



Effective utilization of English language teaching techniques for workforce readiness of Indian engineers

G. Subba Rao,

Lecturer in English, S.K.E. Degree College, Sirpur, Kagaz Nagar.

Abstract

This paper assesses and suggests improvement in the preparedness in English language skills of engineering students of Dr APJ Abul Kalam Technical University(AKTU) of Uttar Pradesh, so that they are better able to compete for and sustain global employment opportunities after graduation. This paper studies the current English syllabus prescribed for the first year engineering students and evaluates how effective it is in equipping students for skill set required for gainful employment in the emerging global opportunities. The findings indicate that there is an evident gap between the skill set taught and the skills required to enhance employability in engineers and make them fit for global opportunities. The goals and objectives of the present English syllabus of AKTU are only being partially fulfilled. The findings recommend that the curriculum should be spread over a period of 4 years of engineering and not just be taught in the first year. The curriculum should be designed in modules, using computer-aided teaching and technology assisted language learning. Exercises should be designed with focus on ESP - English language used for a specific purpose would help to achieve the goals and objectives of the course. Teachers' training for professional development on latest effective teaching strategies is also recommended.

Key words: ELT,ESP, Engineers English, Global language competency, Employability in Engineers, Soft Skills

Introduction

A study of the English education curriculum especially, in context of engineering education, highlights that there is a gap

between what should be taught and what is currently being taught to a first year engineering student. Sandra J. Savignon^[1] in her study 'Beyond communicative language



teaching: What's ahead' says that the emergence of English as a global language, innovation in technology and a growing need for learner autonomy are changing the context of language learning profoundly. Reviews tell us that India will emerge as a key centre of the emerging global opportunities. Below are a few pointers:

Business and Employment opportunities are supposed to grow India with combined effect of globalization at a fast rate. The Press Information Bureau, Government of India, asserts in the 21st Convocation Ceremony of North Maharashtra University, Jalgaon in April 2013 on the issue of 'Knowledge & Skills to become Primary Determinants of Economic Growth & Social Development'^[2] in which the Vice President of India said that the demand of skilled manpower globally by 2022 will be 50 Million with higher percentage of technical jobs. With increasing urbanization, 50 million employment opportunities are to be created during the 12th Five-Year Plan period in India primarily in the manufacturing and construction field. 49% of Indian global manpower to will be between age 18-40 by 2030. This is the

percentage which has to be developed to suit the international labor market.^[3]

In the above context, the role of language learning and teaching for engineering students cannot be overlooked. Hence English language teaching has a big role to play in developing the holistic personality of a student. Today many of the fast developing economies like Taiwan and Malaysia are using the latest methods of English teaching.^[4] A lot of research is being done on improving ways and methods of teaching English language, and with all the emerging ways and trends in language learning coming to use, it is important to utilize the same in training Indian engineering minds as well so that they may acquire globally fit personalities.

Objectives:

The objective of this paper is to assess the evident language competency skill gap between industry and academia in terms of job readiness in the engineering graduates of Dr. APJ AbulKalam Technical University of Uttar Pradesh and understand perception of industry for the



academic output. This paper evaluates its ELT curriculum taught to first year students of this University of Uttar Pradesh with 400+ colleges affiliated to it. The primary objective of this paper is to:

- Assess present English curriculum prescribed at AKTU for engineering students of first year.
- Study the gap between the present English syllabus taught at AKTU and the skills required by industries in terms of job readiness/self-employment
- Suggest some possible measures to bridge the ELT skill gap specifically for students studying at AKTU, and to make engineering students ready for the global opportunities.

Research Question: This article will answer the following questions:

- Is the prescribed English syllabus at Dr APJKalam Technical University relevant for engineering students from both Hindi and English background?
- Is there any gap between the present English syllabus taught at AKTU and the skills required by the industries?
- What can be the strategic measures to bridge the gap and increase number of engineering

students ready to achieve a globally fit personality?

□ Is there a need to train and equip the English language teachers to keep them abreast with the latest teaching trends?

Literature Review

Employability defined: Employability skills can be defined as the transferable skills which are needed by an individual to make them 'employable'. Although, good technical understanding & subject knowledge are important, employers often outline a set of specific skills that they want from an employee. For recruiters, getting the right people means identifying people with the right skills & qualities to fulfill the role & contribute to the organization's success.^[5] The Cambridge Dictionary defines Employability as the skills and abilities that allow you to be employed. It is the ability to remain employable as a result of the relevant skills one possesses. One major skill is, fluent communication skills which is very crucial to professional growth. The ability to express fluently in both written as well as oral form of language is very much essential for the professional growth. As it is



stated above, English being the most commonly used language in the corporate world; the knowledge of English is one of the most important employability skills. Knowledge of English is much sought after in the corporate world. Proper English does not mean only the ability to construct grammatically correct sentences. It also means all concerned skills for effective communication - like right work attitude, presentation skills, negotiation skills, convincing and interpersonal skills using that language.

Employability in India has become a part of standard dictionaries in India. As the private sector companies are gaining ground and becoming more competitive due to changing world economy, the employees are required to match up the required skill set in order to survive in this environment. An independent study conducted at Harvard University had startling results. 85% of jobs and promotions happened because of the candidate's attitude and only 15% due to the facts and figures he packed under his belt. Another study done on CEOs, by Stanford Research Institute and Carnegie Mellon in the US, found that long-term job success depends 75% on people skills and only 25% on

technical knowledge.^[6] A report by Aspiring Minds, a recruitment firm, released last year says that about 40 per cent of engineers from technical universities in Delhi NCR cannot comprehend English text. This highlights their inability to comprehend engineering course curriculum which is also designed in English Vinay Aggarwal,^[7] the CEO of Aspiring Minds, says that the colleges need to start bridging the gap in the first or second year. Foundational skills like English, logical ability, should be taught to students in first or second semester by doing bridge courses.

The ability to use a language efficiently is required to remain employable. Aspiring Minds further quotes in the report 'Business standard' which says that 43 percent of engineers graduating from private universities like AKTU lack accuracy in English grammar and can't write proper English. It is further elucidated in the report that 25-35 per cent of engineers are unable to comprehend written and spoken discourses in English including day-to-day conversations, academic lectures and texts etc. A major reason for this is that more than 60% students studying in AKTU come



from regions of eastern Uttar Pradesh belt, and is from Hindi medium backgrounds. They lack basic understanding of the English language and continue to lag behind in college. This is one of the main reasons for low employability percentage in AbulKalam University students.

Material and Methods

In order to find out the expected communicative skill set/competency required by a freshman engineering graduate at work place, a sample survey was done with few professionals of different engineering industry domain. The responses were recorded and compared with the engineering English curriculum taught to one of the private universities of Uttar Pradesh AKTU with more than 400 colleges affiliated to it. The findings suggested that strong written communicative skills are required for areas like self-expression, email writing, reports/proposals/letters, presentations, technical writing etc. Along with such skills many soft skills and attitudinal skills are also required to handle works like PowerPoint presentations, teleconferences, client handling, negotiation, team handling and group

meetings, counseling/problem solving, situation handling in reference to global clients, international communication, meetings/Skype meetings and overall appropriate attitude and thinking. However, the English curriculum studied and compared revealed that most of the above said skills or modules are presently not a part of the curriculum and thus the industry expectation with English language acquisition is only partially met.

Review of present English Curriculum for Engineers in private technical university:

For coping up with global industry requirements, almost all technical colleges and universities have introduced Professional /Technical Communication as a compulsory subject at the under graduate level in the Engineering and Technology program. The objective of this subject is to build engineering graduates who are adept and skilled enough to be employed in their respective domains. However, we find that the English Language Training given to the Private Universities of Delhi NCR colleges is based on very basic English and possibly unable to serve its purpose. They engineers graduates have a long way to go



before they achieve their true potential simply because their English competency is very poor as compared to their peers in many other Indian states. A detailed study of the syllabus indicates that there are several areas where the English curriculum can be improved and made more effective.

The English curriculum being taught to private universities of Delhi NCR is taught to first year engineering students. The students studying in these colleges are from Hindi medium and face severe issues in written and verbal English communication. A sample study of English Syllabus of Dr.APJKalam Technical University (AKTU) private universities was done. The Professional Communication course prescribed for engineering students at AKTU is common for all branches of engineering course i.e. Computer Science, Electrical, Electronics, Mechanical, Information Technology, Electrical and Electronics, Civil. Professional Communication is taught to engineering students in the first year only.

A look at the syllabus highlights some areas of concern and improvement areas. Professional Communication (RAS -154) theory

and (RCS-151) lab is taught in the first year of engineering course. This is the compulsory subject for all students.

Course Discussion: Professional Communication is a 3-credit course which is spread over 5 units. The first unit is dedicated to the nuances of communication in detail which entails in establishing the concept of professional communication in the students. This unit makes the student understand the difference between general and technical communication. The second unit has simple word structures and basic grammar modules targeting vocabulary enhancement and developing basic grammar acumen. This unit can be helpful for students lacking in very basic English and grammar skills. The third unit is entirely based on technical communication formats as required in industry viz Resume writing, Commercial Letters, Report Writing and Proposal. The fourth unit is dedicated to presentation strategies, body language and listening Skills, This is an important unit as the modules are all practical and are required to be practiced in the real work life situation. The fifth unit comprises 5 essays from prose around



areas of language and science. This is a general unit trying to orient an engineering student towards applied science and humanities.

Analysis

If we consider the course outcome decided for Professional Communication course it is very clear that the main aim is to develop communication competence and holistic individuals who can be employable in market and a workforce can be created. However, a comparative study of the syllabus with the requirements of an Industry tells us that there are some major flaws/shortcomings in the same:

Unit I only talks about basics of Communication and its types including barriers in communication. Concept of soft skills is not included which gives a more holistic understanding of communication and the idea about kind of effective communication required in Industry. Apart from communication skills situation handling, problem solving and right attitude are also key skills which can be taught under soft skills. These skills should be introduced as they are the basics to developing a strong compatible personality.

Unit II is grammar based which is needed for Hindi medium students. However, engineers also need to be taught grammar specifically on the syllabus asked in competitive courses which is tested during their recruitment drives and other competitive exams as an English Aptitude Test. For practice of aptitude tests along with simple grammar, basics specific English syllabus focused around the pattern of tests should be introduced. This is one major area of gap that results of students' failure in the written aptitude test conducted in their placement drives.

Unit III covers topics which are of importance, but only in the final years and are not useful for first year students. The students have just passed XII and in their first year they are taught concepts of Resume writing, Report writing and Proposal writing which will be only required by them while they are in jobs. They should be covered in the final year and not in the first year. We must note that this Professional Communication course being given only in the first year has made its impact very weak and the course outcomes are not truly met.



Unit IV again is something which must be taught in third year onwards in detail which may help the students develop their presentation strategies and ways to express which shall in turn help in their presentation rounds and GD s etc during their recruitment process.

Unit V is not very impactful as the prose taught has no relevance with engineering life and does not teach much. Motivational books and Case Study teaching would have been more helpful for students.

The biggest area of improvement is the subject being taught only in first year for students. The course has to be progressively taught to the engineers which is divided into gradual steps training students to develop right required skill set for being employable.

From the above responses, it can be clearly interpreted that, when we talk of English taught to engineers aiming at their job readiness or workforce creation, the above listed pointers make a lot of meaning and help us understand the importance of Engineering English courses. The above key areas must be looked at and aligned with the present curriculum. This situation gets more

alarming as such private universities are filled with students from Hindi belt who lack basic English knowledge. Therefore, these students constitute major portion of unskilled and unemployed workforce percentage each year. It is therefore advised that the English curriculum should be aligned with an engineer's specific communicative competency needs.

English Language Teaching(ELT) has also emerged and developed since independent India and Raja Ram Mohan Roy era and it is presently a highly researched, practiced and in demand field of study. [8]

Language proficiency or linguistic proficiency is the ability of an individual to excel in an acquired second language. It is a big term which comprises language or structural grammar competence,* discourse competence,* sociolinguistic or socio-cultural competence,* and what might be called survival/employability competence.

Effective learning takes place only when the learner is able to communicate fluently both in writing and speaking and is able to use English for library purposes.



Mahajiteswar Das ^[9] in this reference differs and is of the opinion that teaching English as a 'library language' is not beneficial and sufficient in terms of providing job opportunities, because the students who learn to use English only as a 'library language' are less competent than the students who acquire competence in all the four skills of English language (LSRW). Therefore, according to him, it is necessary to develop all the language skills in order to improve communication skills ^[10]

When clear needs and learning vision is defined for engineering English with a specific purpose under which the language content is customized, it results in focused teaching with the learner picking up communicative ability in the required area. The results can be impressive where such a requirement for communicative ability is matched with specially designed content relevant to the needs of particular category of students. A different approach from the present one running now is required, as English no more is an examination subject alone but a source of gaining communication

competence and a symbol of excellence in this global trend.

To meet the increasing needs of English language teaching, general ELT has been diversified to English for Specific Purposes (ESP), English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). In all the above-mentioned offshoots, the nature of the purpose involved is self-indicative. ESP marks the advancement in the conventional framework of ELT, and defines the teaching requirements depending upon the specific needs of different groups of students. ^[11]

English for specific purposes ESP asserts and advocates designing of special courses instead of one multi-purpose course, to suit the needs of various groups of students. The concept of ESP is said to be particularly appropriate and focused for teaching English to students of science and technology (EST). Besides, English at the undergraduate level of engineering studies differs from English in other undergraduate courses because it has a specific purpose unlike a general purpose in other colleges. It is introduced to develop professional communicative competency in



engineering students and make them par with industry expected skill sets. It differs from other courses in the three aspects, such as relevance, register and style.

Introduction to SOFT SKILLS

In the 21st century where the technical skills can be learnt, applied and measured to a high degree the language competency is not a common feature. From the past we have seen that if one were technically very proficient, employers will almost always ignore communication skills unless the job were in sales/marketing. But this scenario has changed completely now with the global opportunities available for us. The global mobility of professionals, multicultural work place environment, startups and entrepreneurial bent, growth in the admissions in the professional courses are important key issues which have created the increasing need for devising professional language course curricula for professional programs.

According to Serby Richard (2003)^[12] in the modern corporate world, requirements are such that

they look specifically only for those candidates who can add value to their organization using their soft skills and language competency in their work profile. This requirement of soft skills and English expertise in a job has made the competition for job acquisition and job sustainability stressful and tougher than before. All those candidates who wish to get an edge over their competitor are expected to work on such skills. This view point is further substantiated by Hewitt Sean (2008) in his paper Soft Skills - A Magnitude for Recruitments.^[13] In that paper, he says that employers value soft skills because they are as good as indicator of job performance as traditional job qualifications.

In spite of such great relevance of a combination between soft skills and language skills in the present corporate world, majority of the institutions, specially, the private technical universities are yet to introduce courses that use latest ELT trends in their curriculum. Therefore, there persists a big academia industry gap that needs to be understood with specific solutions in order to achieve target skill based manpower development in our country.



Through this contribution in filling up the gap, the Indian education sector can be an ally to the Indian industry tremendously to make a much larger impact in higher value added markets. The need is to focus on competence building by transforming its conventional teaching, learning and assessment processes. This focused development will also help in developing India as a preferred destination for education and prospective employees for their companies.

Soft Skills training is given at a couple of colleges only on finger count, given the increasingly low admissions in the engineering domain with each passing year. It is a necessary realization now that, if ELT has to prepare an engineer for his professional life and support job readiness, it is required that adequate training and practice of inculcating the right work attitude in a freshman should be a top priority to teach ELT curriculum. The English curriculum needs to incorporate modules catering to improvement on skills that can make an engineer globally employable.

Recommendations and Suggestions

1) Concept of Blended Learning: Kinnaman (1990)^[14]

Training Teachers for Using Technology a world renowned researcher, says, "The information age' has clearly arrived with a bang in the 90's and from now onwards the educational use of computer technology will surely continue to grow." "At the same time one should accept positively that the computer cannot substitute for teaching skills nor can they replace teacher's abilities and qualities." An amalgam of CALL and face-to-face teaching is usually termed to as blended learning. Blended learning is designed to increase learning potential and is more commonly found than pure CALL (Pegrum, 2009; p. 27).^[15] The use of ICT (Information communication technology) is required in teaching both English concepts and practical labs. It is startling to know that still most private colleges are not running any English labs and classes are converted to theory owing to lack of lab resources/no language software/no expert teachers etc.

The Communication Skills Lab: This is the language lab course taught in the first year (I & II semester) of all branches of engineering course. It is



a compulsory course for all engineering students. It has total 100 marks (60 marks for internal and 40 marks for external assessment). In the internal assessment, students are assigned by the instructor to present on a topic, GD and to do role plays and work also on the assignments, and are evaluated on the basis of their performance. In external evaluation, the external examiner is invited to assess their oral proficiency in English language. It is an open-ended and activity based course in which students are practiced on different activities/tasks etc. The activities used for language lab are role play, group discussions, debate, extempore, oral presentations, interviews, skit, practice on grammar, pronunciation and listening, speaking, reading and writing through different software installed in the lab computers.

Analysis of Professional Communication Skills Lab:

The role of a language lab cannot be ignored in the development of language skills. It has been always helpful to make teaching and learning more interesting and meaningful. AKTU instructs for a well-equipped language lab for engineering students in its affiliated

colleges. A separate instructor for practicing language skills in the lab has to be appointed. However, owing to their constraints very few colleges under AKTU provide with a language lab to its students. Most of the colleges either don't have a lab or have converted lab classes to theory. Others have it on paper only. Many other have no resources available when it comes to using microphone, headphones, and a latest language software.

The latest technological devices and software that can be helpful in teaching and learning of English language should be available in the language lab. Nowadays a lot of discussions, seminars, meetings and interviews are being held via Webinar and Skype. Language lab can be a very useful resource to train the students in such types of skills. There are a large number of resources available online that can enhance English communication skills of engineering students. Different kind of videos on interviews, presentations, discussions, English speaking etc. may be shown them to make them aware of the different types of English used in different countries. Class discussions, famous speeches,



learning oral communication, experimental methods will be useful to develop the communication skills of engineering students.

2) English for Specific Purpose based Syllabus for Engineers.

Assessment and Analysis of Professional communication syllabus tells us that it is taught for general purposes and is different from the English taught for specific purposes. Engineering English should deal with English for Specific Purposes (ESP) or English for Science and Technology (EST). ESP/EST can be more effective to develop the communication skills of engineering students. ESP is a branch of ELT and is used in specific teaching situations and is likely to be designed for adult learners at a tertiary level institution. ESP is designed to meet the specific needs of the learners. It is centered not only on the language (grammar, lexis, register), but also the skills, discourses and genres appropriate to those activities (Dudley-Evans (2001) [16]. ESP for engineer must entail preparation of English for clearing the aptitude tests given in recruitment process.

3) ELT Train the Trainer.

It is important for the faculty involved in teaching ELT subject to be adept

with all new methods and techniques for deriving the best out of her students. Therefore consistent training the faculty on the same is needed. On a random sampling done of 10 private colleges of Uttar Pradesh area it was found that 85% of the faculty teaching Engineering English is not having an ELT background and do not themselves understand the nuances of effective communication.

Attitude of Teacher: The teacher attitude is also very important as they play a significant role in defining and creating the classroom environment. It has an impact on a student's self-development and vision which in turn influences a student's behavior. Most studies have shown that teacher mindset can influence and affect the performance of linguistically diverse students. Knowingly or unknowingly, their attitudes play a crucial role in language's "growth or decay, restoration or destruction" (Baker, 1988) [17]

"The attitude of teachers have been found to be a major hindrance of the use of new technology in instructional setting according to Aijzen (Ajzen&Fishbein, 1980) [18] The 21st century language learner is



going to be very competitive and fast. Hence the faculty involved must be in constant touch with the happenings around the global to help its student excel at global standards.

A suggestion is to use post-teaching methods for Trainer. In such a condition, the role of a trainer becomes a very important parameter to be realized when we talk of creating an ecosystem in order to increase job readiness in engineering students. Riemer (2002) ^[19] cites a report published from Melbourne, Australia stating that now employers search engineering graduates with skills beyond the standard paper degree and demand the excellent level of skills in communication, decision making and team work.

Recommendation Pointers:

Following are a few suggested recommendation pointers:

i. Professional communication subject should cover development of workforce skills and its nuances in the curriculum. It must be a regular course given in every semester and not just in first year. A specially designed curriculum based on latest ELT trends using communicative approach focusing on all LSRW skills

must be entailed - especially for the Hindi medium students. A special focus should be given to preparation of written English aptitude test, Group discussions and Interviews which the student has to face during his placement.

ii. Teachers must receive training in the latest language teaching methods so that teaching becomes effective and aids in acquisition of right skill set in classroom.

iii. The academia and corporate must work together. The industry has to support the academia by way of special guest lectures, live projects and experience sharing to bridge the gap.

Conclusion

As English is the medium of all scientific and technical studies in India, any lack in the linguistic proficiency can seriously jeopardize knowledge acquisition and literacy in the technical domain of an aspiring engineer. Training and Educating engineers with a comprehensive and deep set of skills that are in demand would be of tremendous importance for the employability of individual engineer and for the country's development. Large economic sectors, such as IT, infrastructure, power and water, rely critically upon



engineering skills and technologies. India as a country is amidst the global players now.

This leaves the institutions with an important role for preparing their graduates to meet the demand for skills from different sectors. Institutions therefore have to increase their interaction with various kinds of employers. And so, the institutions should create and customize program outcomes to meet the specific demand. Furthermore, special activities such as internships and involvement of institutions with professional community would also help students to deepen the understanding of demanded skills and adapt well to them.

References

1. Savignon, Sandra J. "Beyond communicative language teaching: What's ahead?." *Journal of Pragmatics* 39.1 (2007): 207-220. pib.nic.in/newsite/PrintRelease.aspx?relid=94572
2. Agarwal, Pawan. "Higher Education and the Labor Market in India." (2007).
3. Liang, T. (2002). "Implementing Cooperative[15].
4. Pegrum, Mark. "Communicative networking Learning in EFL teaching: process and effects" Dissertation of Taiwan Normal University.
4. DipawaleeSantosh Mishra,"Engineering Employability Skills Required By Employers in India",*International Research Journal of Engineering and Technology (IRJET)* e-ISSN: 2395 - 0056 Volume: 03 Issue: 02 | Feb-2016
5. WFE Report, Future of Jobs, <http://reports.weforum.org/future-of-jobs-2016/>
6. <http://www.businesstoday.in/management/career/most-engineering-students-in-india-lack-basic-skills-aspiring-minds/story/229453.html>
7. M.Vijayalakshmi , Dr. ManchiSaratBabu "A Brief History of English Language Teaching in India", *International Journal of Scientific and Research Publications*, Volume 4, Issue 5, May 2014
8. Kothari Commission Report (1966).New Delhi, Publication Division.



9. Indira, M. (2003). "The suitability of course book in Engineering Colleges for developing communication skills: A study". Dissertation of M.phil.in English. Hyderabad: Central Institute of English and Foreign Languages.
10. Narayanan, et.al "English language teaching in India: a theoretical study" MJAL, vol: 1:1 February 2009 1:1
11. Serby Richard (2003), "Importance of Soft Skills" retrieved August 2008, from http://www.directionsmag.com/article.php?article_id=418
12. Hewitt Sean (2008) Soft Skills- [A Magnitude of recruitments][IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. olume 17, Issue 6.Ver. III (June. 2015)]
13. Brand, Glenn A. "What research says: Training teachers for using technology." Journal of staff development 19 (1998): 10-13.
14. Indira, M. (2003). "The suitability of course book in Engineering Colleges for developing communication skills: A study". Dissertation and linguistic mashups on Web 2.0." Thomas, M.(ed.) Handbook of Research on Web 2.0 and Second Language Learning (2009).
15. Dudley-Evans, T. & M. J. St. John. (1998). "Developments in English for specific purposes: A multi-disciplinary approach". Cambridge, Cambridge University Press. Ellis
16. Ajzen&Fishbein. (1980). "Computer-aided Language Learning; are the teachers ready?" in The Modern Language Journal , 77(1) 38-47.
17. Riemer, Marc J. "English and Communication Skills for the Global Engineers." Global Journal of Engineering Education 6. 1. (2002): 91-100. Web.11 May 2016 <<http://www.wiete.com.au/journals/GJEE/Publish/index.html>>
18. Andreas Blom, Hiroshi Saeki, "Employability and Skill Set of Newly Graduated Engineers in India", World Bank, November 1, 2010