The Employer's Expectations from an Engineering Graduate

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Abstract

English has become the language of employability. Communication and conversational skills in this language paves a comfortable path towards employability. In addition to acquisition of employment, a high degree of adaptability of soft skills can sustain the position of a fresh engineering graduate at work place. Employers today prefer to hire young and energetic engineers who have the potentiality of becoming future team leaders to take sensible resourcefulness and exhibit dynamism.

Key Words: Communication and Soft Skills, Corporate Atmosphere, Employability, Industry Interaction

Introduction

In the Indian context, an engineering student's success at the on-campus recruitment is mainly based on their demonstration of communication skills. According to NASSCOM (National Association of Software and Services Company) president Karnik[3], only 25 percent of technical graduates are suitable for employment in the outsourcing industry because of their lacking abilities to speak or write well in English. (Karnik, 2007 as cited in P'Rayan 2008:1). Most students are not 'industry ready' because they lack communication skills. (Infosys, 2008).

Out of the total 600+ Engineering existing colleges in the state, only around 20 and above engineering colleges in both the Telugu States in India have a good placement record. Most of the final year undergraduate Students of these colleges are recruited by reputed IT and core-engineering companies. In some of these colleges more than 90 per cent of the students are placed and recruiters attribute the success of the students to their ability to communicate well and think clearly. The on-campus recruitment process consists of three or four stages: 1) Aptitude test, 2) Technical interview, 3) Group discussion, and 4) HR interview. During the four stages the candidates' technical knowledge, analytical, verbal reasoning, critical thinking, communication, soft skills, and group skills are assessed and at each stage the unsuccessful

candidates are filtered out. Those educational institutions which impart employability skills in their students are successful in getting most of their students placed in top companies. Other institutions stand behind in maintaining the standards of employability aspects. This paper throws light on the expectations of the employer and the abilities needed by an engineering student at the entry level.

Objectives

- To analyze the corporate expectations in India
- To know whether the engineering students are aware of the skills required for industry
- To know whether the institutions impart training in Basic Skills and Soft skills

Background study:

Engineers create things; they conceptualize, design, manufacture, install (for and by the world at large), maintain and dispose thousands or even millions of products every day. From a simple toy to a space shuttle, from a bicycle to a Boeing-777, from a simple calculator to a super computer, from an archaic soda-filling machine to a massive petro-chemical complex, from an ordinary hammer to a gigantic oil rig, from child's binoculars to the Hubble's telescope, etc." says Dr. Pratap SriRam Sundar, Former Director of Operations, Innovation Sports Inc., Los Angeles, CA, USA.

In the article, the Entry-Level Engineer: Problems in the Transition from Student to Professional by Susan M. Katz, she has covered the difficulties that the students go through during this transformation. The author points out those skills essential at the place of work such as team work, communication among peers and their supervisors are missing since they are not instilled in them while in college. Many employing institutions have now come up with programs so as to cope with these deficiencies. The author also suggests that academicians should come up with ways to best prepare the students for the corporate world and things that the students themselves should do so as they can ease the transition. A Study on the Corporate Expectations from Engineering Graduates in India – Bangalore DOI: 10.9790/487X-17630109 www.iosrjournals.org 3 | Page Due to the gap between theory and practice the graduates joining the industry require up to about two years gestation period for them to show their input in the

company, in many situations they end up leaving the company without giving any input in the organization or company (Modi, 2009).

What Does the Industry Expect From Engineers?

Industry expects high degree of adaptability from a fresh graduate. The ever changing technology with changing specifications of products and services increased competition among industries. The employers expect dynamic and energetic engineers who can execute projects on time with efficient team leadership. Effective Communication skills are another needed skill. In other countries technically trained persons perform "miracles", and how that, is in India, the aspiring engineers and technologists cannot manage good communication skills," reports The Hindu. Even the minimum number of them could not speak or communicate well at job interviews. According to an apex agency report that 90 percent of graduates and engineers that come out from and across the country's colleges and institutions and 75 percent of engineers are unfit for even training, (The Hindu Opportunities Supplement: Nov 11, 2004). The same report says that the former president declared that only 25 percent of graduates are employable. This is the situation at the academic side.

"These are unbelievable truths but there are also possibilities that these are believable lies", says Prof. Siva Ramakrishna (retired from OU). This doubt arises because such things as criteria of employability are unreliable for the overall picture in which the strange truth is: *even those who are employed may not go beyond good communication/soft skills*. In other words they have personality traits which recommend their employability but may still be wanting in life-skills. In short, Prof. Siva Ramakrishna suggests that there is a wide gap between communication skills which bring employability and attitudinal traits which build character (Life-skills) for career development. Further the Professor strengthens the word "Communication" as the clue produced by Andrew Horne himself: "I used communication to change the way people thought of this".

Engineering Graduate Needs Communication Skills

Communication **c**omes from The Latin word 'Communicare', which means 'to share, to impart, to commune', and it also comes from '*munia*' which means '*service'* and indicates mutual help, exchange, an interaction of those belonging to the same community.

Keith Davis says about communication, "Transfer of Information, understanding, reaching others with facts, ideas, thoughts and values."
In the words of Sarah Trenhol and Arthur Jensen, it is 'The process whereby humans collectively create and regulate social reality'.

"We are in the age of Communication. This age is called the 'space age' or the 'age of information technology' or even 'cyber age'. In a fraction of a second, modern man can speak to people around the world with advancement of technology. With the result, employment is not today's problem, but 'employability' is. To be 'smart' is the crux of the issue. Soft skills which are personification of this 'smartness', will make significant impact on the working performance maximizing the employee's contribution to the organization and turn the professionals as "total quality persons" (TQP)" says Prof. A. Ramakrishna Rao, (retired from JNTUH).

The responsibility of transforming an ordinary student into a Total Quality Person (TQP) is a challenging task for any English teacher in professional (Engineering) institutions, as all these qualities need to be taught through Communication Skills. The dynamics and demands of the corporate world pose newer and tougher challenges to both the teacher and the learner. With the emergence of unprecedented importance to Communication skills rather Soft skills, there is conspicuous shift in the priorities of the language teacher. This age of communication has transformed an English teacher not just a teacher but as a trainer and a facilitator. Teaching took the back seat and training the student to face the challenges of the corporate world, became the primary task of the language teacher in almost all professional institutions.

The objectives of teaching English both for academically and occupationally are to train the student academically for corporate atmosphere. In other words if we examine the Gap in English existing between Engineering institutions and Corporate Industry- English is made one of the important subjects to teach the engineering students. To be more practical even a Laboratory in English is also a part of the syllabus both in first year B.Tech and an Advanced Communication skills Lab in third year. The English Text and Non-detailed text book prescribed by JNTUH for the year 2009 for 1-yr.B-Tech, includes the basic Grammar and Composition required to strengthen the Language of the student. The emphasis is laid more on the Skills or skill-based exercises (LSRW) and less on the Lessons. This is very innovative and quite appreciative as it fulfills a part of the task of a Language teacher, provided the Language teacher is equipped with

that knowledge of Grammar and Composition. However, there is need for the Language teacher to attend from time to time the training programmes like the train the trainer, workshops on academics or soft skills, which are relevant to the task or challenge that the teacher has to face whenever he/she has to teach/train the students for soft skills or Communication skills activity.

The expectations of the employer lies in students' exhibiting Soft skills as soft skills are nothing but a combination and reflection of Personality and Performance. As there is a great need for developing Soft skills, the promising professional students are supposed to improve them systematically. According to the observations of Dewang Mehta, a renowned economist and management expert opines that, today's employability demands the basic skills like.

1. Updated knowledge
2. Analytical skills
3. Doing things differently
4. Good communication skills in English
5. Soft skills
6. And above all Life skills.

'Soft skills' is a term that refers to those skills and abilities that enable 'hard skills' efficiently. Hard skills refers to the qualifications directly related to the job, where as Soft skills involve qualifications like Positive attitude, team work, flexibility, problem solving and most importantly, communicative skills says Wigand[14], (1966). Developing communicative behavior plays a central role among the soft skills.

The Five Major Dimensions

The corporate world firstly evaluates the candidates in the five major dimensions like-**Education** and **Formal qualification**, **Discipline knowledge**, **training/seminars** and **technical skills, Mental** and **Emotional abilities** along with some Key personality characteristics and finally Special abilities if any.

At the entry level the professional college students are expected with sound discipline knowledge and technical skills. Even the mental and emotional abilities in fresh professionals are not sound as they are not trained in the institutions. Here the candidate until and unless is encouraged to

attend number of seminars and workshops conducted by various organizations during the four year course of engineering, it is difficult to gain even basic discipline knowledge with some technical skills without participation and interaction with the delegates of such workshops. This shows that the student must be possessed with lot of practical knowledge. With this experience even the mental and emotional abilities get strengthened. To equip the students with the above given points, the researcher expresses her idea in the given following way.

In enhancing the skills of the engineering students, institutions may concentrate on the following points.

1. Designing the syllabus
2. Industrial exposure
3. Hands – on experience
4. Mini-major projects
5. Industrial visits
6. Guest lectures
7. Latest trends
8. Encouragement through awards and rewards
9. Industry – institution collaboration.
10. Faculty training

The physical and mental gap between industries and institutions existing in our system is unnecessarily making the innocent students scapegoats. Presently, the students are cramming some theoretical concepts, theorems, definitions taught in class by the teachers. They are not being given relevant industrial exposure and hands-on experience on the theoretical concepts. The practical classes, industrial visits, mini/major projects in which a student is supposed to participate are reduced to ritualistic exercises with make shift arrangements in many colleges. The seriousness with which they have to be taken up is totally missing. The management, faculty, students are to be blamed for this state of affairs. The evaluating examiners are also to be blamed as they cover the issue for some gain. The visits of inspection commissions of either affiliating university or AICTE[17] are also reduced to a formality. Managements in some colleges do not even arrange classroom teaching of some subjects to reduce the cost expenses. They are

resorting to a practice of completing the syllabus by appointing a guest faculty in seven to 10 days. The students of such systems and practices naturally suffer from many drawbacks. Such ill-equipped students are coming out of these colleges and are not accepted by the companies.

The Ministry of human Resources Development should work out a structured plan to remove many of the anomalies to see that the standard of education is enhanced in the technical institutions. It has to formulate schemes applicable with all strictness for industry-institution collaboration to provide hands-on experience to the students to make them acceptable to the industries.

The industries absorbing these graduates should extend a helping hand to these institutions to upgrade the quality of education. There is a feeling that industries are doing very little to these institutions in this direction. They can help the institutions in updating the syllabi, providing practical experience to final year students by way of mini and major projects, industrial visits, giving guest lectures, providing an insight on the latest trends and their expectations, instituting Endowment chairs or awards or rewards in the institutions. In a way collaboration between industry and institution is almost not existing in our country barring a very few exceptional institutions of national and international repute.

Of late some software companies realized this and started divisions/ schemes for institutional liaison to identify good students early and train them. Even this beginning is not being attempted by core industries. The industries are utilizing the services of best students of colleges/universities, institutions by providing them, with jobs and better pay packets. And they have been expanding horizontally and vertically raking in huge profits, distributing rich dividends to their share holders but doing little to the institutions that are providing manpower without which they cannot march ahead. They are also enjoying several incentives extended by both Central and State Governments in terms of getting tax holiday, procuring free land etc. A question arises in this context, as to what is the moral responsibility of these industries with regard to doing their bit to educational institutions? There is no answer to it. Hence, the industries are to take new initiatives, construct bridges of help/ guidance with these institutions. It is not money, but the expertise available in the industry that is more helpful to these institutions to upgrade the quality and standard of education in turn reflects to the quality of the

institution. The industries should not run away from social responsibility. The institutions should come out from their ivory tower approach, make clear advances to the industries and come out with a list of initiatives which the industries are supposed to take up. A bold and frank approach by both industries and institutions will definitely uplift the institutions from their slumber and make them active partners in the path of progress.

At first, the industries and institutions can collaborate in framing the syllabi of papers finalizing the subject of study, practical etc. The present stigma that universities and colleges are following outdated subjects/topics can be avoided only when the industries come out openly with what exactly they require. Only those papers/subjects that are relevant and suitable to the industry can be selected and included in the syllabus. The complaint that a student is only posted with outdated knowledge but not with present trends can be solved by taking the help of experts in the industry in finalizing syllabi. This ensures updating of subjects matter. Then only the students of the colleges will be able to perform well in the industry.

Industry's Expectation at the Entry Level

Every year Microsoft receives more than 1, 20,000 resumes at its Seattle head quarters from prospective job applicants. Out of that number, very few applicants, I.e. couple of thousand applicants might get an interview call. Ironically, Microsoft interviews are of normal standards with more emphasis laid on the smartness/sharpness of the applicants. ...What does one mean by "smartness"? Bill Gates says that "You can teach smart people anything because they are endowed with good soft skills"

Experts feel that there is a great need for developing soft skills, and the promising professional students are supposed to improve them systematically. This is because Analysts say that every year out of 20 lakh fresh graduates coming out of the universities, only 2 lakh graduates are considered to be employable and surprisingly only 40% of the Indian graduates are unemployed. It is not because of the shortage of quantity, but of quality. Degree-driven, unskilled man power with poor performance in communication skills are the reasons. "Competition is not the problem, what we need to worry about is our ability to meet this opportunity"

The student is expected with the following skills at the entry level itself. They are of two kinds. 1. Intellectual abilities 2. Personal Attributes clubbed with Basic Skills. The students are tested with a questionnaire to analyze whether the training either theoretical and practical content or syllabus imparted in the engineering colleges is equipping them as per the expectations of the employer? A section of 64 students of ECE B were tested with open ended and close ended questions. On the open ended questions the engineering students reacted in a wide range of answers on the inputs of competency provided by the institution.

Intellectual Abilities Includes:

1. Knowledge of IT

2. Communication skills

3. Reasoning Ability

4. Analytical Ability

5. Creative ability

6. Core discipline knowledge

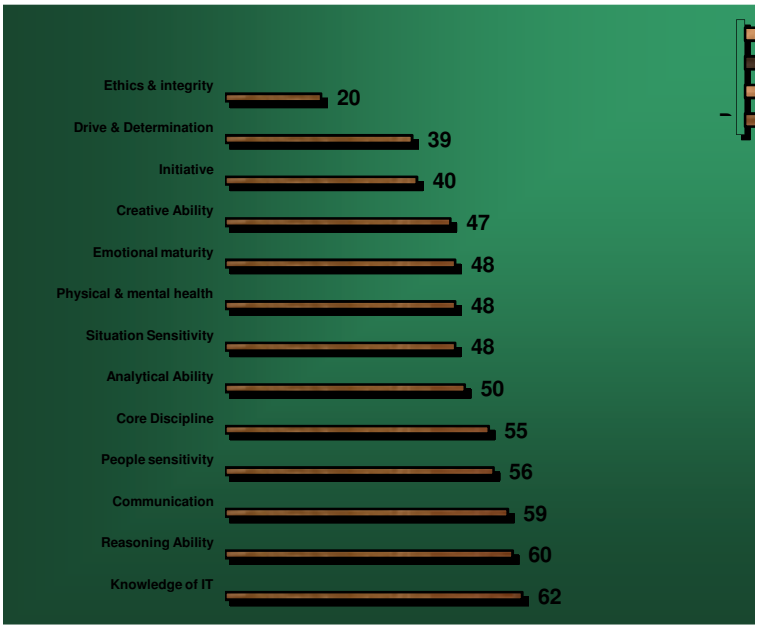
Personal Attributes:

1. Emotional maturity
2. People sensitivity
3. Situation sensitivity
4. Drive and Determination
5. Initiative
6. Ethics and integrity
7. Physical and Mental health

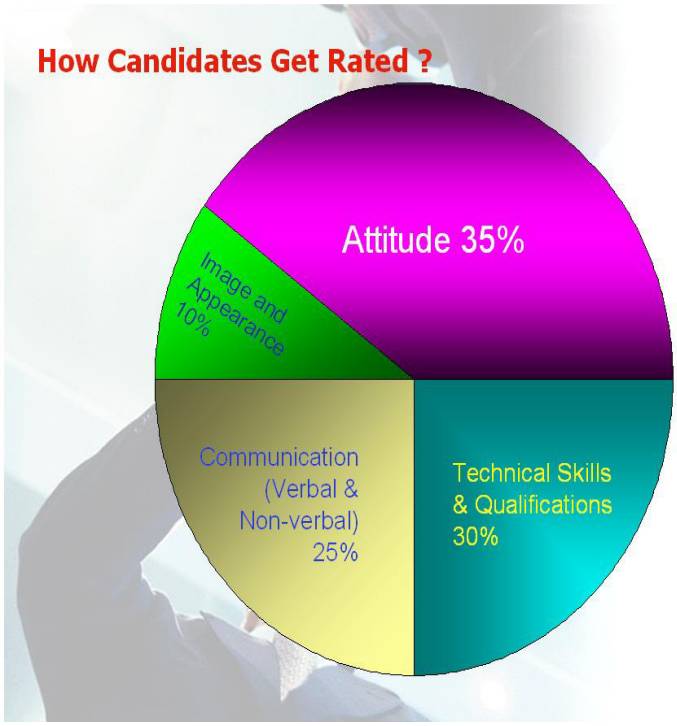
Table showing Attributes identified by the students

Sl.No.	Attributes	Respondents
	Knowledge of IT	62
2.	Communication skills	59
3	Reasoning Ability	60
4	Analytical Ability	50
5	Creative ability	47
6	Core discipline knowledge	55
7	Emotional maturity	48
8	People sensitivity	56
9	Situation sensitivity	48
10	Drive & Determination	39
11	Initiative	40
12	Ethics and integrity	20
13	Physical and Mental health	48

The graph indicating the inputs provided by the institutions



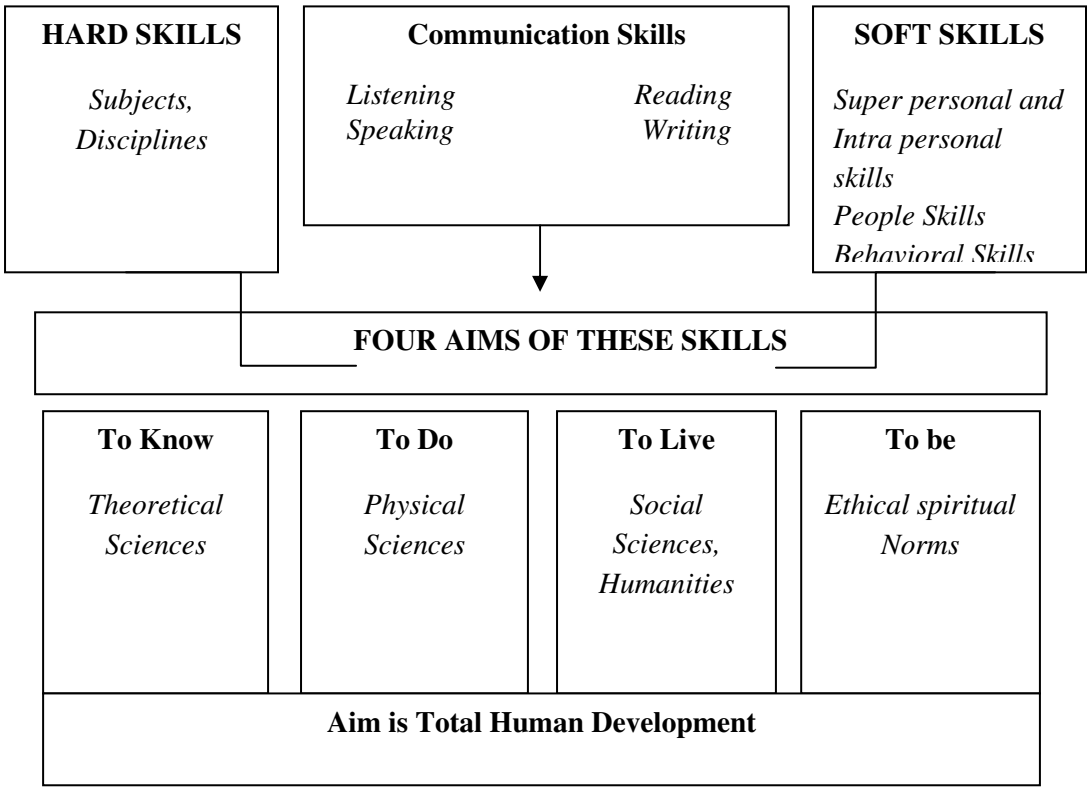
RATING OF THE CANDIDATES



Rating of the candidates

- Attitude 35%
- Technical skills and qualifications 30%
- Communication (verbal & non-verbal) 25%
- Image and appearance 10%

TABLE SHOWING - IMPORTANT SKILLS



Apart from these attributes, the candidate is assessed at the entry level itself with the given 10 qualities which can be attributed as 10 commandments as they are essential for any candidate.

Assessment at the Entry Level – 10 Commandments

1. Energy, Drive and initiative
2. Education Performance Trend Over Time(consistency)
3. Extra accomplishments to gauge management and organizational Ability
4. Problem solving and Thinking skills
5. Technical competency and Potentiality to learn
6. Team and Leadership ability
7. Schooling, Family background
8. Character, Values, commitment and Goals
9. Personality and culture fit
10. Focus on the Soft Skills and Life Skills.

Conclusion

It is evident through the graph that the inputs given in institutions do not make a total Quality Person and Skills like Soft, Hard and Communication skills aims at knowing theoretical sciences, doing activities in Physical sciences, become a live example of humanities and above all maintaining ethical and spiritual norms.

The 10 Commandments expected from the candidates at the entry level itself demands for lot of Industry-Institution Interaction. The fresh graduate cannot even guess certain factors mentioned above until he/she is given an industry exposure. More of industry exposure and interaction with experts of the industry is emphasized to reach to the expectations of the employer.

The engineering students simply feel that corporate is an extension of Campus and very few focused students equipping themselves at the entry level and such students alone pursue their careers successfully. To improve the quality of engineering education students should equip themselves to the expectations of the employers.

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