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## Status and prerequisite of English proficiency for engineers- An update

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### ABSTRACT

*Communication is the universal attribute in human beings, its first trait being the exchange of information within. Language is the most common means of communication. The commanding status of English as a global language cannot be denied. English is the most frequently and extensively used language for business communication worldwide. A maximum part of the important content of the internet is in English though it facilitates translation options. A large part of important books pertaining to various disciplines, particularly science and technology are primarily published in English. In the engineering context, the professional world today essentials the technocrats to be proficient in English. The last two decades have been the decades of globalization, because of the growing international commerce, financial and technological breakthroughs. The flux of innovations has united the issues or problems making the ones which were local, now becoming global. The technology world faces and is expected to deal with various issues at the global platform like cybercrime, identity theft, E-Banking Fraud, etc. In developing countries with the dominance of vernacular mother tongue, the usage of English is limited in students, this creates a gap in employability skills and hence creates a significant impediment in the hiring process of engineers with satisfactory technical skills. The futuristic technologies per se Artificial intelligence, 3D printing, blockchain, cloud computing, augmented and virtual reality, robotics and the like are driving us towards one world. Such a large-scale validation of English language could substantiate positive outcomes of grave issues on a multidimensional global scale and hence could further lead to unity of the world community, a true one world, which we often dream of.*

**Keywords**— Communication, English, Engineering, Technology, Graduates, Global, Lingua franca, Employability, Linguistic, Proficiency

### 1. INTRODUCTION

Lingual competency is known as an accepted means for reconciling and resolving the differences in opinions, convictions, philosophies, and conceptions of people from different cultural, social, economic, and professional backgrounds. At the same time diversity of dialect has been a hallmark of any country with expansive landmass, where a huge difference of dialect is seen while moving across the country. Irrespective of culture, language, societal or economic differences, the impetuous pursuit of economic and professional affluence by the human race has reached its acme to such an extent that more often than ever it has become synonymous with happiness, quality of life, and even health. The pursuit of professional affluence is followed by an impulsive urge to groom, for being fit for the global scenario. At the same time the present generation correlates professional empowerment with linguistic versatility in the global scenario. Linguistic versatility can definitely lead to the concept of “one world”. On a larger scale, the mindset of a huge set of the global population has already conceived the notion that demolition of the linguistic barriers could actually lead to globalization in the professional front. Communication is a universal attribute in human beings. Its first trait being the exchange of information within communication. Language is the most common means of communication. People utilize varied languages to communicate according to the community and culture they originate from.

The commanding status of English as a global language cannot be denied. English is the most frequently and extensively used language for business communication worldwide. A maximum part of the important content of the internet is in English though it facilitates translation options. A large part of important books pertaining to various disciplines, particularly science and technology are primarily published in English for the worldwide audience and only in the latter part it is thought of being translated into other languages. In short English continues to enjoy the propitious position of being the language of diplomats, global business giants, the professional community, global tourism community, science and technology world, media and internet. Language and globalization affect each other. English language is the global lingua franca - a language that is adopted as a common language between speakers whose native languages are different, it has now been accepted as the language of the international business, engineering, technology, diplomacy, global trade, commerce, and tourism. As the English language encounters new communities

and countries, it is shaped by these encounters to be used by local communities for national and international communication. People of all nationalities, ethnicity, religion, culture, profession and career have now begun to use this language as a common means of communication. English language is transforming in a professional global front to restructure and reshape educational concepts for the coming generation to facilitate one world. It is now imperative to adopt English uniformly.

## **2. BACKGROUND**

English is a West Germanic language that originated from Anglo-Frisian dialects brought to Britain in the mid-5<sup>th</sup> to 7<sup>th</sup> centuries AD by Anglo-Saxon settlers. The English language of today has virtually gone through multiple reforms and has settled down as an accepted means of worldwide communication in multifarious areas. Proficient English communication skills are essential for the social and corporate world. English is the largest language by number of speakers, and the third most spoken native language in the world, after Standard Chinese and Spanish [1]. It is the most widely learned second language and is either the official language or one of the official languages in almost 60 sovereign states [2]. Hence all this makes the emphasis clear, that English is the universally accepted language in the global business arena and its acceptance worldwide is more evident, and hence the status of being the accepted “lingua Franca” is adequately justified.

Language and globalization affect each other. The current industry is troubled with untrained manpower and attrition which is affected due to a lack of communication skills. In the present scenario, every individual an undergraduate, graduate, or an engineer is required to communicate in English. The students must realize that the corporate industry presents a feedback of alarming reports of unemployable graduates caused primarily due to the lack of English communication. The corporate world sustains a man who is dominant in the English language of communication.

## **3. LITERATURE REVIEW**

Much research is being conducted worldwide on this subject. One such study highlights the importance of communicative competence among graduates to secure employment [3]. The study on the fact that academic success alone will not guarantee work if graduates lack employability skills, which employers consider necessary, the important skills include interview skills, presentation skills and most importantly competency in English. In the context of engineering professionals, an important work concluded that communication skills development must be integrated across the curriculum, rather than including it as a stand-alone subject in the already packed engineering curricula, doing this would reinforce student learning [4]. A detailed study presented in the fifth World Conference on Educational Sciences -WCES 2013 inferred that engineering students needed to improve their English reading skills to facilitate doing research, further engineering students regarded speaking skills as very important [5]. Hence it was recommended to adjust the current curriculum in accordance with the needs of students and the expectations of academicians. A paper written in the context of a developing country states that “Those candidates who are efficient orators and writers will be given the topmost priority. They have great possibility of being selected in the job interview. But the chance for those candidates whose communicative proficiency in English is shaky is usually thin. They are often the losers in the battles they fight for the sake of acquiring job” [6]. A study in the Indian context enumerates that NASSCOM has put forward that the world’s most admired and respected companies like Accenture, Convergys, Dell, Google, HP, IBM, ICICI, ITC, UTI Bank, Centurion Bank, Microsoft, Satyam, Tesco, Verizon to name a few looks forward to hire only the industry ready candidates. Hence, to meet this current expectation of the industry, we must bring in necessary changes in the curriculum and teaching methodology, to have the industry ready candidates [7]. A paper while discussing the aspects of teaching English to engineering students put forth that teaching general English to engineering students can result in lack of interest, but they can be motivated by practical aspects which will help them in their field, an interdisciplinary approach to teaching English to Engineers [8].

Marc J. Riemer from UNESCO International Centre for Engineering Education in his presentation appropriately mentioned that the global engineer requires multiple skills for survival, English is one of the most important skills as it is a must to establish himself at the global platform [9]. 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” [10]. A study outlines how important English communication is and how it impacts business communication of engineers in the Thai context which can be apt for all others in the global community [11]. In the context of developing nations like India it has been observed that the students in rural areas faced a lot of problems in their careers due to lack of competency in English communication [12]. A paper investigates the needs of both managerial and operational engineers for both verbal and written English proficiency [13]. Another study reveals the substantial English writing communication demands placed on engineers in their work [14]. A major study evaluates how global high-tech industry is portrayed by intense competitiveness, innovation, and widespread use of English [15]. Hence, they are in need of engineers that are talented in both their engineering and English abilities.

## **4. THE GLOBAL ENGINEERS NEED FOR ENGLISH PROFICIENCY**

Currently, we live in a digital age, where the software, technology, applications, and programs are sourced to be dealt with in the English language. Social media networks, websites, booklets, instructional manuals, installation guides of electronic and entertainment devices, are predominantly made available in the English language before the other languages. The present generation of scientists, engineers and technocrats are inspired by the journals, periodicals, articles published in English. The significance of the English language is understood by the students as it helps in building strong social relationships vital for their personal and professional growth. It is also used to procure higher education. Students seeking to go abroad for advanced education also realize that the medium of instruction will be in the English language. Speaking the language fluently is an important criterion for the admission process and the candidate’s ability to master this skillset brightens their chances for admission to foreign Universities. Communication plays a pivotal role in the professional world. There is hardly any task today that does not require the act of English communication. Therefore, communication determines the success and failures of any profession. In the professional world, an individual communicates to his partners, colleagues, employees, and clients. The organization with employees that possess good

communication skills enables them to perform the job in the most efficient manner. Communication helps professionals in their five major managerial tasks namely planning, organizing, executing, staffing and controlling.

Engineering is a significant field of study in the world. English has a notable effect on the budding engineers during their academic life. A student with strong English communication competence would understand the theories of Engineering as it is taught. Engineering students have to deal with countless theory lectures, tutorials, laboratory work, project reports and papers in the English language. The most convenient and apt source of information provided on the Internet is also in the English language. Achieving the mastery for proficient English speaking is vital for employment skills as the process for job-seeking begins with group discussion and interview. Securing the job also requires communication, as the job is seldom processed by an individual and requires team effort. So, Engineers requires to cooperate and communicate with different individuals where English is used as a tool of communication to a large extent. Hence, competency of English communication plays a critical role in the academic and career life of engineering students.

Of late in the past there has been massive turmoil in the global professional arena in multifarious fields, which includes science and technology too, that mandated the need for a global language. This has been discussed in one of the earlier published work by the author of this paper [16]. The paper portrays the facts that the future beholds enormous possibilities for today's youth, but at the same time they will be required to actively confront and solve economic, environmental, social and cultural issues that could have impact on the sequential events in the global scenario. To develop this ability to address such problems with prompt solution at hand they should be able to collaborate with interdependence on their counterparts, without restricting themselves within national boundaries. They will hence need to unify their thoughts and concepts with their global companions, only then will they be able to come up with solutions to grave issues which could be practical on a global scale and hence be accepted by all, irrespective of any country or language barrier. In such an instance comes the role of Lingua Franca.

## 5. ENGLISH PROFICIENCY STATUS OF ENGINEERING UNDERGRADUATES

The last two decades have been the decades of globalization, because of the growing international commerce, financial and technological breakthroughs. The flux of innovations has united the issues or problems making the ones which were local, now becoming global. The technology world faces and is expected to deal with various issues at the global platform like cybercrime, identity theft, E-Banking Fraud, etc. There are so many global issues and interdependent needs which necessitate the need of an international tech- intellectual community to think and practice alike with an equal value system. Any intelligent and practical human being can sense that these needs and values require to be easily communicated around the Globe. And the only way out seems clear to master English at a massive level by all non-English speaking countries.

Listening, in spite of being the most important activity for learning any language is the most neglected one especially when it comes to foreign language learning. In context to developing countries like India, the culture per se such as the background, family, and atmosphere, creates difficulty in inculcating English listening. Students often tend to use their mother language while communicating as English being of secondary importance, it is rarely used. Students lack patience in listening when they find it difficult to comprehend as the lack of listening skills causes problems in pronunciation. Though in today's scenario English has acquired a revered status in most of the societies of any non-English speaking country, but unfortunately when it comes to practice, they are very poor implementers, which becomes the saddest part of the story. This often results in a very poor employability status of engineers in spite of many of them securing high grades. The facts are being reflected in the data produced by agencies working on this subject.

Often theory and practical subjects can be learned in its individuality unlike communication skills which requires a public platform and that is the first step the students are hesitant to take. There are two categories of students; the introverts who are shy and reserved by nature, who interact the least with people and the others who are unwilling to speak in public though most of them can speak effectively between friends. The second category holds in pride and the fear of making mistakes in front of a crowd causes them to be reluctant in public speaking. The fears of committing mistakes, stage fright, social anxiety, doubt, nervousness, forgetting, technology, time and of the unexpected builds a barrier that deters them from success. These students if channeled properly can be very good public speakers. In such instances their confidence shatters while facing an interview, with corporates. The expectation of the hiring companies in no way matches the skill sets offered by the candidates, where most of the misunderstanding occurs due to lack of expression.

Engineering being one of the biggest arenas of professional studies in the world with much investigative work of research, conducted in English, engineers need to focus on this perspective more. English is very important for non-native English users because it is globally spoken and has been accepted as *lingua franca* at the global platform. Persuasive English allows people to enjoy both their life as well as their work no matter where they are located. For engineers whose mother tongue is not English, acquiring command over English is even more important, not only during their student life but also for achieving success in their prospective careers.

## 6. MEANS TO ENHANCE ENGLISH PROFICIENCY AMONGST STUDENTS

By now the fact that the practice of English and its proficiency amongst students is a must has been endorsed by universities in countries with the influence of many vernacular languages. In developing countries like India where the influence of the mother tongue is prime in universities located especially in suburban or rural areas, certain steps need to be taken to uplift the status of English proficiency of students so that they can compete with the other students at the global platform. Today's engineers must align their thoughts and perception with their global counterparts, only then will they be able to come up with solutions of severe global issues which needs to be addressed by the global community in a unified manner irrespective of culture, language or national boundaries. It is hence proposed that we all need to move ahead with a motto for the upliftment of English proficiency amongst engineering undergraduates to enhance employability skills. It's imperative to devise English learning activities in all semesters.

This must be a vital part of the curriculum and must carry grade points. If an activity or task is far too difficult, it can be demoralizing. At the same time, if it is too much in the comfort zone of students, the progress will be slower. Hence the authorities need to judiciously upgrade the curriculum to facilitate English learning regimen. Thrust must be multidirectional on listening, reading, writing, speaking and pronunciation too. The presentation skills in English must have a special thrust in all the semesters, which will certainly give an impetus to their English-speaking skills and at the same time help them to overcome their inhibition and stage fright. English conversation classes must be a vital part of the curriculum the students might feel the stress and may show resistance. But nevertheless, if it is a stipulated and mandatory part of the curriculum acceptance will be automated. Pronunciation is a motor skill than intellectual and should be practiced like other motor skills such as playing the violin or playing an outdoor game, i.e., persistent, deliberate repetitive practice of the same basic words, phrases, and sentences taken up by some charismatic and encouraging teacher or mentor. Conclusively a multidirectional approach must be applied to university students to master and practice this language, to overcome the limitations and excel in their professional arenas.

## 7. CONCLUSION

The futuristic technologies per se Artificial intelligence, 3D printing, blockchain, cloud computing, augmented and virtual reality, robotics and the like are driving us towards one world. For the modern engineer, English is recognized to be a global professional empowerment tool for both academics and career. It is a demand in the industry as well as in society. English language is transforming in a professional global front to restructure and reshape educational concepts for the coming generation to facilitate one world. It is now imperative to adopt English uniformly at the basic classroom level to bring about certain constructive, optimistic and affirmative changes in point of view which would ultimately contribute to the process of life-long learning. This may require a profound revamping, reconstructing and reshaping of certain educational concepts to unify the language of the coming generation on a global platform. Such a large-scale validation of English language could substantiate positive outcomes of grave issues on a multidimensional global scale and hence could further lead to unity of the world community, a true one world, which we often dream of.

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