CHAPTER I
INTRODUCTION
EMPLOYABILITY SKILLS IN PROFESSIONAL EDUCATION
An Empirical Study on Select Engineering Colleges in Greater Hyderabad City

1.1 INTRODUCTION

Fast developing countries like India with huge population, creating employment is not a big problem. We can see a number of industries consisting of small scale, large scale and multinational companies in India, which need suitable candidates for their industries. But the problem is, the graduates, post graduates or a professionally qualified persons are not getting the desired employment because of lack of skills. The literacy rate in India has been increasing tremendously, at present we have 95% literacy rate in the youth, which indicates a good sign for employment. More than 30 percent of the youth (15-29 years) in India are neither in employment nor in education or training [1], this is because they do not have suitable employability skills. This indicates the need to develop employability skills among the students. Let us know what are the skills needed to get employment. It mainly includes the communication skills and technical skills. Globalization, Privatization and Liberalization [2] created a dynamic environment, where graduates need to work in cross cultural world. So, the industry wants the graduates with good competencies, who will benefit their company to the maximum extent.

The main aim of any professional graduate is not gaining knowledge, but it is to get employment [3]. Now-a-days, we can see a number of graduates without employment or under employment. The main reason is the existence of required skill gaps in the graduates. Industries want the graduate with good technical knowledge and communication. The skills required by the employers are different from industry to industry. The development of skills among the graduates depends on many factors like, availability of resources in the colleges, teaching faculty, teaching methodology, syllabus set by the universities, the lack of practical exposure etc.

Increasing opportunities in all over the world in the Information Technology industry and in other fields have made the students to develop employability skills [4]. Without employability skills, no industry acquires the student and give the job. This situation alarms all the graduates to develop the employability skills.
1.2 EMPLOYABILITY DEFINITION

The definition of Employability given by University of Newcastle (Allison.et.al. 2002) [5] as the –Capacity to move self-sufficiently into and within the labor market, to fulfil potential through sustainable employment‖.

Employability, the word itself gives the meaning that if you have all the abilities to do the particular job, then you will be employed. The abilities to get an employment includes a subject knowledge, English fluency, behavior skills, attitude and other fundamental logical skills [6]. There are various skills needed to get employment that depends on the nature of the job and their requirements. Basically, all the employability skills include:

i. Good communication with writing skills, listening skills and oral skills. Communication plays an important role to convey the information to their customers or others clearly.

ii. Technical knowledge in the particular domain selected by the student is very important. Depends on the industry requirements, they need technically strong candidates who can solve the technical problems and update the new technological developments.

iii. Every industry is giving importance to the team based work culture. A small number of employees are formed as a team, team leader plays an important role to take the project, execute the project and complete the project. Working in the team based culture is an important skill.

iv. Logical thinking and critical thinking also plays an important role in getting the employment. For todays competitive world, the employer should think differently and logically to attract the customers.

v. Basic knowledge in the Computers like word, excel, database are must to get employment. Every job is related to either of these skills, so it is necessary to develop the basic knowledge and recent developments in the IT sector.

vi. The candidate should be flexible with the work timings, place of work, work culture etc.
In addition to the above skills, employers set their requirements depends on the specific requirements with respect to the nature of the job, designation, company and location.

1.3 EMPLOYABILITY TRENDS IN GLOBAL SCENARIO

The statistics given by UNICEF Data – Literacy Rates – July (2018) [7] globally shows that in the year 1986, the literacy rate for both men and women was 81.43 percent, in the year 2000, it was raised to 86.64 percent and in the year 2016, it was 91.35 [7]. This shows that the literacy rate has been increased tremendously, which automatically improves the employability status in the country.

A study by the International Labour Organization [8] summarized that developing country's employment situation has improved, this is because of high literacy rate, reduction in poverty, high investment in the industries and globalization.

The 2018 Applicant Survey [9] suggests the students to concentrate on creativity, leadership skills and give importance to flexibility, work culture and the teamwork along with technical and communication skills. In another survey conducted by the American Psychological Association [10] denotes that lack of problem-solving skills, teamwork skills and communication skills lead to severe stress and psychological problems.

Global University Employability Survey, 2016 [11] rated the importance of employability skills against specific technical or academic knowledge.

From the following figure it is clear that Employability skills are very important for corporate or business roles, a little more importance to IT roles, and for Engineering role, equally important. So, an engineering graduate should give equal importance to employability skills along with the subject knowledge and technical knowledge.
Fig No.1 Importance of Employability Skills in the Global Scenario

The existence of skill gaps is a major problem for the companies to grow, make profits, innovate products, reduce the production costs, maintaining quality and other services to the customers.

It is a major problem all over the world because of so many factors like migration of graduates to other countries, demographic factors, organizational factors, teaching methodologies at their colleges etc.

In order to measure the globally accepted skills for employability, the World Economic Forum in its report[12] mentioned, Top 10 employability skills include Complex problem solving skills, Critical thinking capacity, Creativity in their work, People Management, Coordination, Emotional Intelligence, Decision Making, Service oriented, Negotiation skills and Cognitive flexibility.

The above analysis clearly explains the issue of quality of education and its relevance in employability in the global scenario. The recent trends in employment skill set are requirements of the technical graduates are dynamic and contemporary. Hence, learning the latest technology developments is the key requirement to get employment along with soft skills and communication. Hence, employability is a universal problem and the teaching and learning process should be standardized in teaching soft skills and technical skills to graduates will boost the students towards employability.

1.4 INDUSTRY SPECIFIC EMPLOYABILITY IN INDIA:

An industry-specific look at the employability statistics shows that employability is much higher in some specific areas. BPO tops the list, with 70% of the engineering college graduate being readily employable in this sector. This is followed by Sales and IT Services, with 48% and 30% respectively [13]. However, if
organizations do decide to provide some training, the status improves, with core R&D also emerging as an employment-ready area for college graduates, 23% of graduates are employable with some training. Employability for IT Product jobs is the least, with only 2% of graduates being readily employable, and 2% more being employable with some training. For Analytics/KPO jobs, 20% of the graduates would become employable with some training while 21% are readily employable. These findings indicate that organizations operating primarily in the field of IT Product offerings need to update their talent strategy because of the dire shortage of ideal talent.

A close look at the talent pool in India reveals a significant gap in talent needs versus the available capacity. Candidates are thus classified to be unemployable, readily employable and with some training. A large skill gap means that a majority of candidates fall under the unemployable category. In fact, only 22% of candidates have skills, who can get the job in most of the sectors (i.e. Readily employable), whereas around 25% need some kind of training input to become employable. At present, 53% of college graduates fall short on the employability scale. However, the candidates are weak in quantitative ability in the cognitive ability section [14]. As an example for coding jobs, only 4% of the candidates are on par with the desired capability level in this area. This gap in the domain/coding skills makes graduates unemployable for all engineering jobs.

1.5 IMPACT OF SKILL GAPS ON EMPLOYABILITY AND STRATEGIES TO BRIDGE THESE GAPS:

The business environment is highly uncertain and fast-growing. Employees today are expected to deliver right from day one, but this is possible only if employees are equipped with the right skills, if it is technical, functional or behavioural. Hence, hiring the right candidate is of utmost importance and talent acquisition specialists must understand the available talent pools, both quantitatively and qualitatively, to be able to hire correctly. One such informative source is the National Employability Report [15] and article by Mr. Inder Vir Malhan [16]. It captures the overall state of
employability and industry-wide perspective, offering a unique view of the graduate-level talent pool.

The State of Skills: Before understanding employability, it is important to understand what defines employability. According to Aon CoCubes report on the employability of engineering graduates, a candidate is considered to be employable for all entry level jobs, if the candidate possesses basic numerical ability along with knowledge of computer fundamentals. But, specific domain skills are required for specialized jobs such as, software programming or mechanical design, etc. To get employment, a candidate need to be well versed with the following skills [17]:

i. Cognitive Ability Skills: It includes Analytical Reasoning, English language and Quantitative Ability skills.

ii. Computer Fundamentals: Every employee must know about basic computer fundamentals like C, C++, Java, DBMS, coding etc.

iii. Core Domain Skills: Domain knowledge and expertise is a prerequisite to perform the job well.

For industries with an extremely low supply of skilled personnel, even after training, it may make sense to associate with educational institutions to build those skills at the college level itself. Such companies must treat colleges as “skill-building factories”[18], preparing candidates ready to be lapped up into the corporate as “Day 1 productive employees”. Redefine learning: In sectors where there are more people who are employable with some training (Core R&D), HR must relook at the L&D strategy [19] and incorporate modern learning means to encourage skill-building on the job. Start training at the outset, so as to gain speed to productivity. For example, offer a Massive Open Online Course (MOOC) as a part of the on boarding module to ensure that new employees start delivering quickly. Similarly, coaching and mentoring, mobile learning, social learning, micro learning and such processes can be institutionalized in such organizations.

HR professionals of corporates must be on the continuous lookout for talent because the talent is the key differentiator today. At the same time, Institutions must strive to be an employer of choice, through employee best practices. For this,
institutions must not only be aware of the talent trends in the industry, both at a micro and macro level.

1.6 THE GENDER-LENS TO EMPLOYABILITY

Diversity and inclusion (D&I) [20] form an integral part of the talent strategy nowadays. Hence it is important to know the gender-lens while understanding employability. A gender split of the employability statistics reveals that except for core engineering jobs, females are more readily employable than males. On the whole, females (24%) are more readily employable than males (21%). In fact, female readiness outnumbers that of males in jobs related to BPO and KPO, Sales and IT Services [21]. This may serve as an important input for HR while weaving the right policy to provide a fair chance and equal opportunity for females.

1.7 EMPLOYABILITY AND REQUIREMENTS EXPECTED FROM GRADUATES

Employability is the buzzword in the employment market today, where every stakeholder is working towards building a high-value pool of employable talent in the industry. Keeping this in mind, few employability trends that outgoing students need to keep in consideration are: Adopt apprenticeship models to boost your skills: Apprenticeships models are a globally accepted platform to enhance the employability quotient of the youth. The principle of “learning by doing” and “earning while learning” has been tried and tested to create employable resources across the world [22]. Germany is the best case example where apprenticeship is an integral part of the education system. In China, there are about 20 million apprentices who become a part of the labour market. In India, the concept of apprenticeship was introduced in 1961; however, the system has been highly underutilized. Over the last few years, the trend has gained significant momentum. NAPS (National Apprenticeship Promotion Scheme) has been introduced by the Ministry of Skills and Entrepreneurship to incentivize employers as well as students to take up apprenticeships. Additionally BOAT (Board of
Apprenticeship training/practical training has been introduced under the National Apprenticeship Training Scheme (NATS) [23] by the Ministry of Human Resource Development, Government of India. The youth must be explored enrolling in these models to fine-tune their skills and be job ready. Apprenticeship models today offer attractive stipends as well.

Choose an integrated learning as an add-on to traditional education: Standalone learning platforms are not sufficient to build capabilities anymore. A combination of conceptual knowledge and on-ground training [24] helps to create employable talent. And hence a blend of classroom session with on the job training or vice-a-versa will aid students to adapt to the skills demanded by the industry. Technology will play a crucial role in this by enabling digital and virtual classrooms which will make learning more flexible, customized, highly accessible and cost-effective. A classic example of this is the UK, which has redefined its apprenticeships standards by including online platforms for conceptual learning instead of relying only on classroom sessions.

Increasing industry-university partnerships [25]: Today, it is pivotal for education to be linked to employment to make it more relevant and create job-ready candidates. This makes university and industry partnerships more pertinent. Universities are designing programs with inputs from employers to make it relevant to that organization and to the industry. In this setup, candidates are exposed to a customized curriculum and industry experience which further bolsters their capabilities. Further, this will also help candidates develop cognitive skills which employers seriously look for.

Currently, these industry-linked programs are limited to the technical domain (especially manufacturing & ITI), but now these programs are extended to nontechnical streams like retail, healthcare, logistics, finance, HR, BFSI, ITES, and the IT sector as well [26]. Also with constant changes in the eco-system, more Universities will come forward to offer such programs. In times to come, the services sector will see a huge spike in apprenticeship enrollments.
Employer establishments will be the new classrooms: On-site learning will rewrite the definition of the classroom. Employer establishments are likely to emerge as the future of the learning eco-system redefining the traditional concept of classrooms. Real-time on-demand training at employer’s premise will have more impactful learning. Such as learning mechanism will help up-skill candidates and make them job ready.

Consistent skill training is primarily for candidates to remain employable. With constant disruption across industries and technological evolution, job roles are continuously changing[27]. In the year 2017, the industry witnessed numerous job losses across various sectors. To stay ahead of the curve and remain employable, it is imperative that candidates constantly skill themselves. This will help them defeat any redundancy crisis that may appear in their industries due to the development of technology. Many employers today ease, skill training for both existing and new employees in order to continue a highly employable talent pool. In the supply chain of a capable workforce, employability is the key relating link, and will continue to be an important area. Students will have to stay ahead of the technology curve and take up mechanisms & learning models which will help them fine-tune their skills and be ready for the opportunities.

Competency-Based Assessments: Role profiling should be done based on the competency framework and the competency framework should be incorporated into talent assessment processes such as hiring tests and interviews, so as to know where the skill-gap lies. Most of the graduates are not having good knowledge in coding, domain knowledge, quantitative ability, etc.

1.8 THE ROAD AHEAD

Let’s get inspired by countries like Korea, which has 96 % vocationally trained population [28]. India has just 9 % or so? There is therefore a genuine need to integrate Education in India with employable/deliverable skills set. What are those skills and how can we learn and master them? Here is my humble attempt to explain and elucidate some concepts and skills.
ii) **Education Vs Skills:** Having understood the existing serious mismatch between Education and development of the desirable skill sets, it would be of vital importance for all stakeholders to know that Education and Skills are not the same. It is a pity that in India we look upon both as synonymous to each other and education is often used as a substitute or surrogate for skills. The difference between the two must be clearly defined and understood.

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**Learning Employability Skills:** The good news is that anyone can learn and master the employability skills. What are those skills that indicate your suitability for a given job? Employability skills are mainly those skills which are essential for getting a job and performing well there. We must not confuse Basic Academic Skills such as Listening, Speaking, Reading, Writing, and Math & Science with Life Skills as enumerated by the World Health Organization (WHO)[29]. There are 10 Life Skills, namely Self Awareness, Interpersonal Relations, Empathy, Creative Thinking, Critical Thinking, Decision Making, Problem Solving, and Management of Emotions and Management of Stress. Students would do well, learning and mastering these skills. As a matter of fact, one has to practice them over a long period of time rather than knowing about them. I would, however, emphasize the need for helping the students know and learn the far reaching significance of the following Skills, in particular:

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**iii) Self Awareness:** It is all about being conscious about your own strengths, tastes, temperament and your passion and purpose. Today, students are generally found lacking in Self Confidence and Self Belief. Once we help students know more and more about them, they would not only be well grounded, but would also be asking in the glory of their strength and achievements. This can pave the way for better employment.

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**iv) Communication Skills:** When it comes to Employability Skills, students ought to know that among many Soft Skills, Communication skill has become the lifeline today. Latest research highlights the growing significance of Communication both in personal and professional life. Today we live in a troubled time where relationships are fast falling apart. As a result, corporate life, seemingly a life of opulence is also becoming the life of stress and strain. A good communication skill seems to be the
way forward; it could be the panacea for many of our personal professional maladies. No wonder, Charles Schwats makes this candid statement: –I shall pay more for man's ability to express himself than for any other quality he might possess[30].

v) **Critical Thinking:** It is true that critical thinking is not taught in schools and colleges, but this plays a very important role in all walks of life. While selecting an employee for any organization, they look for her/his ability to think and analyze any situation in a critical manner, which implies having a holistic approach to the situation. In order to have a critical outlook; you also need to be creative in life. You have got to think either out of the box or without having any books at all.

vi) **Problem Solving:** Our Education system lays undue emphasis on theories and principles. What matters in job as also in life is your ability to handle a situation to the advantage of the organization. Therefore, our students must be exposed to a series of tough situations and intricate issues. They need to be prepared to face life rather than getting by heart certain definitions which may not be used in our lifetime.

vii) **Positive Mental Attitude:** Positive Mental Attitude is certainly the path to better employment. Of all the skills and expertise, your ability to see the light at the end of the tunnel gives you an edge over other competitors. This shows that you are a person with a firm belief in the inherent goodness of the world and you also know that every problem arrives with a solution with it. Your faith has the potential to lift others and promote team synergy and bonding. The problem of poor employment in the country is no doubt, but there is absolutely no dearth of job opportunities in any sector for a right candidate. All that we need is to prepare our students, taking cognizance of the new demands and new corporate needs. All stakeholders that include teachers, Administrators, parents, curriculum experts, policymakers and the students are equally responsible for creating the right ambience for better employment and empowerment. We can address the issue in a more positive and creative manner by accepting our own role and showing readiness to rid India of poor employment. Our youth deserve to live in better India, an India of new opportunities and possibilities.
viii) **Gig Economy**: Bureau of Labor Statistics [31], defines Gig Economy as a workforce based on -Single project / task for which worker is hired, often through a digital marketplace, to work on demand. In India also, we are seeing the rise of gig economy. Dig into emerging talent pools such as freelancers, returning mothers, returning entrepreneurs, ex-servicemen and veterans, consultants, part-time workers, etc. Today a significant skilled chunk of the workforce can be found in these unusual places. The key is to keep looking for talent proactively, and where least expected.

To sum up, the chapter discussed the present status of engineering graduate employability, background of the study, definition, employability skills, employability trends and skill set among the different countries in the globe, Indian scenario of education, learning, and skill gaps and employability trends, the road ahead to improve the skills required for employment. Based on the same, it is considered necessary to review the existing literature and identify gaps, which is presented in the second chapter.