learning for entering university education.

3.8. **Practices and Designing of Engineering Courses:**

The models of Higher Education in engineering shall be selected with one university in Maharashtra and Gujarat each. Information shall be sought from Directorate of Technical Education (DTE) and Universities in each State about establishment and learning facilities in the Polytechniques and Universities selected. A four year study program with reference to syllabi designed in every State university for English language and any other language if it is a medium of teaching engineering subjects in that University will be documented.

Again the composition of core engineering subject and the method of learning and course design shall be researched out by collecting data and interacting with teachers and learners.
A comparative study shall be drawn between students coming to engineering colleges with vernacular background and English language as medium of instructions. With respect to ease of understanding learning of the skills and proficiency acquired in terms of Communication, Presentation and depth of understanding the subject.

References will be made to progression of students in Indian Industries and overseas, engaged in education, research and employment. Therefore based on roots of students innovative practices offered by universities and colleges and course composition shall be compared between the universities. Similarly methods of testing acquired English proficiency in terms of requirements and practices shall be evaluated. Based on these studies the results of the current practices primitive or innovative shall be obtained.

Mathematical model can be drawn for every university and between the universities suggesting improvement in innovative practices and course designing, the logistics of learning and evaluation in the interest of furthering the quality of education for national and global standing of the students which will help in improving the quality of education in engineering field vis-a-vis for the universities in India to acquire brand equity. An exhaustive literature survey in this context shall be presented which could be referred as a model for further practices to be adopted by the universities.

3.9. Null Hypothesis:

The present Communication Skills and Communication Skills course in the 1st and the 3rd Semester fail to meet the student’s needs. Students in the science streams need English to understand the subject helping them to communicate their technical knowledge and lead them to
progress. Students require skills of learning and also innovative course structure to acquire proficiency in the language.

This study seeks to test five Null Hypotheses:

- The present Communication Skills and Communication Skills course in 1st and the 3rd Semester fail to meet the student’s needs.
- Students in the science and engineering stream need English to understand the subject helping them to communicate their technical knowledge and lead them to prosper the workplace.
- Students require skills of learning and also innovative course structure to acquire proficiency in the language.
- Students in the Engineering need good English knowledge learning for CS and PCT for progression.
- Students require study skills like note-taking, note-making, presentation skills, Interpersonal skills, technical writing, skimming, scanning, reference skills, career skills etc.

3.10 Design and Methodology:

3.10.1 Research Paradigm:

According to Denzin and Lincoln (1994), qualitative research is a multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. When qualitative researchers investigate phenomena in their natural settings, they attempt to make sense of or interpret those phenomena in terms of the meanings people bring to them. Qualitative research, with its interview style allows research, with its interview style, allows
researchers to investigate meanings made by specific audiences hence enabling them to overcome what he views as major quantitative research weaknesses, meaning and operationalization.

Since the purpose of this research is to understand the present English language teaching courses in engineering colleges in Maharashtra and Gujarat and then design course for the betterment of engineering students so as to get placed well in this globalized world and also be competitive with the language skills, and since all knowledge production is related to the assumptions, investigators bring to their studies. Qualitative research and this has sometimes been identified as constructivism. In fact, most post – positivists have been considered as constructivists as they believe that individuals construct their own view of the world based on their perception of it. A rather similar definition of the interpretive approach is that it is a type of research which typically tries to understand the social world as it is (the status) from the perspective of individual experience. The knowledge that is constructed during a qualitative study is interpretive. This is where constructivism and interpretive is said to be related.

According to Clark (2001) (5), “the term constructivism refers to the social construction of knowledge”. Constructivist researches are more interested in the construction of knowledge between researches and researched and therefore explore bias in relation to the situation of all interviewer/ interviewee contents in perspective because research participants may be more or less relative in their own perceptions. Knowledge emerging from interviews is at least past created and not discovered by the researchers. Thus, knowledge and interpretation are the result of a collective, not an individual process.

3.10.2 Control Ideas during Research:

- The assumption researcher brings to the subject of inquiry, and to the research situation.
• The socially constructed meanings that occurs in the content of a particular interview.
• The socially constructed meanings that existed prior to, and shape or limits the meanings that may emerge in a specific interview content.

My research for this particular topic is therefore constructivist in the sense that it appreciates the co-construction of knowledge between me as a researcher and my students as the researched. It also confirms the collective nature of the work rather than claiming that work is individual.

3.11. Methods And Design:

One of the major weaknesses of relying on the mono-method approach for collecting data causes bias to the validity of the results. Therefore, methodological triangulation is advocated and applied across the Technologists and Engineers, as it attempts to map out and explain more fully the richness and complexity of human behavior by studying it from more than one standpoint, i.e. by using both qualitative and quantitative data.

In this survey, mixed methods are followed in order to collect the data required, drawing on a model of combined designs. This is called as two-phase design and it focuses on two separate qualitative and quantitative phases of the study.

The first phase of this study is the qualitative one, interviewing 40 Communication Skills Teacher utilize the interview results to design a subsequent quantitative phase of the study. Questionnaires will be administered to participants from the same survey. This type of mixed method designs is called by Tashakkori and Teddlie (1998) (2) as a Sequential Equivalent Status Design which can follow the Qualitative and Quantitative order.
3.12. **Aims and Objectives of the Research:**

Through this work we would be analyzing the English syllabus across Maharashtra and Gujarat Engineering Colleges with one rural and urban college and study the objectives, the student’s present language proficiency at the college level and as graduates, their achievement and shortfalls. One aim is to design and develop a curriculum that addresses the needs of the research. Such a course should help the learners not only with the communication and presentation needs in the technical industry and academics but also help them to rise their general levels of proficiency in English to compete with the natural speakers and meet the demands of the multinational companies in their job profiles and also where students go abroad for further studies, they can meet the demands of English language in countries like USA and UK.

3.13. **Research Questions:**

This project examines various aspects of language teaching and learning in an Engineering Colleges in Maharashtra and Gujarat and the most important of which is student’s proficiency and attitude towards the courses which is taught as Communication Skills. To investigate these areas this study addresses the following questions:

1. What is wrong with the current Communication Skills and Communication Skills syllabus?
2. What are the needs and expectations of the students?
3. Why do Engineering students need syllabus and what is their preference?
4. What are the student’s attitudes towards the courses?
5. Why are the students not motivated in learning language through these courses?
6. To what extent is the student aware of their future professional establishments and the importance of Communication Skills in relation to that content?

3.14. Data Collection Tools:

Questionnaires and structured interviews are the main data collection methods.

- Selection of colleges in both Maharashtra and Gujarat University.
- Researcher as an EST practitioner
- Interviews with HR professionals.
- Obtaining the list of innovative practices through interaction and suggestions from subject teachers.
- Existing reference materials, prescribed texts if any to be evaluated.
- To select 130 students as sample size from engineering colleges 1st Semester and 2nd Semester and 5th Semester from Mumbai and Gujarat University.
- Identifying and contacting past Students
- Students working in industries.
- Interaction with Training and Placement Officers of two colleges
- Interacting with Professional engineers for their opinions of engineer employees with them.

3.14.1. Interviews

Briggs (1986) (6) states that 90% of all social science investigation use interviews in one way or another. According to Richards (2003) (7), interviews are an important method in qualitative research. As Rossman and Rallis (1998:124) (8) put in, “in-depth interviewing is the hallmark of qualitative research”. Interviews are necessary to answer the research questions and fulfill the aims of this study i.e., to explore deeply students’ attitudes, needs, beliefs, perceptions and
opinions towards the current course of Communication Skills in Engineering colleges and designing an innovative course. The interviews will be conducted because as a teacher in an Engineering institute for last 15 years, I had ample opportunities to have interacted face to face with many students. Students themselves are found to be more willing to help out because they personally know the researcher.

According to Dudley-Evans and ST John (1998) (9), although the interviews are time consuming, structured interviews are extremely useful in needs analysis, providing valuable information that we could not otherwise obtain. And having limited time for data collection, conducting small-scale individual ‘information interviews’ would give more in-depth perspectives about students’ beliefs, attitudes, and perceptions. During the interview process, researchers are able to investigate further information or to ask for classification of the responses when necessary. This is because interviews allow for meaning negotiation between the interviewer and the interviewee. Brenner, Brown and Canter (1985:3) (10) states that ‘any misunderstandings on the part of the interviews and the interviewee can be checked immediately’. The interviews will be conducted on a small-scale, but this does not mean that the findings cannot be generalized; instead, this can be achieved through the researcher’s confidence in his/her results by the use of validity and reliability checks. My checks will include validating the recording and transcribing processes making sure the evaluations are accurate using multiple revisions, and contacting students afterwards to ensure their accounts had been preserved.

Before generalizing the outcomes, the reliability and validity of the data will be sustained, i.e. the researcher will assure the process of content analysis ‘where intuition and interpretation play a major role in the analysis.’ He/she should be careful with his/her questions and while interacting with his/her interviewees so as to avoid personal bias.
3.14.2. Questionnaires:

The use of Questionnaire, with its various types, is one of the most common methods used for collecting data in second language research. It has been widely applied and has become one of the most popular research instruments applied. Developing a Questionnaire usually yields worthwhile data with sufficient and well-documented psychometric reliability and validity. Questionnaires gain great popularity for a number of facts, the most prominent being their unparalleled efficiency in terms of a researcher’s time, effort and cost. Through a Questionnaire, one can gather a huge amount of information in shortest time, and if the Questionnaire is well-constructed, processing of data can be done easily especially in an age of computers and word processing software. The mailing of a Questionnaire to target population seems to be preferred by answering individual. It can be said that this approaches might be easier to conduct but however it costs and may turn out to be unauthentic. Questionnaire has been extensively used by needs analysts after determining the Target Situation Analysis and Present Situation Analysis. Since this study is investigating an area of needs, such a method is thought to be useful enough based on previous studies. Moreover, as learners’ attitudes is another Primary Focus to be analyzed and presented, the Questionnaire’s ability to measure attitudes, beliefs and opinions in mind, will also be useful. Apart from the virtues of Questionnaires that might present them as the perfect research instruments. Limitations of data quality, low response rate, misunderstandings, the incapacity check of the honesty or seriousness of the answering individual etc., and some other issues will be rooted out.

However, I have chosen this method because it requires different approaches against only one, i.e. interview. The Questionnaire will be more quantitative oriented, and will consist of at least 25 semi-structured types of questions. Section I contains eight general questions to get
information about the student’s age, knowledge level, usage of English and the skills they need as Engineers. Section II will consist questions 10 to 16, and will be called Needs Analysis Questions, asking about students’ satisfaction with the present teaching/learning situation and investigating whether the present course is sufficient to help them gain proficiency. And the last Section III is used to elicit students’ attitudes towards the course and discover their needs and aims to incorporating their suggestion for designing innovative syllabi according to the demands at the Global World.

One risk with the Questionnaire approach is clear that is the questions and answers may be determined in advance which in fact reduces the element of ingenuity. To avoid this, open ended questions will be attached to each of three Sections, so as to allow the space for the participants to answer indigenously to postulate may lie behind the responses selected. Thus, students will be free to say what they liked in the provided limited space despite the fact that more specific answers will be expected in each case. In fact, Questionnaires are generally used for quantitative information i.e. those constructed with closed items where the possible answers are predetermined. Interims of answers are much less likely to be representative and this may show how a Questionnaire can be used qualitatively.

My Questionnaire mostly will consist of multiple-choice questions and likert scale items with margins available for comments i.e. for the open ended questions. The flow of questions will follow a simple categorization of items based on the nature of the subject discussed. For instance, basic general questions will come first, followed by questions about ESP in Engineering and questions about need and response and the possible shift will be the last. This design will follow a simple visual approach which will ensure clarity and ease of use.
Since a more qualitative method and that is interview is also used, there is more of a chance of overcoming the Questionnaire’s shortcomings. This combination can enrich the data being gathered. However, in my survey, the interview instrument will be used preliminarily to help inform the design of Questionnaire. The list of interview questions will be piloted before the actual construction of the Questionnaire.

3.15. Research Population:

The participant sample selected for this study will consist of students from Mumbai University Engineering College and Gujarat Technical University Engineering College who are studying Communication Skills as a course for the academic year 2010-2011 in the 1st year and Communication Skills in the 3rd year. The population consisted freshly admitted students in engineering branches with education in vernacular medium as well as English medium and background. The branches will be selected with an intake of 60 students per branch. These students normally shall be of age 18 to 25.

The response of teachers in both the universities shall be of selecting at least 18 teachers teaching the syllabus of Communication Skills and obtained by 10 teaching Communication Skills.

This Chapter is devoted to a description of the experimental research work conducted with the various target groups. It represents the description of the tools and procedures used for data collection along with the colleges selected for the study. Here the objectives of the study is to assess the learners communicative needs, to assess what skill sets are required for graduates employability and what the present curriculum is lacking as there is no 100% employability for the engineering students. Here the researcher is trying to evaluate the Communications Skills course and Communication Skills course in Mumbai University, and explore the possibilities of
incorporating some essential skills which engineers need at the work place and find out innovative methods in designing the new course or modify the existing ones. In the light of the above objectives various techniques and methodical approaches are used to gather and analyze the information on the present syllabi and to gain insights in to the students’ needs and those of corporate sector.

In order to have a good statistical evaluation research was conducted with different sets of people. We selected two elite colleges established since several years in Mumbai University region and in the Gujarat Technical University region. Both the States till 1960 coexisted as one State and later were bifurcated as State of Maharashtra and State of Gujarat. This bifurcation was based on linguistic basis as the respective state languages are Marathi and Gujarati as their vernacular languages. This is to be given due consideration while examining the students for their language proficiency in English as they have to learn the engineering courses in English language. However we need to also consider the factor, that in both the States many students opt for school education in English medium and students from both the states have the advantage of metropolitan cities like Mumbai in Maharashtra and Ahmedabad and Baroda in Gujarat. These students though small in number have edge over the students coming from vernacular languages from rural areas. Therefore, the analysis have some impact on various parameters which becomes a separate subject of research. We here have taken equal sample numbers 65 each from each college. Similarly we have selected 18 teachers teaching Communication Skills covering different colleges in each jurisdiction.

The colleges selected are

  i. Sardar Patel College of Engineering, Andheri West Mumbai. This college has three core branches of engineering i.e. Civil, Mechanical and Electrical with both, UG and PG
programs. College was established in 1962. The intake is of 60 students per branch to which second year direct admissions are made based on merit with an intake of 10 students per branch.

ii. Lalbhai Dalpatbhai College of Engineering Ahmedabad, College is popularly known as L.D. Engineering College was established in the year 1948. It has 14 undergraduate courses and 17 postgraduate courses with an intake of 75 students per course.

In SPCE the total teaching staff strength is about 81 faculties and for teaching the course Communication Skills 1 faculty post is approved with a work load of 2 lectures per branch and 2 tutorials per batch of 20 students. Thus the load comes to 24 lectures per week. Same is the case with other colleges too. The teachers come from variety of language medium which have some impact on teaching their own engineering subjects. Therefore, Communication Skills and English Language Teaching have a great bearing on students’ performance.

Communication Skills is taught in the 1st Semester in the First Year of Mumbai as well as Gujarat University and the sample size selected was 130 comprising 65 each whereas Communication Skills is been taught in the Vth Semester of Mumbai University unlike not taught in Gujarat University and the sample size selected is 65. The result shall be tabulated and analyzed separately as per the given Questionnaire. Whereas varied sample size was taken for rest of the appendices. Sample size of 18 teachers was a common number for both the colleges in two different university. The Questionnaire were based on my personal experience as a teaching faculty in SPCE Mumbai for last 16 years and the Questionnaire were designed based on my experience, proficiency skills, and good and bad experience with the syllabus, curriculum in the said area. References work with respect to these areas of research was of Publications and Bibliography of other researchers.
We also interacted with the Training and Placement Officer of SPCE and L D Engineering College. I as a researcher also took into consideration 50 passed out students. The main features of Questionnaire to them were focused on efficiency acquired in Reading, Writing, Speaking and Listening Skills, also Interpersonal Skills and Soft Skills.

The following was selected as research population:

**APPENDIX 1.** Questionnaire was given to students undergoing the course that is First Year students of 1st Semester of Mumbai University and Gujarat University who had taken the course Communication Skills in the 1st Semester and 2nd Semester in Gujarat University and 1st and 5th Semester of Mumbai University. The questions were centered on opinion from the students regarding the aptness of the course for engineering students in terms of the curriculum, syllabus content, Communication Skills requirements and practices. Total 16 questions of the given set consisted varied parameters for their response while learning the course.

**APPENDIX 2.** Entitled *Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of Innovative Practices*. The Questionnaire designed for EX students consisted of 50 questions centering on their experience of learning engineering courses in English language and how they prepared themselves for studies, how much proficiency and skills they acquired. This shall be evaluated according to their self-assessment, understanding, competencies, and weaknesses when they came out as engineers and are placed in jobs.

**APPENDIX 3.** Entitled *Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of Innovative Practices*, is a Questionnaire for teachers comprising 26 questions for evaluation of teachers about the course content, problems faced, challenges, their understanding of students, interaction with students, with various assessment criteria and also taking opinion of students about the subject. The researcher as an EST practitioner at Sardar Patel College of Engineering, Mumbai and also a Guest Faculty with some other institutes in
Mumbai came in contact with hundreds of students who have had the experience of undergoing placement training, attending campus interview as an observer.

The case studies of those students who could sell themselves successfully in the job market and those who couldn’t do so helped the researcher gain an insight into the target needs of engineering students and need for modifying the existing engineering English course in order to make it more effective.

**APPENDIX 4.** Entitled *Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of Innovative Practices* is a Questionnaire for subject teachers teaching Communication Skills comprising 4 questions to know the experience of teachers while teaching the subject with their preparation, qualifications and the material and teaching methods they use while teaching.

**APPENDIX 5.** Entitled *Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of Innovative Practices* is a Questionnaire for Placement and Training Officers seeking information regarding understanding attitudes of candidates their proficiency in the language and their placements.

**APPENDIX 6.** Entitled *Course Designing and Testing of English Language in Engineering Colleges: An Evaluation of Innovative Practices*, is a critical evaluation of professional engineers who are already well placed in companies seeking information on their place of work, work experience, the advantages and the shortcomings of the syllabi they studied. Attention shall also be given also on how is that helping them to compete with others and the globalized competition, are they well equipped with the interpersonal skills, and how well they communicate with the demands of the industry. The Questionnaire comprises 23 questions seeking various introspection on the subject that we are teaching, its utility/applications while they work as professional engineers.
Based on the results and analysis the researcher would like to develop an innovative model for
the next generation engineers. The following Sections will analyze the data collected from
various sources to assess the target needs.

3.16. Methodological Issues:

Due to the lack of command over English language by all the participants, I selected urban
college students as well as students from rural area with vernacular background. The researcher
will try to maximize the validity and reliability of the Questionnaire by using easy understanding
English so as to make it easier for the participants and more appropriate to measuring what is
supposed to be evaluated.

Ethics of scientific approach to the proposed research will be closely observed throughout the
different stages of this study. Respondents shall be briefed before about the nature and goals of
this study and consent for willingness to answer Questionnaire.

3.17. Conclusion:

In order to maintain relevance in today’s world, universities need to reflect industry (and social)
demands by passing on to graduates the required skills. Isolating into separate subjects those
particular skills recognized as necessary, such as Oral Communication Skills through innovative
methods. This will not facilitate reinforcing the desired behavior unless they are incorporated
into engineering subjects. Integrating these skills within subject modules, especially in the
marking structure, can thereby achieve the right skills combination. Nevertheless, the inclusion
of communications subject in engineering education should be viewed as a vital component of an
engineers’ education.