

Modern Engineers and Knowledge of Foreign Languages

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Abstract— Since the evolution of Engineering new elements were added to strengthen the core of Engineering. Advancements in technology over the decades have indeed played an epochal role in the amelioration of modern engineering. Many countries in the world have contributed immensely to develop engineering techniques to serve humankind better however without exchange of technologies among the countries, integration of engineering is unachievable. Such exchange of technologies among the countries is made possible by communicating either in a global language as English or in a foreign language of the respective country. In both the cases, knowledge of language is the key factor. This article is devoted to the importance of foreign language knowledge in reshaping the career of modern engineer, and why students/engineers should take knowledge of foreign languages seriously to improve the existing technologies in engineering.

I. INTRODUCTION

Globalization of business, and revolution in information technologies (IT) have created a new world of opportunities for modern engineers. However, the right skill set is required to utilize the available opportunities. Knowledge of foreign language is the key to unlock the doors of global opportunities. Evidently, business is becoming diverse as an outcome of globalization, and engineering professionals and technicians are facing new challenges in global communication every day. It is experienced that success in today's market is not just about the procurement of technical/engineering knowledge, but it also depends on development of knowledge as foreign knowledge and communication. This paper aims at acknowledging the importance of foreign language with the perspective of modern engineers, and steps that can be taken to improve engineers' foreign language.

English as a foreign language: Apparently, English is the most powerful and widely used language in the world today. Also, English the official language of international business, science and technology, banking, and academic research. Scientific inventions made in non-English speaking countries face challenges to reach English speaking countries, and as a result of which such inventions get outdated before it reach other parts of the world through translation. Additionally, in academics as well English has a great influence. Many Universities worldwide use English as the common mode of learning and communication.

Engineering is not limited to the development of the country however it is for the development of the world. The world is conglomeration of countries with different languages and cultures, English as a global language has always helped to weaken these barriers. Due to Globalization, international projects are flooding, and cultural diversity and collaboration among countries are flourishing. It is also interesting to note that English serves as a common language for two employees or students who belong to different cultures where English is not the native language. A wonderful example of such communication was observed when French engineers from a transport company named Corys communicated with

Egyptians engineers in English when Cairo subway was constructed.

For non-English speaking engineers, mastering the language of English is even more important because it not only helps with academic career but also with their career as an Engineer. Most of the research work, scientific papers and academic journals are written and published in English. Moreover, most of the Engineering professors and teachers in reputed universities conduct their lessons in English. For distance learning and correspondence as well often English is the answer. Many students who wish to get a degree from particular reputed foreign universities as they cannot afford to travel and stay there for the complete program, these candidates enroll for the program online and taught by the professors from these universities. The medium of teaching is usually English. Hence, for engineering students mastering English language is a tool to deal with countless English lessons, lab projects, tutorials and papers.

Upon completion of college program and once an engineers are graduated, they discover that the English appears more pivotal than it had ever been. When an engineer is employed, they realize that most of their job requires working in a team. These teams are often comprised of engineers and experts from other part of the world. Thus, in order to coordinate with their colleagues and execute the project successfully, engineers must have better knowledge of the English language.

Conclusively, it is of great importance for non-native English speaking engineers to take English learning seriously and to improve their English ability in order to achieve great success in their respective career.

Engineers must possess knowledge of English as a foreign language for the following reasons:

- To study abroad in some of the world's best engineering institutes and universities.
- To broaden the horizon of learning from different resources worldwide.
- To communicate or correspond with counterparts around the world.
- To get better opportunities within the organization and grow professionally.

➤ To set better relations with the international business partners.

Other popular foreign languages: As international market is growing employers are looking for professionals who can speak more than one foreign language. Having proficiency in more than one foreign language increases your chances of surviving the competitive market we are living today. Let's have a look on some of the major foreign languages today with the perspective of world of engineering:

French as a foreign language- French is a major language of international communication. French language is the second most widely learned language after the English worldwide. We all know great organizations as the United Nations, the European Union, UNESCO and NATO. It is noteworthy that French is official language of all these organizations.

Let's not forget the French automobile industry and job opportunities developed for engineers worldwide by French automobile manufactures. Some popular French car brands are:

- Citroen
- Venturi
- Peugeot
- Renault
- Bugatti



In the field of aerospace and aeronautical engineering, France has made a great contribution. The world's largest passenger aircraft, Airbus A380 is the product of one of the most popular airline manufacturers in the world. Airbus is headquartered in Blagnac, France. For many aeronautical engineers it is a dream to get trained or work for such an enormous company. Knowledge of French certainly improves your chances to be associated with French aeronautical technologies.



German as a foreign language: German is another most popular foreign language for cultural exchange and in terms of economy. Knowledge of German language opens door to world's leading engineering job opportunities. From electronics to automobile, German manufacturers have known worldwide for the quality assurance. Siemens AG is a German conglomerate company headquartered in Berlin and Munich and the largest manufacturing and electronic company in Europe. Lufthansa is one of the most popular and largest aircraft company in Europe.

Robert Bosch is a German multinational engineering and electronics company which is one of the largest suppliers of automotive components in the world.

BMW needs no introduction in the world of automobile industry, it is known for its luxury vehicles. BMW is one of the finest engine manufacturing companies today.

With such an extensive engineering market, certainly learning German language can generate great opportunities for engineers in the following organizations:

- Volkswagen
- BMW
- Siemens
- Bosch
- Lufthansa

Japanese as a foreign language: Japan has contributed immensely in Technological advancement in Asia as well as other part of the world. Japanese companies excel in electronics, automobiles and locomotives. Unlike European countries where English is adopted as business language, Japanese companies focus more on the regional language. Although English is accepted as global language in Japan, communicating in Japanese in Japanese market is regarded as more polite, and it strengthen trust with foreign companies. In this regard, knowledge of Japanese language is really helpful in making business, academic, and political relations.

Some of the most popular Japanese companies are:

- Toyota
- Mitsubishi
- Honda
- Nissan
- Hitachi
- Toshiba



Foreign language development: On political level, there is a need to understand the importance of foreign language as an engineering tool. Allotment of fund for the development of foreign language facility, resources and teaching staff must be necessary part of the modern engineering education system. More focus is required in Educating bilingual and multilingual specialists with a wide training background. Such specialists must be able to satisfy the needs of joint ventures and of foreign companies which are located in the respective country. New programs need to be introduced for promotion of the students' mobility by sending engineering students abroad for company internships, for linguistic trainings and studies in partner universities, and by students' exchanges. Another method is development of bilateral and multilateral relationships with engineering universities and schools in advanced countries in order to ensure a rapid transfer of pedagogical and specialized knowledge, to ensure mutual cooperation and to have the graduation diplomas internationally recognized.

Currently, most of the foreign language programs are designed to develop specialists as language teachers, human resource, public relations, and business and marketing professionals. Engineering is quite different from all these professions therefore there is a need of foreign language programs which exclusively deals in engineering technologies and terminologies. If engineering education is integrated with foreign languages, it will produce better result for the holistic development of the modern engineer.

II. CONCLUSION

Modern engineering is a tool to reshape our modern world. Globalization had a great impact on the world economy, technology, agriculture, business, education and transport. Engineering has improved immensely over few decades however to implement these engineering development to modern world a new element is required which is the knowledge of foreign languages. A modern engineer must not only be prepared technically but also linguistically. Such language skills will help our modern engineer to spread and

exchange their technical expertise with other countries. Languages have always joined people from different cultures and helped them evolve however it's time to use language for bringing various technological advancement made worldwide together. With advance and technology oriented foreign language programs exchange of technologies will be made easier and faster. Additionally, knowledge of foreign languages, also heighten the confidence of modern engineer and improves personal and professional development. Various aspects of foreign language learning are discussed in the article viz. importance of English, German, French and Japanese as foreign language, and most popular companies and technical and professional opportunities in these countries. Requirement and approach to develop and design new foreign language programs especially suited to engineering. This is a modern world driven by modern engineering therefore modern engineers need modern methods of foreign language teaching.

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