Soft skills are the Hardest Skills: Need to incorporate Humanities in Mainstream Engineering Syllabus

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Abstract:
While the fresh dawn of this millennium has witnessed a path-breaking technological progress, the engineering students are at the crossroads of existential angst — resulting out of non-sustainability in the employment market.
Today the several challenging demands of the upwardly mobile industry have resulted into many complicated working situations. Petty power battles, the desire to constantly reinvent oneself, manic depression, and stress at work are only a few of the signs of the extraordinarily high "exit ratio" at work. Academicians and researchers have opined that the present techno-savvy generation of engineering students does not possess the necessary education in order to survive in the corporate working culture. They acutely lack not only in coming up with creative engineering solutions but also fail to demonstrate awareness of contemporary issues articulately.
This paper attempts to address and debate some of the current issues surrounding the inept Indian educational sector in the context of employability scenario. It aims for the onset of a dialogue across various government bodies and educational institutions for providing multidisciplinary approach to engineering graduates that meets the global industrial and corporate requirements.

Keywords: Educational curriculum, engineering graduates, soft-skills, humanities etc.

INTRODUCTION

In the contemporary Engineering curriculum, the Board of Studies (BOS) have evidently incorporated Engineering design and science subjects that have been dominating the engineering curriculum since post-modern era. Likewise, the newly introduced Credit-Based-Grading-System (CBGS) that seems to be imminently fitting into the emerging socio-economic milieu is believed that it could effectively respond to the educational and occupational aspirations of Indian students. The CBGS system which is supposedly said to be in tune with the global educational trends, offers its unique contribution to each branch of engineering in its make-up of theory and practicles. However, in most of the situations, the BOS have grossly ignored or eliminated the imperative role of ‘soft skills’ or humanities that are crucial to provide appropriate jobs to the budding engineers. The CBGS too, that started with an important educational concern to increase the competency of students, paradoxically has not been keen on ‘investing’ adequate resources and parameters to make Indian students more global.
In the perspective of Engineering Curriculum, the role played by communication skills, humanities or soft-sills is completely downplayed. According to the statistical data, it is important to acknowledge the non-engineering subjects such ‘Soft’ skills, values and ethics, or language and communication aspects that are crucial to holistic instruction.

VITAL STATISTICS:

As per the research and media records available, individuals who display fine English linguistic proficiency earn 30% more than those who lack in the same [1]. Up to 47% of Indian graduates are unfit for any business position, according to recent statistics. To make matters worse, polls conducted by different organizations show that over 70% of our engineering graduates are unemployed [2]. It hardly comes as a surprise that the IIM-C CEO of PepsiCo in 2011, Indra Nooyi earns more than $17 million (approx. 109 crore) or the recently appointed CEO of Google Inc Sundar Pichai who draws a salary package of $ 50 million or Rs 310 crores or Satya Nadella the current CEO of Microsoft earning a staggering $84 million (Rs. 525 crores). In all the cases, sharing their smashing success stories, these Indian-born CEOs have pursued their management studies with top Institutions in the world. Today, every engineering aspirant dreams of a similar situation for their bright future.

The evident truth that Chennai, the home of Anna University, one of the biggest universities in India with over 400 colleges connected with it, has an appalling 1% employability rate has been highlighted in a report by the research firm Aspiring Minds. Delhi, the state with the greatest employability rate, is only at 13%. Bangalore, the "tech valley of India," has a startling 3.2% [3].

Maintaining this argument, the function of the humanities in an engineering student's development can only be seen in real-world scenarios, even while the results of engineering courses can be assessed by experiments, measurements, or creative creations. One can discover the pitiful state of engineering graduates in the "outside" world by looking much beyond the cluttered numbers and statistical data. In order to demonstrate their value at job fairs, the majority of the freshmen who hold distinction are in desperate need of anchors in unfamiliar environments; as troubled scholars seeking professional counselors; as job seekers seeking preparation sessions for interviews, seminars, and discussion forums; and as aspirants for higher education seeking those crucial recommendations.

In this context, a topic being discussed in the humanities becomes important from an engineering perspective. The goal of engineering education is to prepare graduates for successful and diligent careers as working professionals. Therefore, serving human civilization is the ultimate goal of engineering education. At the moment, every possible branch of engineering has reached the near miracles pinnacles! On a global level, the barely year-old technology is out-smarted with revolutionary cutting edged ones. Nonetheless, if we compare the achievements of an engineering graduate close to our educational institute, it reveals a not so encouraging trend on the overall aspects of the young graduate. The campus placements report divulges that the students take a severe defeat on the domains of critical thinking, communication articulation or a general awareness on things. On a positive note, though the budding engineers display exceptional analytical skills, they fail to express themselves as well as those from other disciplines.

From an educationist stance, it’s a valid credence that the escalating influence of the experimental technology upon the engineering graduates has resulted into a momentous social and economic growth. However, on the other hand, the solely-possessed engineering education has also created a void in the linguistic acquisition process of technocrats that plays a central role in the recruitment route and upholding job credibility in the long run.

THE QUESTION OF UNEMPLOYMENT V/S UNEMPLOYBILITY:

According to experts, the Tier 2 and Tier 3 campuses have a poor placement environment. The recruitment pattern shows that many graduates from smaller universities are left out, either because big businesses don't visit these schools or because employers don't think the students are employable, according to E Balaji, former CEO of the personnel consulting firm Randstad. Only 20% of the two lakh graduates from the nation's 3,600 engineering institutes find acceptable employment, which is another disheartening trend. According to Balaji [4], "there is both unemployment and underemployment in the circumstance."

Additionally, a number of engineering students from prestigious city institutions are having difficulty finding competent positions since fewer businesses are taking part in campus placements, and even those students who do find employers are receiving low compensation.

Therefore, being unemployed and unemployable are two distinct problems. In a technical sense, unemployment might be defined as "the state of being unemployed." However, even though a job seeker is technically competent, being unemployable indicates that they lack the necessary soft skills and attributes that a particular position requires [5].

EXPECTATION OF THE INDUSTRY FROM ENGINEERING GRADUATES:

Based on a fine research conducted by World Bank, the skills which Indian employers insist from engineering graduates could be categorized into three factors viz: Communication Skills, Professional Skills and Core Employability Skills.

In a similar vein, Rajagopalan P, the Foundations Program Operations Manager Infosys at Mysore since 2004, suggests some of the core skills so as to reduce the "industry-academia gap". He categorizes top 8 expectations the industries have from an engineer-fresher. The desirable expectations such as Learnability, Ability to work in teams, Communication Skills, Positive Attitude, Flexibility, Adaptability, Self-Motivation and Ownership (of ideas & products) are some of the prominent factors desired by today's fluidic industry trends [6]. Hence in both the underlying examples, almost every organization expects the potential employee to fair high on overall communication skills. Recruiters typically want candidates to demonstrate strong technical knowledge and effective English presentation skills, which makes many talented students unemployable, particularly those from vernacular-medium backgrounds. Additionally, poor social etiquette and poor English are two soft skills that rank among the main causes of unemployment among engineering graduates.

RECOMMENDATIONS TO SUSTAIN EMPLOYABILITY:

Today, there are several stimulating trends and techniques emerging in the learning of the English language. The most recent ones are the use of Computer assisted language learning (CALL) that includes English learning software in the Language Laboratory. Most of the students who are otherwise disinterested with the traditional way of teaching become pro-active in getting hands-on–training by self-learning on this pre-installed software. The software includes functional English, competitive Global Competitive English, use of AV aids, grammar & vocabulary and several linguistic tasks. Real-world corporate-induced duties including technology-related activities, such as emails, official conversations, online discussions, power point presentations, video conferences, etc., should also be incorporated into English instruction.

Daniel Goleman's 1995 Book called *'Emotional Intelligence' –why it can matter more than IQ*? reveals a study that tough the young engineers or scientists who top the IQ may not be 'star' achievers as they are maladjusted and are not good at teamwork. Hence, the research reflects that the star performers (having not so high IQ but excellent EQ) share brilliant workplace skills such as sharing positive rapport with network of people, solving crisis or being highly adaptable in any given situation [7].

Teaching engineering subjects undoubtedly entails research and extensive knowledge. It also implies imparting values and career-skills that need expertise and acumen. If the product (student) is to have "employable" value, the educational process requires ongoing care. A degree in engineering education is enhanced by understanding of the humanities. Another setback in the global context is that Indian students' assignments are frequently dismissed as "incomprehensible," and they are accused of things like plagiarism, poor time management, and team disputes. Conversely, those who are properly schooled in business skills—which are actually life-coping skills—help cultivate visions and fortify a child against any storm of survival, whether it be personal or professional.

Therefore, in order to handle real-life situations after completing their engineering course, engineering students must possess not only linguistic proficiency in English but also specific life skills and technical language learning skills that must be incorporated into the curriculum. Formal communication training, exposure to different English-speaking accents, creative exercises, project reports, personality development, interview skills training, and interpersonal and intra-personal communication are just a few of the things that candidates should be exposed to in order to prepare them for future workplace situations. To score on the employability parameter, students should regularly practice basic language abilities like speaking, listening, reading, and writing in the classroom until the end of the eighth semester.

CONCLUSION

At present, for students, the role of the cutting-edge technologically can mean more significant than mentors. Hence, the challenge for a good teacher is to make a lasting impact on student's lives. This can be effectively achieved if the educator prepares trainees for a sustainable livelihood who are ably able to everyday situations and also future workplace situations. At this crucial juncture, we start seriously reflecting on what Martin Luther King once remarked "Our scientific power has outrun our spiritual power. We have guided missiles and misguided men."

To experience employability success, applying career-skills would make our students create more dream jobs!

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