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Engineering students and Communication in English with Recent Innovations

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Abstract:

This paper highlights how English communication which is one of those courses that are essential for all Engneering students. With the advent of new technologies, the world is shrinking into a global village .Therefore, the need for effective communication is becoming all the more essential. While students feel the need for communicating successfully through oral and written media in their academic tasks every day, professionals face the challenges of communicating effectively and efficiently in their workplace .The importance of English also lies in the selling of engineers' designs. The fact is that most of the techniques developed for solving a same problem would be similar or at least not easily distinguishable. Thus, Engineers need the skill to sell the best points of the design, to make people believe in the value of his/her design.why an Engineer should be fluent in English are as follows: In a student's social life, English language is the most important. It helps to build strong relationship and better understanding among fellow

students and peers. For success in any field, one has to know, understand and communicate effectively. In the era of liberalisation, privatisation and globalisation, communication skills is the key to success. The English language is now a bridge language of international business, technology, research and aviation. About 1.8 billion speak English and the number is still rising.

Full Paper:

Introduction

With the advent of new technologies, the world is shrinking into a global village.Therefore, the need for effective communication is becoming all the more essential. While students feel the need for communicating successfully through oral and written media in their academic tasks every day, professionals face the challenges of communicating effectively and efficiently in their workplace .The importance of English also lies in the selling of engineers' designs. The fact is that most of the techniques developed for solving a same problem would be similar or at least not easily distinguishable. As we say speaking and explaining things is the most difficult job in this world. For non-native English users, English is very important because it is widely spoken all around the world. Knowing English allows people to enjoy their life and work no matter where they are. For engineering students whose mother tongue is not English, mastering English is even more important, not only for their academic life but also for their prospective career. In order to master the engineering knowledge and skills better, engineering students should own the English language competence. Most of the scientific papers or journals in the world are written in English. Most of the engineering graphs are also marked in English. Moreover, most engineering professors in various universities are also conducting their lectures in English. Hence, engineering students should at least master the Basic English ability to deal with the countless English lectures, tutorials, labs, projects and papers. Finally, they have to submit their important theses, still in English.

When engineering students graduate from the college and become real engineers, they will find that English appears even more crucial than it used to be. Engineers usually work in groups since their task can seldom be solved by an individual. The property of their work determines that being an engineer needs to cooperate and communicate with different people from different part of the world. For non-native English speakers, unfortunately, most of the

engineers speak English as the first language or the working language. In order to understand and coordinate with their colleagues and accomplish their projects fluently, engineers have to speak good English. All in all, non-native English engineering students should try hard to improve their English ability, which could help to make both their school life and career more successful and enjoyable.

Basic reasons why an Engineer should be fluent in English are as follows:

In a student's social life, English language is the most important. It helps to build strong relationship and better understanding among fellow students and peers. For success in any field, one has to know, understand and communicate effectively. In the era of **liberalisation, privatisation** and **globalisation**, communication skills is the key to success. The English language is now a bridge language of international business, technology, research and aviation. About 1.8 billion speak English and the number is still rising.

An engineer must think about these things in mind for communication purpose

1. Most of the theories are taught in English language. For this reason, an expected level of proficiency in English language would be essential. 2. To study abroad in some of the best universities in the world, students have to take up standardised tests to prove their English language proficiency. These tests play a major role for admissions to most of the universities overseas. These tests are measurements carried out to ensure that the students from non-English speaking countries are able to write, listen, and converse in English fluently. 3. Engineers today have to communicate with their counterparts across the globe. Among most of the professionals like the scientists, technologists and business experts who belong to different cultural and linguistic backgrounds, English is predominantly considered to be a language of communication.

English may come in very handy for professional purposes.

In today's world, employers seek graduates with sound communication skills, along with technical engineering knowledge. Having good communication skills is a valuable asset for any organisation. Professionals with strong hold on English language are set in higher level of standards in the organisation. Read more on the ways to improve your English language skills. So, English language fluency is a significant aspect of an engineering student's academic life and future caree.

Importance of Technical Communication

Technical communication plays a pivotal role in any set-up, whether it is a business enterprise, an industry as a whole, or an academic institution. All managerial or administrative activities involve communication, be it planning, Organising, recruiting coordinating, or disision making. When you write reports, give instructions, or read brouchers and manuals, you are involved the process of communication. Communication serves, as an instrument to measure the success or growth of an organization. For example, papers published by R&D organizations bring to light their progress. When the chief execute officer (CEO) of an organization presents his/her company's achievements in a meeting, each of the participants comes to know of these milestones. The higher one's position is, the greater is their need to communicate. A labourer, for example, may not be as involved in formal communication as a top-level executive. The various types of communication not only help an organization to grow, but also enable the communicators to develop the required skills.

However the most professionals are well aware of the importance of communication. They do not develop their skills to good effect in their sphere of work. The more people participate in the communication process, the better they develop their skills in collecting and organizing information, analising and evaluating facts, appreciating the difference between facts and inferences, and communicating effectively. To become an effective communicator, one needs to communicate, communicate and communicate. There is no other way out.

General and Technical Communication

Communication is important not only in an organization but also in one's daily life. It is an integral part of daily activity. When an alrm clock goes, off, it is communication through sound, urging one to get out of bed. When one feels loyal towards a particular brand of toothpaste, it is possible that the television (TV) commercials for that brand have been successful in communicating the message. Watching news on TV, saying goodbye to one's family, or calling a cab and giving directions are all different types of communication. At the workplace, all activities revolve around oral or written communication. Interacting with one's boss, reading the newspaper at home, or even dreaming in one's sleep are all examples of communication.

Messages that are non-technical or informal in nature are vategirized as general-purpose communication, whereas messages pertaining to technical, industrial or business matters belong

to the category of technical or business communication. Table 1.2 shows the differences between the two categories.

Sl. No.	**General communication**	**Technical communication**
1	Contains a general message	Contains a technical message
2	Informal in style and approach	Mostly formal
3	No set pattern of communication	Follows a set pattern
4	Mostly Oral	Both Oral and written
5	Not always for a specific audience	Always for a specific audience
6	Does not involve the use of technical vocabulary or graphics, etc.	Frequently involves jargon, graphics, etc.

The English language is the current lingua franca of international business, technology and aviation. It is spoken **by 1.8 billion people** in the world and the number is still rising. As an engineering student and an engineer-to-be, there is no doubt that English language competence is important in both students' studies and career. English language has commonly been used as international language, that is, it is widely used for communication. Imagine a Chinese is talking with a European who doesn't know Chinese language. From **a Chinese** translated saying "chicken talks with duck", where chicken uses its own language to communicate with duck, this seems impossible. We cannot deny that English language carries a high importance degree in our life. As an Engineering student, I agree that English language competence is an important aspect in our academic life and prospective career. One reason is that English language is part of the important tools in academic life. The other reason is that we are able to communicate with people in community.

Today's engineer has to communicate with more number of his counter parts across the globe. A Large number of Indian engineers have to now travel to many continents and work

away from their home country. Also, among the scientists, technologists and business experts from culturally and linguistically different communities, English has become the predominant language for communication. English is a tool that significantly affects engineering students in academic life. While most of the theories in engineering are taught in English language, student is required to have a level of proficiency in English language .In **National University of Singapore**, students are required to take Qualifying English Test to assess their proficiency of English language. To a certain level where students are not able to pass, there is a necessity for them to go for extra English module to brush up their English. Such measurements are carried out to ensure the students are able to write, listen, and converse with proficient English in future. English language is the most important function of a student being performs in his/her life social life. English language helps to build strong relationship and better understanding which are so vital in their personal and professional life. To be successful in any field one need to know and understand how to communicate effectively.

In the era of LPG (**Liberalization, Privatization and Globalization**), good communication skills are the keys to unlock the doors of success. Professional having strong hold on communication skills is considered assets for any business organization. Such professionals set higher level of standards and add value to the organizational set- up. At present times besides technical knowledge employers look for sound communication skills in an engineering graduate. Thus, the professional profile of a modern qualified engineer should include command on communication skills. Earlier researches have revealed that graduate engineers do not have a very good command on communication skills and fail miserably to fulfill the basic requirements of modern day organizations.

The process of design is crucial to any engineering work and requires communication between people from different fields. For example, a civil engineer will need to communicate with the surveyor and architect to design and implement its construction project. In the globalized world today, these people from other fields may come from all parts of the world and do not speak the engineer's mother tongue. Hence English, being the lingua franca, helps to facilitate effective communication. Good English will enable engineers to get their ideas across better, and hence get the job done faster.

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Four Key Technical Communication Trends

Making predictions can be a treacherous game and recent advances in consumer and cloud technology have shown that you can never know what's coming next. The extensive use of mobile technology wasn't predicted by anyone and its incredible popularity has had far-reaching effects. Its arrival changed the world of technical communications. We now have to make sure content is available for tablet and smartphone users, as well as for users of desktop and laptop computers. As technical communicators, one of the first trends we need to be aware of for 2015 is the growing importance of responsive design and adaptive content.

Trend One: Responsive Design and Adaptive Content

Responsive design means that we must ensure that the content displayed on our web page appears correctly on whatever device our reader happens to be using. At a basic level, responsive design can be achieved by web programmers using a 'media query' element in their CSS. Technical communicators should ensure that the need for responsive design is considered and should check that the resulting pages actually appear as intended.

While the success of responsive design can be judged by objective criteria – either the page displays correctly on a smartphone or it doesn't – *adaptive content* is much more subjective. The technical communicator needs to make sure that the content they are delivering makes sense for the reader in whatever context it is being read. This is far more challenging. It would be wrong to assume that just because a page is being read on a tablet, the reader is only interested in some options and not others.

Trend Two: Augmented Reality and Wearable Technology

At the Technical Communication UK Conference (TCUK) in September 2014, one vendor demonstrated how intelligent information can be obtained when a smartphone camera is used. Software installed on the smartphone recognizes the camera image and overlays it with hotspots that can be activated to display relevant information. This is a form of "augmented reality", where a technological device enhances your interaction with a physical device and is becoming more and more widespread. Technical communicators need to be deeply involved in planning and developing content for augmented reality applications. Typically, augmented reality content will be segmented into very specific elements that are relevant to the part of the

device the user is looking at and may be restricted to brief reference content, but may often contain links to longer, procedural content.

Trend Three: How Technical Communicators Work

As well as these developments in technology, what will be happening to the working environment of technical communicators in the coming year? While great advances in the use of structured and modular documentation have taken place in the last 10 years, I am not convinced that this is a trend that will trickle down from major corporations to smaller businesses at any time soon. Structured documentation, using XML-based systems such as DITA, has been shown time and again to bring significant savings in both in content development time and in translation costs through content reuse. However, these savings need to be offset against the costs of setting up a component content management system (CCMS), acquiring new tools for content authoring, and training both writers and reviewers in new ways of working. Larger businesses can absorb these costs and reap the longer-term benefits, but as far as I can tell smaller businesses still cannot do so. We still haven't seen the "killer" low-cost CCMS that will make this work for companies with only a few hundred pages of documentation to maintain, rather than the tens of thousands of pages that larger companies deal with.

Trend Four: Bringing Technical and Marketing Content Creation Closer

What I do see happening this year is a convergence in content creation between technical communicators and marketing departments. Traditionally, these two groups have kept away from each other. Marketing functions have concentrated on pre-sales literature, extolling the virtues of a product rather than explaining its detailed functions. In contrast, technical literature has been seen as a post-sales artifact. Today's consumer is becoming much more sophisticated and is likely to want to know how a product operates in daily use. They are going to use search engines and social media to find out as much as they can from third parties as well as from the vendor. That means that the vendor's technical content must also be available and find-able so that potential customers can see it at an early stage. It seems that the messages that content strategists and technical communicators have been promoting in the last few years – that the web does not "contain" content but that it "is" content – are finally getting through. This is good news for technical communicators, as it is recognition of their importance in product promotion, but ultimately it is good news for consumers too. And we are all consumers.

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In conclusion,

I would like to share same information that today's professional world demands effective transfer of technical information in the form of talks, discussions, or documents more than ever before. Such forms of communication not only reflect the knowledge and achievements of engineers, scientists, and other professionals but also act as the public face for organizations, reflecting their policies and achievements.Hence, employers today are looking for more than just a college degree and technical skills. As a large part of the scientific and technical community across the globe communicates in English, it has become essential for the students and professionals involveddin technological development to enhance theor English language skills, namely listening, speaking, reading and writing (LSRW). In fact, students and professionals who possess both good subject knowledge and communication skills are considered as an asset to their respective institutions.

The concept of **Employability** has recently gained recognition in the corporate world. Employability refers to a person's capability of gaining initial employment, maintaining employment and obtaining new employment if required. In contrast to technical skills, which are job specific, employability skills are generic in nature. Employers value these skills over and above job-specific skills. While **communication skills** tops the list of employability skills, other skills such as tem-playing, problem solving, desition-making, planning, organizing, self-learning and self management have become increasingly important. However studies reflect that of the large number of engeneering and other graduates being produsedevery year, only about 10 per cent are employable in various industries. Most are unsuitable because of the lack of soft skills, particularly communication skills, which are essential foe industries such as IT.

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