

Communication Skills for Engineering Professionals

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Introduction

There is substantial consensus on the importance of communication skills in the academic world. Virtually every college or university mission's statement makes the development of communication skill a central educational goal. There is also widespread acknowledgment of the vital importance of communication in the personal, professional and civic lives of graduates. For decades, the literature of our profession has addressed the essential role of communication in any liberal education and provided documentation of the effectiveness of basic communication courses. New York Times columnist and best-selling author, Thomas Friedman (2006), talks about what college graduates need to know and be able to do in order to be successful in the 21st century:

"You need to like people. You need to be good at managing or interacting with other people. Although having good people skills has always been an asset in the working world, it will be even more so in a flat world [advances in technology and communication putting diverse people in touch as never before]. That said, I am not sure how you teach that as part of a classroom curriculum, but someone had better figure it out." (p. 106)

Technical communication is very important for practical applications of science, for learning the mechanics in technology, for promoting technological research, and for the training of technologists. The primary training and interests of engineering students lie in technical areas. Most of the engineering students successfully pursue their technical subjects but without extra communication courses. After their studies, engineers and

scientists in government and industry, they work on technical projects. It might seem they pursue and practice well and that writing and communication are superfluous to a technical education. In fact, this is not the case. Scientists and engineers may be technically brilliant and creative, but unless they can convince co-workers of their worth, the technical skills will be unobserved, unrewarding, and unused. Felder et al. (2000) reported that engineering leaders ranked communication skills to be more important than technical skills. A study by Darling and Dannels (2003) reported that the types of communication that engineers rated as most important included message construction skills, teamwork, negotiation, and asking and responding to questions.

As such, it is vital to get the right mix of skills that are required by industry. The current mix evidenced by students' skills does not seem to fit directly with industry requirements; at the very least, competent engineers with excellent grades have difficulty in presenting themselves and their achievements in interview situations.

To solve this problem, communication competences being taught and those in demand should be compared and based on that curriculum should be designed which can fulfill the demand of the industry. Keeping in mind the present academic scenario this study provides a rationale for the claim that communication skill is the omphalus of the Curriculum of Technical Education. This paper first discusses the relevance of communication skill is in general and then specifically in context of technical education and finally suggest some areas related to communication skills which can be integrated while designing the curriculum of technical education in India to meet the expectation of the employers.

Communication Skills: A Must for Self-Development

A communication skill is vital to the self -development of a person. Educators and researchers within and outside the discipline attested to the role of communication in self-development. As a discipline which enhances relationships with one's self, others, and society, communication is viewed as central to general education requirements. Communication should be included in early childhood education and should continue through adult education. Students recognize the importance of communication education,

but may underestimate the importance of some skills. Communication education improves specific skills and abilities including critical thinking, media literacy and criticism, leadership skills, and family relational development. Educators understand the importance of communication and that acquiring communication knowledge allows one to gain personal power.

Need of Professional Communication Courses in Technical Education

In the present scenario professional certainly need effective and impressive communication skills. The John J. Heldrich Center for Workforce Development (2000) conducted a national survey of American workers asking them what should be done to improve education. Of 1,015 adult workers, 87% rated communication skills as being very important and said that schools need to prepare people with skills and attitudes that are important to workplace success such as communication skills and critical thinking skills. There is a great need to frame course materials and develop methods and strategies to enhance LSRW (listening, Speaking, reading, Writing) skills of engineering graduates. By analyzing all these factors most of the Indian universities have developed and designed a course for engineers entitled as Technical communication in engineering education. The overall concept of Technical communication focuses the learner's attention on communication skills required in the engineering profession. For management students a course entitled "Business communication" is being offered by most of the management institution in India. In fact these communication courses are an integral part of all engineering and management curricula which complements technical and professional content by enabling students to appreciate the world in which they live and work, and to contribute as an educated member of society. These courses also provide a framework for rational inquiry, critical evaluation, judgment, and decisions when dealing with issues that are non-quantifiable, ambiguous, or controversial. Moreover, they offer opportunities for students to develop interests and insights that guide, enrich, and expand their perceptions

of the world they live in. It is found that basically engineering professionals need communication skills for following reasons:

1. To express and share their experience, knowledge, ideas and thoughts in an effective manner for the common benefit of the society.
2. To aspire a bright academic career growth.
3. To secure a higher level of position in the related jobs.
4. To attain timely promotion and other benefits at their working place.
5. To lead the team from the front.
6. To develop a very healthy working environment and interpersonal communication skills.
7. To harness a better understanding and harmony.
8. To pursue advance or higher level of studies.
9. To work in a globalized and multilingual culture.
10. To sharpen presentation, writing, negotiation, intrapersonal skills etc.

Degree Programs in Professional Communication

Through degree programs in professional communication such as Bachelor of Arts in Communication, students examine the role of communication in all areas of life, including organizational communication, small-group communication, interpersonal communication and communication ethics, media, just to name a few. Students will learn the theory behind communication and its effective application in a dynamic environment.

Conclusion

In the globalize context, students of engineering and technology need communication skills for their success in education and career. Industries are also voicing their concerns about the need for better communication skills among students of engineering and technology. The professional profile of a modern qualified engineer should include well-developed communication skills and high English language proficiency to help him achieve success in the modern highly competitive global work arena. In fact professionals in all positions have

to communicate the purpose and relevance of their work, both orally and in written communication to get a good job. If one is clear in expressing ones thoughts and articulating ones accomplishments and attributes, an interviewer is more likely to form a favorable impression and gain an understanding of his/her skills. Viewing the soaring demand of communication skills in the corporate world most of the Indian universities and colleges are offering communication course but their numbers are very less. Hence Indian graduates are facing the problem of un-employability even after having sound academic records. To overcome this problem proper market research should be done before designing the curriculum of these technical universities to meet the demand of the industry.

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