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Employable graduates for responsible employers

Abstract:
7M, i.e. material, methods, money, machine, market and management are the seven major resources of any industrial organization. Men stand out since it's only living entity compare to other six; it's the unifying entity among all other resources since in its absence the others automatically seize to exist. Their skills influence the organization mostly in developing, hiring and training, both the new and the experienced personnel. It has been observed through various surveys and feedback from the industrial expert that the 75 % engineering graduates are not employable. One of the important reasons for that is the lack of necessary (KASH) knowledge, attitude, skills and corporate habits in them. Though the purposes of education is the holistic development of the engineering graduates and make them strong in fundamentals, but it cannot be denied that in the present economic environment of Liberalization, Privatization and Globalization (LPG market), developing necessary skills is also important. In this paper, the authors focus on the market expectations from fresh engineering graduates in India and principles of STEM, VUCA world and CSA to sensitize students regarding their employability skills.

Key-Words: *Employable, STEM, VUCA, KASH, CSA, LPG*

1. INTRODUCTION

The knowledge commission of India had indicated that the country will need large number of universities by 2020 provide opportunities of higher education to eligible Indian youths. The country has grown in terms of number of institutes, universities and programs, but it seems that there is a wide gap between the quality and quantity of higher education offered in this country. Most of the engineering education institutions including the better known ones are under-staffed and lack in qualified, competent and dedicated faculty members. In most of the engineering institutions the course curriculum is, by and large, theoretical in nature and students are not made aware of the applications of the theories in industry. The programs and their curriculum reflect lack of integration among academic institutions and industries. In the design process the curriculum quite often fails to meet the requirement skills of the industries. Not many structural changes have taken place in the curriculum design even though rapid developments have been taking place continuously in the fields of STEM - Science and engineering, Technology and Management. New branches of engineering have been introduced with the structure remaining in the traditional mode. Moreover, the institutions mostly follow the old traditional method of teaching-learning giving little thought to the fact that information nowadays is readily available on the net and thus students would not get interested unless they get something extra by attending classes. It is more of content delivery than knowledge delivery. The assignments given quite often are routine and do not involve any research, development or innovation. It is a great challenge to motivate and attract students to serious and quality learning. Even, the evaluation and examination system has not been made robust enough to find out the knowledge and skill level of the students. The philosophy of CSA - continuous scheme of assessment is not being properly understood by the students and also by the faculty. Thus they are applied in a routine manner and the students concentrate only on percentage and not on learning part. The emergence of the Information Technology (IT) /Computer Engineering (CE) sector has also affected the quality of graduates in other traditional engineering disciplines. Over and above, the

focus on soft skills during campus interviews has created a wrong impression among students. It seems employers have also accepted the fact that students with soft skills can be trained in the industry and thus do not expect a high level of knowledge in discipline core subjects.

2. MITIGATIONS OF THE ISSUES

Thus effort is needed to produce readily- employable or need based industry technical man power in the country. The improvement of infrastructure, redesign of curricula, improvement of teaching pedagogy and attracting well qualified teachers are only a few steps that could be initiated by individual engineering institutions. The main challenge is to create an academic environment and education culture that promote and guarantee learning. However, there are many societal factors that need to be addressed.

3. EMPLOYABILITY SKILLS REQUIREMENTS FOR ENGINEERING GRADUATES: INDUSTRY PERSPECTIVE

Following are the expected skills in the individuals as per industry perspective as shown in fig. 1

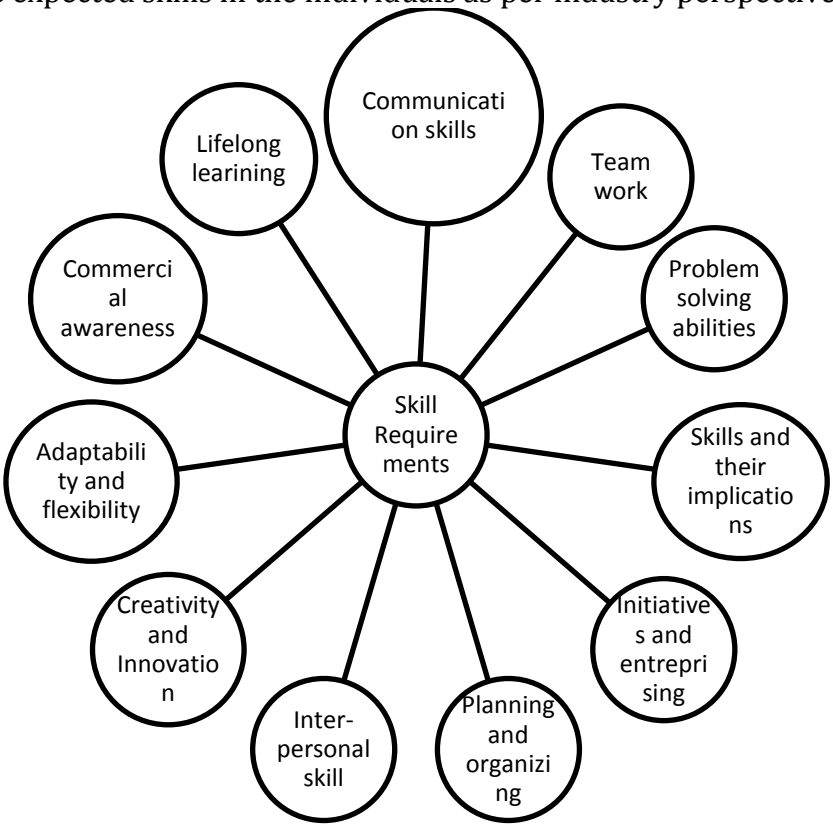

Fig. 1 Expected skills in individuals expected by industry

1. Communication skills: As per Shokri et al.,2014, the ability to speak and write clearly and concisely is a skill that is most required.

Carnevale & Smith, 2013 founds that, It is equally important to listen carefully and putting a diary note for conveying the exact message to the workforce. Puranik, 2015 rightly says that the language is being always a barrier and engineering graduates finding a serious issues in fluent English speaking. So, As an engineer's first and foremost requirement is communication both written and verbal.

2. Teamwork: Employers look forward to hiring candidates who can work collaboratively for a common goal. Cooperation and mutual respect in a diverse group are seen as a winning combination. Candidates who are comfortable and happy to cooperate in a team appeal the most to the employers.

3. Problem-solving abilities: If the candidate can assess the situation or analyze it from different angles, he or she can demonstrate problem-solving skills. This, in a way, conveys his or her potential to be a decision maker.

4. Skills and their implications: The technical skills are always a key factor and confidence can only be grown up with pertaining it.

5. Initiative and enterprising: Being "enterprising" is not the same as having an ambition to be self-employed. Rather it is someone who is characterized by a particular mix of individuality, creativity and leadership.

6. Planning and organizing: The habit to work in a chaotic way that leads to misunderstanding and loss of time and effort can be a weakness in a candidate. Successful people and thriving organizations boost of meticulous planning and execution as the key to their success. In this view, Hansen et al. discuss in their article about requirement of the employer.

The ability to motivate people, to assign the work according to the capability of the individual, shows leadership skills.

7. Interpersonal skills: The ability to share a comfortable understanding with colleagues irrespective of their diverse opinion, expertise, and background builds strong workforce based on interpersonal relationships. Hence, the ability to have cordial relationship with people in one's personal and professional life displays interpersonal skills that can be a great advantage.

8. Creativity or innovation: As per Berger et. al. 2014, Engineering is synonymous with innovation and, often, the passion to create something new attracts students to engineering. The urge to innovate and translate ideas into reality is the key to the success of any industry, especially engineering.

9. Adaptability or flexibility: This refers to one's openness to new ideas and situations. Certainly, As per Veres and Sims, 1999 "one of the greatest challenges presented to all employees today is dealing with uncertainty." With the pace at which technology grows, engineers must adapt to new concepts and, with workplaces expanding across the globe, engineers have to learn to adapt to and accommodate any new situations, ideas, technologies, and so forth. In short, one should able to understand and adopt VUCA - Volatile, Uncertain, Complex, and Ambiguous world of work.

10. Commercial awareness: As per Finch and Fafinski, 2014, commercial awareness requires come knowledge of the business or financial context in which firms, transactions, or situations exist and operate. It equips the person with information related to the minor details of the competitors and their products and services. It helps them prepare and perform better in any competition.

11. Lifelong learning: Students having attitude to learn a new things irrespective of the age or position is key requirement in current market scenario.

4. SKILLS DEVELOPMENT IN ENGINEERING INSTITUTE

By participating in extracurricular activities and organizing events, on and off the campus, the students can explore a number of qualities in their personality like leadership skills, planning and enterprising skills, and interpersonal skills.

Expectations for engineering students also include stress and time management skills along with integrity, perseverance, and confidence.

Whether we call them soft skills or employability skills, academia and the students must realize their importance and work to acquire them. By acting as facilitators in a three-step process (i.e., awareness, self-analysis, and acquisition), academia can contribute significantly in filling this gap. Students should be initiated into the awareness of these skills and their significance; secondly, encouraging self-analysis in the students to identify their strengths and specific attributes will facilitate goal setting.

Lastly, if the students identify their attributes and sincerely work to acquire skills related to them, they will have the answer to the predictable questions in interview: "What are your strengths?" or "Why should we hire you?"

CONCLUSION:

These skills are prerequisites for any engineering student since 4 years of studies and degree acquisition from any reputable institute will not ensure a job. However, the combination of these skills along with an engineering degree will ensure that students meet the high expectations of the employers. In an era of rapid change and fierce competition, their efforts to learn new things and acquire certain skills will not only make them confident and self-assured, but will also give them an advantage in the job interview. Employers clearly look forward to candidates who are focused and are passionate about the profession they aspire to enter; therefore, making an effort to sharpen their attributes can definitely improve their job prospects. Thus, the responsibility now is on academia to understand the needs of the industry and students by creating awareness and guiding the students in self-analysis and in acquisition of skills.

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Dr. Mitsu B. Patel
Ex Asst. Prof.
MBA Dept.
BIMS,
Vadodara

Prof. Manojkumar V Sheladiya
Asst. Prof.
Mechanical Engineering Department
Atmiya University
Rajkot

Dr. Shailee G. Acharya
Asst. Prof.
Mechanical Engineering Department
SVIT
Vasad

Dr. Ghanshyam D. Acharya
Principal
Faculty of Engg. & Tech.
Atmiya University
Rajkot