

## COMMUNICATIVE ENGLISH: CHALLENGES OF EMERGING ENGINEERS

**M. D. Rafi**

Research Scholar

Dravidian University,

Kuppam, (AP), INDIA

Email id: [rafimd14777@gmail.com](mailto:rafimd14777@gmail.com)

**Dr. M. Venkateswara Rao**

HOD, Department of English

S.V. Arts College,

Tirupati, (AP) INDIA

Email id: [vuppucherla@rediffmail.com](mailto:vuppucherla@rediffmail.com)

### ABSTRACT

Graduates' communication skills and English language proficiency have long been a concern of employers in India. In order to equip engineering students with the expected English language and communication skills in the workplace, institutions should develop specific programmes to meet their needs. This paper attempts to demonstrate how the Professional and Technical Communication courses at different colleges, universities in India help their engineering students develop their language and technical communication skills. A comparison and appraisal of the pedagogy will be presented, illustrated with empirical data and examples of classroom practice. It is hoped that this paper will stimulate insights from technical communication professionals, which can help us design quality English for Specific Purposes (ESP) courses for nurturing engineering talents. A lack of sufficient communication skills serves only to undermine the image of the engineer, but this can be tackled by engaging features of emotional intelligence (EQ) in the education of engineers. EQ offers various components that can improve communication skills and emphasise a more experiential approach to learning.

### INTRODUCTION

Communication skills are essential for an engineer who aspires to carry out his/her professional practice in the global arena. Engineering communication skills basically constitute several core elements such as the fluency in the English language and the fundamentals of visual communication. Evidence indicates that communication skills are what helped *Homo sapiens* evolve beyond our related ancestors, and that these skills have helped humankind develop into the advanced societies on Earth today [1]. However, these skills have become stifled in the very discipline that has brought so many advancements, and that is engineering.

There is ample evidence that graduate engineers lack the required standard of communication skills, particularly when compared to the needs of industry internationally [2], [3]. This can also be determined when considering related disciplines offered at universities (e.g. business). This is so much so that the Dean of Engineering at Duke University stated that *engineers who are adept at communications have a considerable advantage over those who are not* [4]. Furthermore, this lack of communication skills only serves to undermine the whole profile of the professional engineer.

### ***Engineering and Communication***

*“You don’t really understand something unless you can explain it to your grandmother.”*

Engineering students need training in effective communication skills. The reason why is often summarized in the rather chauvinist maxim above (e.g. in Grossman, 2014); but this reasoning does little to dispel any notion that such skills are superfluous [4]. To readers who undervalue communication for engineers working on technical subjects and projects, Huckin and Olsen (1983) have this clear retort:

In a word, if technical people cannot communicate to others what they are doing and why it is important, it is they and their excellent technical skills that will be superfluous. From this perspective, communication skills are not just handy; they are critical tools for success, even survival, in “real-world” environments.

The unambiguous wording of this forewarning should compensate for its age. Indeed, in more recent times, advice from other scientists have only become even more explicit, e.g. *Don’t Be Such a Scientist* (Olson, 2009), *Escape from the Ivory Tower* (Baron, 2010). For many engineers, effective communication skills presume proficiency in an additional language [5].

Communiquer, comprendre, écouter, négocier, argumenter et écrire dans une langue autre que le français et s’adapter aux autres us et coutumes pour fonctionner sur place ou à distance dans un contexte multiculturel, voilà le quotidien du jeune ingénieur commençant une carrière à l’international. (CDEFI, 2011)

*Communicating, understanding, listening, negotiating, arguing, and writing in a language other than French and adapting to other customs and habits in order to work on-site or remotely in a multicultural context... This is the daily reality for a young engineer starting an international career. (My translation.)*

Indeed, in many parts of the world, there is simply no option to avoid the *à l'international* appendage, because all engineering is a multinational, multicultural, or multilingual enterprise. “Real-world environments” (Huckin & Olsen, 1983) and “modern team-based environments” (Crawley et al., 2011) can be presumed to transcend national, cultural and linguistic borders.

This paper offers neither a description of language courses for engineers nor a campaign for their provision [6]. Rather, the aim is to offer a rationale and a user-friendly method for language teachers working with engineers at different affiliated universities, colleges to ensure that their students learn and practice the most useful communication skills as required by engineers working in industry.

### **SPECIFIC NEED OF ENGLISH FOR EMERGING ENGINEERS**

In the world of engineers, English has become the predominant language for communication. Almost all engineers need to work with technical drawings, discuss dimensions and tolerances, talk about different materials and their properties, describe the shapes of components and how they fit together, describe causes and effects, explain technical problems etc. The language used in these common technical contexts is English [7]. Moreover, Technical writing is the much needed skill to be inherited by the emerging engineers of today. In the recent years, Spoken English also gained an unprecedented predominance in the engineering curriculum. Most of all, the medium of instruction and the sources of information are in English. So acquiring English fluency gradually is very essential for emerging engineers [8]. In their career too, Engineers have to use English on a larger extent, to co ordinate with their colleagues and to cope up with the emerging trends.

### **CHALLENGES IN THE ATTAINMENT OF LINGUISTIC COMPETENCE IN ENGLISH**

In India which is highly noted for its cultural and linguistic diversity, the engineering students coming from varied backgrounds are facing great challenges, while taking up this professional course of their dream. With their entry into engineering colleges, most of the Indian students who had their education so far in their regional languages, start digesting the bitter truth that they have to keep pace with the others of better linguistic competence in English in a common set up in which there is no special consideration for their pre knowledge on English, the way in which English is ‘practised’ by them or their linguistic competence in English. Unfortunately, even in this fast paced technological era, majority of students have not got the

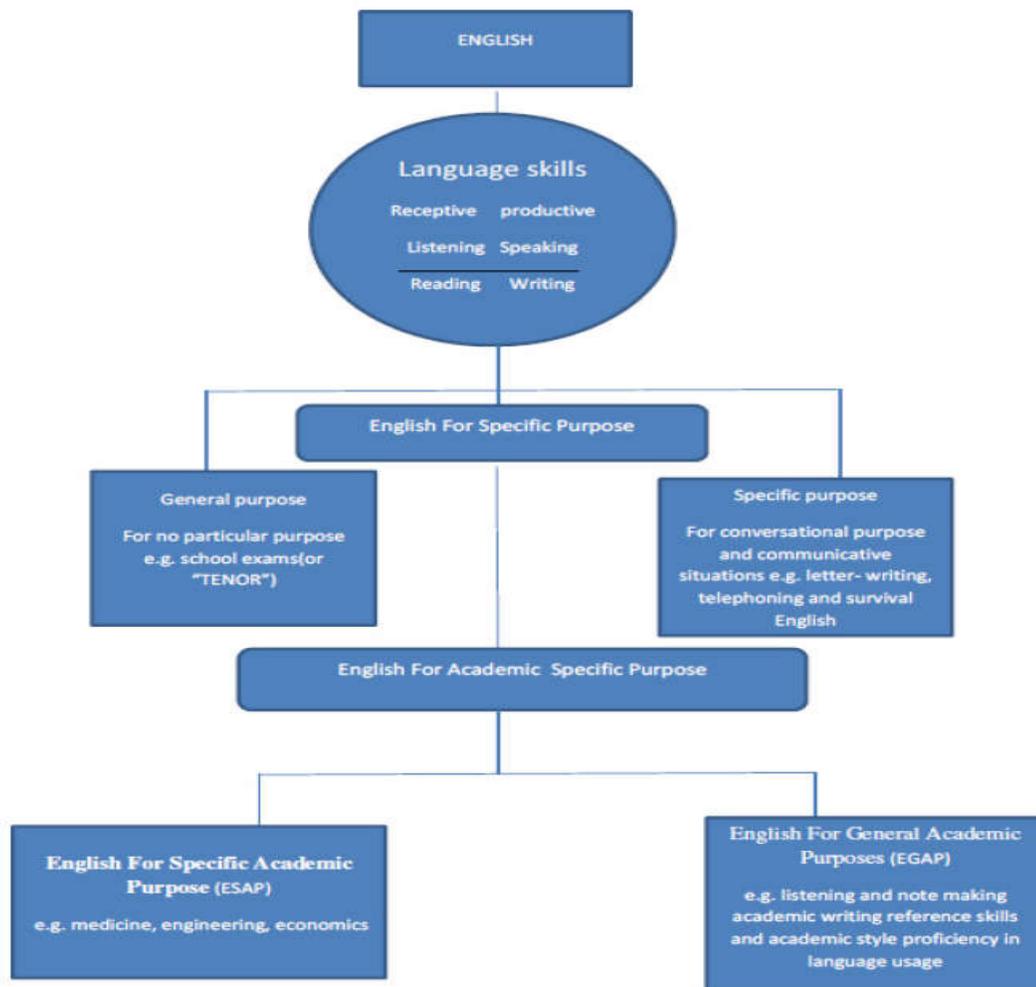
opportunity of learning English in a better way because of obsolete methodologies followed in most of the engineering institutions.

### **REASONS FOR LACK OF LINGUISTIC COMPETENCE IN ENGLISH AMONG ENGINEERING STUDENTS**

Learners' personality traits, their learning strengths, styles and preferences are not taken into serious consideration before getting into a way to teach English as a communicative language for blooming engineers. Also, prior preference is given to specialized subjects by the students even at their very entry level in the engineering institutions and in the later years of learning too, English is almost brushed aside both by the curriculum and by the students until the time of placement when it has to be reincarnated in the name of communicative English after a long phase [9]. The main finding is that the majority of students use little English outside their program because they are mainly dependent on their peer group for their social-life and activities outside the academic context. Hence opportunities to use English are negligible. Another consequence is that the persistent lack of confidence in speaking English outside campus inhibits the students from developing social independence and it is greatly reflected in the interview, where they have to prove themselves chiefly with their English speaking skills. Their reluctance in acquiring the most needed English language skill generally results in lack of confidence in writing skills during their work on independent research projects where English writing skills are essential.

### **ENGLISH FOR SPECIFIC AND ACADEMIC PURPOSES**

Thus, if we take into consideration the generally accepted purposes for which the English language is needed and learned and the necessity of the basic language skills required (listening, speaking, reading and writing), we can divide its usage into those for general, specific and social purposes. English for General purposes, or as it is sometimes called "TENOR" ("the Teaching of English for No Obvious Reason"), is the type of English that usually young learners acquire and that is not specified by any identifiable need. English for Social Purposes, on the other hand, is mostly taught to adult learners and deals mainly with conversational purposes and communicative situations [10]. Some of its aspects, such as letter-writing and the ability to operate functionally in an English speaking environment, are often a part of English for Academic Purposes (EAP) courses in English-speaking countries. The third type is English for Specific Purposes (ESP), that is, the type of the English Language Teaching which we are most interested in. (Jordan, 1997).



**Figure: The Purposes for Learning English**

## EFFECTIVE COMMUNICATION

English language communication is the most common problem faced by students. Most students are not “industry ready” because they lack communication skills. There is no effective communication between the faculty-student and student-student. No effective training is imparted to the students who are very poor at communication. Much importance is being given to the technical skills ignoring the most indispensable communication skills. To perform effectively in the business world or organization, communication plays a pivotal role. One who is good at effective communication thinks soundly, enjoys self-esteem, dignity and gets respect in society, academic or profession. People frequently fail to communicate effectively because they don’t express themselves clearly or forcefully enough [11]. Or, they may go to the other extreme,

expressing themselves in such a belligerent way that they alienate others. Employability refers to a person's capability of gaining initial employment maintaining employment, and obtaining new employment if required (Hillage and Pollare, 1998). It depends on knowledge, skills and attitude the employer seeks. In order to be employable it is important to understand the needs of the market place and identify what skills you already have and what skills you need to include in your career plan [8]. In a list of skills and attributes identified by companies that belong to National Association of Career Educators and Employment (NACE) communication skills holds the first position. It's mandatory to have effective English invariable of the sector and industry. Professional needs to assess and respond to communication situations that occur constantly.

The four main goals of communication are

- ❖ To inform
- ❖ To request
- ❖ To persuade and
- ❖ To build relationships with others.

In today's India without English, a student cannot enter the sophisticated world of science and technology. Further, in the present global context, it is felt that English is of paramount importance.

## **CERTAIN SUGGESTIONS ON COMMUNICATION FOR THE ENGINEERING STUDENTS**

**Be a team player.** Professional engineering involves collaboration among many different disciplines that must come together to resolve complex issues and formulate solutions to bring products to market. As a result, communication skills are as important as technical expertise

**Be part of the innovation pipeline.** Always be open to new ideas, even if they come from sources outside your group [5]. Beware of the Not-Invented-Here bias that exists at some companies. Companies will reward engineers who encourage innovative ideas, regardless of where they originated.

**Keep learning.** This is crucial as the tools used to do product design and analysis are constantly changing and improving. Stay ahead of the curve and seek out new assignments and opportunities to learn new technologies, sign up for training programs and make the most of company-paid educational benefits.

## NEED ENGLISH FOR BLOOMING ENGINEERS

- ❖ A positive guidance and high motivation to channelize the students from vernacular background towards successful professional life is much needed from the side of educators of English for blooming engineers. This is because English builds in an engineer a great confidence to face his highly competitive, most challenging professional field.
- ❖ Remedial measures in the form of unconventional methods like e-learning can be adopted for effective teaching of communicative and technical English.
- ❖ Student-friendly or learner- centric environment will facilitate the learners of English at the crucial period of their professional education.
- ❖ What is preferred today is a more holistic, dynamic approach that arouses the real interest and awareness in learning the universal language which will greatly support their engineering professional growth.

## CONCLUSION

The teacher is the realistic communicative motivator, who designs appropriate tasks for the students to express genuine information. To encourage the students to use English to communicate with the other students, the students' motivation and interest in the process of group working for English Learning task could be stimulated much greater. The preparing activities such as brainstorming and pre-task planning are also used so that the students could create some new ideas on what to say and some expressions and suggestions on how to express their ideas and creativities, to express their ideas and creative. Thus today, it can be said that though English has almost lost its pre-colonial beauty of literariness, but it has acquired a very colorful communicative mode. Just like the fast moving consumer goods, English language is transforming its multidimensional communicative structure day by day, and in the process has enhanced its utility quotient in India. English is available to us as a historical heritage in addition to our own language. We must make the best use of it to develop ourselves culturally and materially so that we can compete with the best in world of mind and matters. Good and effective Communication makes all streams of engineering students as world brand and eradicates the unemployment.

**REFERENCES**

- [1]. Baron, N. (2010). *A Guide to Making Your Science Matter. Escape from the Ivory Tower.* Washington: Island Press.
- [2]. Björkman, B. (2011). English as a Lingua Franca in Higher Education: Implications for EAP. *Iberica* 22. 79-100.
- [3]. CDEFI (Conférence des directeurs des écoles françaises d'ingénieur). (2011). La diversité de l'enseignement des langues étrangères dans les écoles d'ingénieurs. Retrieved from: <http://www.geresup.com>.
- [4]. Council of Europe (2001). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment.* Strasburg, Council of Europe. Retrieved from: [http://www.coe.int/t/dg4/linguistic/Source/Framework\\_EN.pdf](http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf).
- [5]. Crawley, E.F. (2002). Creating the CDIO Syllabus, a Universal Template for Engineering Education. *Frontiers in Education*, 2002 (2), F3F-8 - F3F-13.
- [6]. Crawley, E. F., Lucas, W. A., Malmqvist, J., Brodeur, D.R. (2011). The CDIO Syllabus v2.0. An Updated Statement of Goals for Engineering Education. Proceedings of the 7th CDIO Conference, Technical University of Denmark, Copenhagen, June 20 – 23 2011. Retrieved from [http://www.cdio.org/files/project/file/cdio\\_syllabus\\_v2.pdf](http://www.cdio.org/files/project/file/cdio_syllabus_v2.pdf).
- [7]. Dlaska, A. (1999). Suggestions for a subject-specific approach in teaching foreign languages to engineering and science students. *System*, Volume 27(3), pp.401-417.
- [8]. Grossman, R. (2014, 10 October). Science communication: could you explain it to your granny? *The Guardian*. Retrieved from <http://www.theguardian.com>.
- [9]. Huckin, T. N. & Olsen L. A. (1983). *English for Science and Technology. A Handbook for Non-Native Speakers.* Singapore: McGraw-Hill.
- [10]. Normand-Maconnet, N. & Lo Bianco, J. (2013) Importing Language Assessment? The Reception of the Common European Framework of Reference in Australian Universities. Retrieved from: [http://iafor.org/archives/offprints/ecll2013-offprints/ECLL2013\\_0468.pdf](http://iafor.org/archives/offprints/ecll2013-offprints/ECLL2013_0468.pdf).
- [11]. Tattersall, I., Once we were not alone. *Scientific American*, 282, 1, 38-44 (2000).  
Jensen, H.P., Strategic planning for the education process in the next century. *Global J. of Engng Educ.*, 4, 1, 35-42 (2000).
- [12]. Grünwald, N., Quo vadis German engineering education. *Proc. 2nd Asia-Pacific Forum on Engineering Technology Education*, Sydney, Australia, 371-374 (1999).

[13]. Professional Writing Seminar for Engineers, <http://www.ecf.toronto.edu/%7Ewriting/prowriting.http>.