UPGRADING THE ENGLISH LANGUAGE CURRICULUM TO THE EVOLVING NEEDS OF INDUSTRY 4.0: A CHALLENGING PROPOSITION

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ABSTRACT

The fast-changing landscape of industry 4.0 has placed the English language curriculum being offered in engineering and management institutions of the country at the crossroads. Given the accelerated pace of globalisation, and concomitantly the changing employment trends, it is anticipated that industry professionals need to use English on a daily basis for presentation of complex ideas and carrying out synchronous and asynchronous online communication. Taken together, these aspects raise questions on the efficacy of English language curricula currently being offered in the country, which are still largely based on syntactic or functional elements of language teaching-learning. It is felt that they are inadequate to equip students with the complex English literacy and communications skills needed for the emerging information industry. On this front, the five deemed-to-be Universities in the State of Andhra Pradesh have attempted to redesign their curricula as outlined by AICTE and NBA/NAAC by adhering to the parameters of Outcome Based Education stipulated by the Washington Accord. The paper will explore how far the model AICTE curriculum has been adhered to and for what ends. It will highlight some of the best practices being followed at these institutions.

Keywords: Language Curriculum, AICTE Model curriculum, Industry 4.0

I. INTRODUCTION

There is much talk these days about the National Education Policy (NEP-2020), skill development, ready for jobs ecosystem of providing employment to engineering graduates in the elite IT industry across the globe. It is assumed and felt that why engineering students should learn English usage; what makes them to learn, understand and build proficiency competencies. An engineering graduate is supposed to be well versed and required to understand, explain his/her projects, proposals, and PPT presentations to his/her peers, clients and the board of directors sometimes. Over a period of time many of the scholars and eminent English curriculum experts realized the need for changing the curriculum based on the inputs received from industry requirements rather than fully focusing on academia. If the engineering graduates are to be employed, then they should know what kind of core skills and competencies the industry is looking for. The young engineering graduates have an opportunity and could be asked to present in front of senior executives/C-suite of a company highly influential decision makers can reinforce and elevate them to the next level need to be ready for capitalizing that moment.

To bridge the lacunae AICTE, one of the Government of Indian-agency circulates guidelines to be followed by the Government Private and deemed to be universities in the form of ‘model curriculum’. The guidelines are suggestive in nature. Based on the guidelines issued by UGC the universities frame and design their curriculum incorporating the inputs given by AICTE Model of Curriculum and few important topics in the content are added by the deemed to be universities having gone through interactions with alumni, academia and industry experts to draft a curriculum which suits all stake holders.

It is pertinent to note in this context that the employability rate of engineering graduate is very less. One of the reasons for this is poor English language competence. Irrespective of the place and work environment; in order
to improve skill-set of Indian students’ the guidelines of UGC is circulated through the AICTE to all the universities to design their curriculum accordingly. One peculiarity that differentiates here is every university brings in changes in the curriculum as per the recommendations of their Board of Management and Board of Studies and Academics. The real question arises here is how for these curriculum framework suits and enables their students to get jobs in hand before they move out of their universities. In this paper, an in-depth study of the processes involved, corrective measures and effects have been analysed. Most studies have emphasised the need of communication skills, team work, project management skills etc as the key skills required for engineering graduates. (e.g. Ramadi, Ramadi, and Nasr 2016). Therefore, it is pertinent to incorporate these skills in any engineering curriculum. There are various terms used by researchers, in this regard, those include ‘employability skills’ (Barte and Yeap 2011, ‘professional skills’ (Case and Marshall 2016), ‘soft skills’ (Stevens and Norman 2016), ‘professional competence’ (Lappalainen 2013), and ‘professional capabilities’ (Boni, Sastre, and Calabuig 2015), as well as specific skills, such as ‘communication skills’ (Clement and Murugvel), ‘team work’ (Liu 2017), or ‘project management’ (Clark 2008).

Further, there have been studies which focus on the linkage between real-life skills requirements and classroom inputs. (Litzinger et al.2011). Thus, the focus should be on preparing engineering graduates to face the real-life skills requirement when the graduate. In this aspect, communication in English plays a primary role.

**English Language Curriculum for Engineering Graduates**

English Curriculum for Engineering Graduates plays a pivotal role in realizing prospective lucrative jobs in industry 4.0. If the curriculum is oriented towards industry needs and has the potential to meet requisite norms of industry 4.0 and society, then it reaps desired outcomes successfully.

In this paper, we discuss how the AICTE Model English Curriculum has been developed on the guidelines of Washington Accord which provides for Curriculum Design of STEM disciplines, with a specific focus on curriculum for engineering.

We shall also take into account the framework developed by the National Board of Accreditation (an allied body of the Washington Accord) and the new policy for Higher Education as per NEP-2020. The model curriculum for engineering prescribed by AICTE and enforced by accreditation bodies like NBA and NAAC seeks to address the Programme Educational Outcomes (PEOs) and 12 Programme Outcomes (POs) that are determined under Washington accord. It is found that out of the 12 POs mentioned for preparing a professional engineer, English Curriculum can address at least 4 POs as indicated in the AICTE Model. They are PO 6, PO 7, PO 10 & PO 12.

- **PO - 6.** The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **PO - 7.** Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **PO - 10.** Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO - 12.** Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

These four POs are essentially required for an engineer to communicate well, exhibit good interpersonal, managerial, team skills & leadership skills, behave ethically in their workplace, carry out life-long learning in their chosen fields.

**Industry 4.0 and its significance for language curriculum**

The global market has been fast changing. Also,
What is the latest update on the industry employability?

Wheebox is one of the leading survey conducting agencies of India. It has been doing surveys for the last one decade and bringing out creative and innovative information about the Indian Industry requirements and ideas to bring sync between the Industry and Academia by improving academic standards in engineering curriculum and training aspects. To ensure better employability rate some remedial measures are taken to overcome the lacunae in designing curriculum time to time. The gaps are identified through the survey reports and those become the base for upgradation of curriculum framework looking at industry trends. Wheebox in collaboration with CII, UGC, AICTE brings out clear overview of the requirements of the industry in a nutshell report for facilitating institutions and budding engineers. One such report is also submitted to the Govt. of India so that it works on the inputs, suggestions and recommendations for the effectiveness of engineering curriculum across the country.

Current trends in the industry: -

What makes difference in developing the professional values through strategic planning of skills?

Employability prospects of engineering graduates depend upon their skill component mastered during their course. Just having a graduation degree isn’t going to fetch the engineering students’ handful jobs unless they keep on training their minds, speak with firm determination in but how far is it viable or effective in realising the obs and best it could help themselves groom into the great professionals of tomorrow. Here is a strategy input enabling for suitable engineering professional
AICTE MODEL CURRICULUM: ENGLISH

AICTE has proposed a model curriculum for all the engineering and professional courses for all subjects including English. The focus in the English curriculum includes: Vocabulary Building, Basic Writing Skills, Identifying Common Errors in Writing, Nature and Style of sensible Writing, Writing Practices, Oral Communication (This unit involves interactive practice sessions in Language Lab). The intended outcome of the English language syllabus as proposed by the AICTE is to acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

ENGLISH LANGUAGE CURRICULUM IN INDIAN UNIVERSITIES

Each university is allowed to prepare syllabus based on the needs of its students. This goes same for the language syllabus. This section will analyze a few English language syllabi used in private universities in the state of Andhra Pradesh, India.

Vignan’s Foundation for Science Technology and Research (VFSTR), Guntur, Andhra Pradesh

VFSTR provides ample opportunities for the students to enhance their language proficiency skills. Most of the students who join VFSTR are from the first-generation learners. The English language curriculum has been spread across the four years of Engineering.

In the first two semester, the focus is more on developing learners’ basic proficiency in English and to achieve B1 level of CEFR (Common European Framework for Reference). The courses which are offered in the first years are;

1. English Proficiency and Communication Skills (EPCS)
2. Technical English Communication (TEC)
3. Life Skill

The EPCS course attempts to provide students an exposure on a wide range of language used in everyday situations. They will read, analyse, and interpret material from a variety of general topics and practice reading, writing, listening and speaking skills in English, to use it confidently in their professional and social contexts. The following skills are focused in the EPCS course:

- Reading strategies for global meaning and for specific details.
- Writing with purpose
- Listening for drawing inferences.
- Speaking fluently with appropriate stress and intonation.
The TEC course introduces the students to the specific use of English for Technical Communication. In this course students will read, analyse, and interpret material from general to technical fields, and will practice reading, writing, listening and speaking skills on a variety of contemporary topics. The following skills are focused:

- Oral Communication Skills to make presentations.
- Paraphrasing and Summarizing Skills
- Etiquette in interpersonal Communication.
- Language competence to work in international environment.

The course in Life skills intends to impart students’ employability skills like resume preparation and facing interviews. To enable trainees to develop interpersonal and leadership skills. To train them on work place skills like making presentations, participating in group discussions etc. The followings are the specific objectives of the course.

- Balance social and emotional intelligence quotients through SWOC, JOHARI etc. activities.
- Prepare tailor made resume and face various interviews with enriched personality traits.
- Plan personal and professional goals.
- Solve personal and professional life hiccups with confidence and maturity.

GITAM Deemed to be University (Gandhi Institute of Technology and Management, Visakhapatnam, Andhra Pradesh)

GITAM also focuses more on enhancing basic English language skills of the students. The syllabus has been designed keeping the language needs of the engineering graduate students. The syllabus is divided into ‘theory’ and ‘laboratory’ components.

The syllabus uniquely blends literature for enhancing language skills. For example, Francis Bacon’s ‘Of Studies’ is used for development of reading skills. Further, many authentic texts have been prescribed in the syllabus to develop learners’ reading skills which include Scientist in Training: The Oxford Years‖ Stephen Hawking’s Biography, "The Teenage Years’ by Sarah Gray, “Unlock Your Own Creativity” by Robert Von Oech etc.

Development of Writing skill is another primary focus of GITAM’s language syllabus. The following areas of writing have been included in the syllabus.

- Principles of writing: Clarity, simplicity, brevity, single focus, organization of thoughts
- Note Making- organizing techniques: Providing a suitable title, headings and sub headings; methods of sequencing.
- Paragraph Writing-Organization: Topic sentence, supporting sentences, the concluding sentence, creating coherence
- Paraphrasing -techniques of paraphrasing: Replacement of words and phrases, change of sentence structures
- Writing Essays -writing introduction, body and conclusion

It can be observed from the above areas that students get many opportunities to practice writing in the classroom.

Grammar, Vocabulary & Pronunciation are the major focus of the GITAM English syllabus. Students get the opportunities to learn the following points.
Sentence Structure: use of phrases & clauses in sentences; punctuation, word formation, word families: nouns, verbs, adjectives, adverbs

Articles, standard abbreviations

Tense; prefixes & suffixes

Subject-verb agreement; Synonyms

Prepositions, antonyms

All these are integrated with English language laboratory sessions, which provide hands-on experiences for the students to practice and learn. The following are a few examples of the laboratory sessions.

- Introduction to Phonetics: Vowels, Introducing Oneself.
- Introduction to Phonetics: Consonants; JAM (Just – A – Minute speaking sessions)
- Listening for intonation, stress and rhythm & pronunciation; Common everyday situations: conversations and dialogues
- Listening comprehension: listening for the main idea, listening for specific information; Discussion in pairs and small groups
- Listening to discussions: focus on language devices; group discussions.

SRM University (Formerly known as Sri Ramaswamy Memorial Institute of Science and Technology, Chennai)

The primary focus of the English language syllabus offered at SRM University to enhance students’ proficiency in English. Apart from this, students are trained to master advanced level of proficiency skills including research writing skills. The syllabus is broadly divided into four categories and each category has a few focused points as highlighted below.

Grammar and Vocabulary

- Tense and Concord
- Error Analysis – Synonyms and Antonyms,
- Parallelisms
- tense and concord; word formation
- Homonyms and Homophones
- Using technical terms, Analogies

Listening and Speaking

- Common errors in Pronunciation (Individual sounds); Process description (Describing the working of a machine, and the manufacturing process)
- Conducting Meetings
- Distinction between native and Indian English
• (Speeches by TED and Kalam) – accent, use of vocabulary and rendering;
• Group Discussion
• Presentation techniques (Speech by the learner)

Writing
• Interpretation of data (Flow chart, Bar chart)
• Notice, Agenda, Minutes, letters to the editor via email: Email
• etiquette
• Definitions and Essay writing
• Applying for job, cover letter and resume
• Project Proposal

Reading
• Reading Comprehension -- Answering questions
• Summarizing and Note-making
• Predicting the content
• Appreciation of creative writing.
• Referencing Skills for Academic Report Writing

KL Deemed to be University (Koneru Lakshmaiah Education Foundation (KLEF))
The English language syllabus at KLU focuses both on the enhancement of basic language proficiency skills along with soft skills. Grammar is prescribed through interactive methods. Language laboratory sessions have been given to develop students’ oral proficiency skills. Some of the key features of the syllabus has been given below.


Language Laboratory Interactive: Esca talk, JAM, Ranking, Shrinking Story, Desperate Decision, Listening for Specifics, Pronunciation Practice. Debate, Blind-fold, Role Play, Situation Reaction Test--Build an Island nation.


Reading Comprehension: Techniques, Skimming and Scanning, Vertical Reading, Reading Perception Tests (RPT): (Graphic), Reading Perception Tests (RPT), Semantic Interpretation of the Text, Reading Speed Enhancement.

Soft Skills: Interpersonal Skills, Adjusting Your Attitude-Arrogance has no Place in the Workplace, Cultural Sensitivity in the Workplace, Corporate Culture: Learning How to Fit In.
VIT University (Vellore Institute of Technology)
The English syllabus at VIT includes

1. English for Engineers – I
2. English for Engineers – II

The focus of the syllabus is given to development of English communication skills which include basic Listening, Speaking, Reading and Writing skills. Further, there has been enough emphasis on the development of vocabulary and grammar like the nature, process and barriers of communication Time, tense and tense consistency E-mail Etiquette, Writing Effective Sentences-sentence coherence, length, avoiding ambiguity and thematic emphasis.

The language syllabuses offered at VIT highlight Indian English which students can encounter outside the classroom.

There is a separate syllabus for laboratory sessions. The followings are a few examples from the prescribed laboratory sessions.

- Introducing oneself, Strengths and Weaknesses
- Asking for Information, Interrupting and disagreeing
- Telephoning Skills (Through Role-plays)
- Group Discussions - Process, Skills, Guidelines, Evaluation
- Interviews – Identifying Career Options, Preparing for An Interview, Facing An Interview
- Oral Presentation Skills – Planning, Preparing, Organizing, Presenting

II. CONCLUSION

It is observed in the succeeding stages of the paper that the private universities in Andhra Pradesh focusing are truly inculcating in the minds of young budding engineers by honing right skills required for their jobs. This new trend of collaboration of industry and academia has been progressing in yielding better results through innovative practices and creative ideas in designing the curriculum fitting right into the aspect of Industry 4.0. Finally, we conclude that these universities are putting tremendous effort in designing English Language Curriculum with great precision of training and implementation by providing ample of opportunities practice and progress to the prospective engineers to crack their interviews and get a decent salaried job in the industry with pride.

The English language syllabi must cater the changing needs of the students. One of the grey areas which have not been given emphasis is preparing courses for more specific courses like English for Mechanical Engineering or English for Marketing students. All the courses are very ‘generic’ in nature intending to enhance students’ basic language skills. However, there should be plans to develop more specific courses as per the student’s language needs.

REFERENCES


