

Education Vs Employability- The Need to Bridge the Skills Gap among the Engineering and Management Graduates in Andhra Pradesh

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Abstract

Education and training create assets in the form of knowledge and skills which increase the productive capacity of manpower and this is referred to as human capital. Education is considered to be a process of skill formation and in this aspect it is treated at par with the process of capital formation. Economists argue that as demand for educational training increases, the systems need to meet the country's requirement for people with high levels of skill and knowledge. But the major stumbling block in this growth path is the inadequate skill set of the workforce. While on the one side we have the world's large stock of scientists, engineers and management graduates, we have been unable to derive full economic benefit from this talent base because of the mismatch between industry needs and university output. Skillful management of the intellectual capital could be a driver for growth and is imperative for Indian economy. The purpose of this study is to identify the employability skills required by young graduates and assess how there can be a value creation through effective knowledge management in terms of pedagogy, evaluation process and feedback mechanisms.

Keywords

Education, Employability, Skills, Value Creation, Capital Formation

I. Introduction

Education is regarded as one that contributes to social, political and cultural and economic transformation of a country. The social sector of a country, namely, health, rural development, education and employment generation has assumed great significance in the new economic regime. The prosperity of any nation is intrinsically linked to its human resources. Human capital is one of the most important assets of a country and a key determinant of a nation's economic performance. An increase in the human development index would lead to high levels of economic growth of the country. Adam Smith (1776) pointed out that a "man educated at the expense of much labour and time ... may be compared to one of those expensive machines" (Smith) and other classical economists observed that expenditure on education could be regarded as a form of investments that promised future benefits. The strength of a nation is dependent on its intellectual and skillful citizens. It can be observed that education is an essential tool for achieving sustainability. Only a quality future human capital can envision development of its nation to meet the needs of the present without compromising the ability of future generations to meet their own need. Without a quality human capital, a nation will be weak as there is no human factor that is capable to embark on new initiatives and perspectives. A quality human capital comes from a quality education process. A carefully designed and well planned education system is critical to developing such human capital. Thus, institutions of higher learning play a very important role and the teaching and learning processes in institutions of higher learning should provide such knowledge and skills to future

graduates.

II. Need and Importance of Research Problem

Over the last five and a half decades, the technical and management education system in the country has grown enormously. The system has built large capacities both in conventional disciplines as also in many emerging fields. It is technology that lies at the core of 'spiraling economic growth.' Even as we talk about increasing number of job opportunities emerging across sectors, India is reeling under the pressure of severe shortage of quality talent in the job market. Employability is far bigger a challenge than unemployment. Industry leaders feel that the "skills" and "quality" of the workforce need a lot of improvement. Plagued with problems like curriculum, lack of qualified faculty, poor quality of content, and not-so-effective examination system, technical institutions do not provide signaling value in the job market. A disparity exists in the types of skills taught at colleges and those that are demanded in industry. Products of technical education: engineers, managers, architects and other professionals should have the ability to operate effectively while maintaining high professional standards and taking the country along the path of development. One dimension of "delivering on promise" is the success of graduates in securing decent employment after the completion of the programme. The preference for technical education to general education emanates from this very expectation. This promise is broken if after graduation many students fail to find employment or are forced to accept low paying jobs not commensurate with their qualifications. Institutions of management education in particular are deeply concerned to such an extent that their educational perspectives get distorted. High incidence of unemployment, underemployment or low incomes becomes a matter of serious concern to central and state governments.

III. Literature Review

Mr. Manish Sabharwal, Chairman, Team Lease Services speaking on 'Employment to Employability', at the CII Global Summit on Skills Development, held in New Delhi on September 17-18, 2008 said, "Success comes from three Es, they are 'Education', 'Employability' and 'Employment'. As per Nasscom Press Information note "From India's young demographic profile which is an inherent advantage, to its vast network of academic infrastructure that churns out 3.1 million graduates annually, to its English speaking workforce, the country offers an unmatched mix of human -power benefits to organizations." Despite the strong fundamentals, there are already growing concerns about parts of the existing available talent pool being unsuitable for employment due to a skill gap. Another survey of employers shows that only a handful of the 1400 engineering schools in India are recognized as providing world-class education with graduates worthy of consideration for employment (Globalization of Engineering Services, 2006). National Knowledge Commission (2009) report holds "command over the English language is perhaps the most important determinant of access to higher education, employment

possibilities and social opportunities. N.R. Narayana Murthy, founder Chairman of Infosys Technologies Limited (2009) opines that a major leadership challenge in the present day business leaders is to successfully address diverse global audiences simultaneously and suggests that in such situations “communication is most impactful and yields best results when you use simple, direct and powerful statements to convey your ideas”.

IV. Objectives

1. To throw light on the employability skills required for technical and management graduates.
2. To discuss the initiatives taken by the state government towards skill building of technical students.
3. To explore how soft skills can be integrated with curriculum thereby grooming the professional students for employment

V. Methodology

This study is analytical and comprises secondary data which is collected from books and periodicals, journals, literature review and content analysis, Websites of AP State Government and JKC (Jawahar Knowledge Centre) and newspapers.

A. Employability Skills - A Definition

The term “employability skills” refers to those skills required to acquire and retain a job. In the past, employability skills were considered to be primarily of a vocational or job-specific nature; they were not thought to include the academic skills most commonly taught in the schools. Current thinking, however, has broadened the definition of employability skills to include not only many foundational academic skills, but also a variety of attitudes and habits. These transferable skills include the ability to “solve complex, multidisciplinary problems, work successfully in teams, exhibit effective oral and written communication skills, and practice good interpersonal skills” (Schmidt, 1999).

In fact, in recent usage, the term “employability skills” is often used to describe the preparation or foundational skills upon which a person must build job-specific skills (i.e., those that are unique to specific jobs). Among these foundational skills are those which relate to communication, personal and interpersonal relationships, problem solving, and management of organizational processes (Lankard, 1990). Employability skills in this sense are valued because they apply to many jobs and so can support common preparation to meet the needs of many different occupations. Robinson (2000) defined employability skills as “those basic skills necessary for getting, keeping, and doing well on a job.” Employability skills are teachable (Lorraine, 2007) and transferable skills (Yorke, 2006). Employability has been defined as “a set of achievements—skills, understandings, and personal attributes—that make graduates more likely to gain employability and be successful in their chosen occupations” by the Engineering Subject Centre of the UK Higher Education Academy. They put down three types of qualities that are essential for assessing employability performance:

1. Technical and Academic Skills Specific to the Job

These include reading, language, numeric capacity, listening, written communication, oral presentation, global awareness, critical analysis, creativity and self-management.

2. Process Skills

problem-solving skills, decision making skills, planning and delegating, teamwork, prioritizing, ethical sensitivity

3. Personal Qualities

Self-confidence, self-control, self-esteem, social skills, honesty, integrity, adaptability, flexibility, willingness to learn, stress tolerance, emotional intelligence, punctuality, efficiency and reflectiveness.

B. Technical Education in A.P

Although there has been a dramatic growth in basic degree colleges almost throughout the country, in states like Bihar, a miniscule proportion of the new colleges are oriented towards engineering. On the other hand the southern state of Andhra Pradesh has managed to literally double its engineering base in five years, and has pulled ahead of traditionally more prosperous and more industrialized states such as Gujarat and Maharashtra. It is the significantly higher concentration of science and engineering graduates in the state that has attracted the world’s leading technological companies to set up software development centers in Hyderabad. As a proportion of national GDP, the IT sector revenues have grown from 1.2% in 1998 to an estimated 5.8% in 2009 and it is here in India’s IT industry where the state of Andhra Pradesh plays a major role. Its share of IT exports in the country has grown from 7.5 % in 2003-04 to 15% in 2008-09. The state capital Hyderabad is ranked the number one Indian ITES destination by NASSCOM. The state of Andhra Pradesh produces half a million graduates from its colleges and universities every year. However, due to poor awareness of industry grade skills only 10% of general graduates and 25% engineering graduates can be employed in various sectors of industry.

Admission to MBA programme in Management colleges in Andhra Pradesh is done through Integrated Common Entrance Test (ICET). Most of the management colleges are integrated colleges with Engineering and MBA operating on the same campus. There are also independent B Schools which take CAT, MAT and XAT scores. Even though management education is part of technical education and the 1986 policy speaks of an integrated view, engineering and management education operate largely, as two disconnected systems. Management courses in A.P are pursued with a ‘gold digger’ attitude but at the same time not enough care is taken to make students suitable for employment. As far as the management education is concerned, AP is fast losing students to other states like Karnataka and Tamil Nadu. “To take a course in management, most students here go to Bangalore, Delhi or Mumbai where the quality of education is better. Even though we have 894 MBA colleges, students feel that they will become employable only if they leave the state,” says Prof.P.Purushottam Rao, a senior professor, Osmania University. According to PM Bhargava, former vice chairman of National Knowledge Commission “In the guise of the education boom in the state, several educational institutions are producing unemployable graduates who later beg for jobs that pay less than Rs 2000/- . Out of the 9.5 percent of the students, who get enrolled in the state over 8 percent are unemployable” said Bhargava. The MBA programme failed to enhance students’ soft skills. Students lack good English speaking ability, grooming, confidence, corporate orientation and attitude. It’s a myth that MBA students automatically get dream jobs. It all depends on students’ initiative and ability to get trained beyond the curriculum. Management education requires practical knowledge but all the MBA colleges provide bookish knowledge. Beyond quality issue

is pure commercials. Most college owners complain of not being able to fill their capacity. Some start admitting almost anyone who applies, starting a vicious cycle of poor input leading to poor placements...leading to still poorer inputs in future years.

A study 'Employability Skill Index' was done by Purple Leap, a talent management institute, among 600 students from 15 engineering colleges in Andhra Pradesh. It tested three key employability skills - communication, problem solving and technical skills. When it came to communication skills of engineering students, 80 per cent of them did not meet the qualifying criteria. It is understood that Communication Skills is a problem area especially when it comes to students in Tier 2 & Tier 3 cities. However, it is quite ironical that most of out of the 20%, who are fine as far as communication skills are concerned, do not actually end up getting hired because of either lack of problem solving skills or technical skills. Proficiency in communication skills is considered more of a 'qualifying criteria' than selection criteria for technical roles in the industry. The study also showed that if communication skills are not considered for qualification / selection, the percentage of employable students will raise from 7 to 13%. In a major surprise, more than 80% of the students do not meet the requirements on the problem solving skills. Despite the popular myth that engineering students are naturally good at problem solving, it was found that the biggest skill gap in engineering students in Andhra Pradesh is in the area of problem solving. The study revealed that the average score of students was less than 25% against national average of 35%. There are more than 50% of the students who have scored less than 25% in problem solving, making them fall in the 'hard-to-train' segment. Lack of adequate problem solving skills is one of the biggest gaps leading to students not getting enough technical jobs in the industry and in many cases having to settle for 'nontechnical' roles, after an engineering education. It was found that just by raising Problem Solving Skills, it was possible to more than double the employable pool; from 7 to 16%. More than 60% of the students do not meet the employability criteria on technical skills for the IT industry. The study also revealed that 11% of the students are employable when organizations do not consider technical skills as a criterion. Even the (30+ %) students who do meet the Technical Skills criteria are still not 'ready-to-deploy' as far as employers are concerned. After recruiting these students also, most organizations usually have to spend 3 to 4 months on technical training to make these students workplace ready.

The survey also revealed that about 25% of the student population, which currently fall in the 30-40% performance band, can be trained to upgrade their skills to employable levels. However, these students will need focused intervention across communication skills, problem solving and technical skills so that they may be brought to the employable pool. And in the most depressing finding, 36% of all surveyed had no chance of an 'Engineering Job' because of not being able to meet the qualifying criteria in all three skills. These students fall under 'hard to train' category.

C. Government Initiative

To realize the vision of effective employment, the government of Andhra Pradesh has incorporated the Institute for Electronic Governance (IEG) a non-profit organization to train young engineers to become knowledge workers through Jawahar Knowledge Centre (JKC) initiative - the main activity of IEG. The uniqueness of this programme is that it is a "finishing school model" of six months duration that is completely free of cost. This program also provides high quality training in technical, aptitude

and soft skills, 24/7 library, high-speed Internet and individual laptops primarily aimed at creating awareness in this specific class of the society through tribal empowerment programme. Started in the year 2004, JKC aims to offer quality human resources and services to IT and ITES sector by bringing synergy among the institutions of government, industry and academia. The initiative has already attracted a large number of engineering students from all over the state, providing them with a world-class infrastructure, the best guidance, content and opportunities to apply their knowledge. The JKC initiative has played a remarkable role in linking major companies with colleges located in semi-urban and rural areas. As a result, students in remote parts of the state are not only aware of the industry requirements, but are also able to upgrade their industry skills and obtain opportunities in the MNCs. JKC has helped extensively in campus placements to at least 200 engineering colleges in the tier II and III towns across the state. JKC initiative has led to an increase in the employment rate of the graduates from 8% to 28%. Due to its spread all over the state and establishment of relations with more than 100 industries, several thousands of JKC trained rural students have been selected for prestigious software companies. In order to ensure inclusion of each and every segment of society, it aims to start a special training program for scheduled castes, scheduled tribes, minority and backward classes.

D. Need of the Hour

We need to empower these youngsters with the requisite skills they will need to get employment and to grow in a corporate environment. And this skill development must start early: even while the student is pursuing his graduation. While academic skills definitely count, various other skills such as spoken and written English, interpersonal skills, the art of communication, situational behavior, and so on play a pivotal role in helping the student or candidate fit into the workplace. Lack of these skills may hamper the candidate's prospects at the interview stage itself.

Technical education must assess its curriculum and evaluate its purpose in helping students attain employment. It should cater to the needs of its stakeholders in industry. Although employment of their graduates is not the only goal of colleges, it is still important for college administrators and employers to strive for open channels of communication and continuous dialogue in order to recognize, discuss, and resolve these outstanding discrepancies and more effectively serve their common link: the students. A possible reason for higher education institutions failing to address the employability skills of its students could be because college faculty do not understand what the lacking skills are and do not possess the necessary resources to teach them (Hofstrand, 1996). While higher education faculty may not know what the lacking skills are, corporate employers do, and as such, can have an influence on the enhancement of these skills in education (Taylor, 1998). Further, corporations are willing to partner with higher education institutions in an effort to teach the necessary skills for industry success (Paulson, 2001). Teichler (1999) concluded that higher education institutions should serve three functions when preparing students: the educational function, based on the cognitive and intellectual capabilities needed to conceive broad knowledge; the training function, based on the competencies needed to assist students in specific, specialized work; and the socialization function, based on the "values, attitudes, social behavior and the communication skills relevant for action in socio-communicative contexts".

Rarely is there a complaint about the technical performance of

students of professional courses. However, the lack of people skills and communication skills is quite obvious. Soft skills are identified to be the most critical skills in the current global job market especially in a fast moved era of technology. According to Dr. Rod the following are the must-have skills of any professional:

1. Communicative Skills

Ability to deliver idea clearly, effectively and with confidence either orally or in writing, ability to practice active listening skill and respond, ability to present clearly and confidently to the audience and ability to use technology during presentation.

2. Critical Thinking and Problem Solving Skills

Ability to think critically, creatively, innovatively and analytically, ability to apply knowledge and understanding to new and different problems, critical thinking skills, skills to organize and interpret data and information, ability to think in time-to forecast, to think ahead, and to plan and finally the ability to separate number, quantity, quality and values.

Soft Skills have to be embedded in the teaching and learning activities across the curriculum by implementing activities such as questioning, class discussion, brain storming, team work, presentation, role play and simulation, task/project, field work and site visits. In general, the development of soft skills using the embedded model requires the expertise of the lecturers to use the various teaching strategies and methods that are entirely student-centered. It also involves active teaching and learning and students should participate actively in the activities. Some of the appropriate strategies and methods that are practical include learning by questioning, cooperative learning, problem-based learning (PBL) and e-learning.

In an MBA course, graduate students prepare for executive positions in business and therefore need to learn advanced communication skills such as delivering presentations, leading meetings, writing emails etc. Hence Business English should form a part of MBA curriculum and must be taught by experts. Students learn to communicating-not just by reading about communication. Many students do not have basics in grammar and hence they must be taught grammar and vocabulary. Discussions and classroom participation prompt students to stretch their learning beyond the conceptual framework. Practical pointers and confidence building guidelines help students improve their skills. A continuous feedback methodology allows the instructor to be sensitive to the progress of students. An initiation like that of JKC must be taken up for MBA colleges functioning as a link between industry and academia.

Higher educational institutions suffer from stifling control from governments and other regulating bodies. In comparison, countries like China, Australia and Singapore are allowing freedom to their educational institutions due to which there is a large scale skill development taking place. We need to advocate more autonomy and set up Special Education Zones.

NASSCOM, with the support of the IT industry, has been working on an IT Workforce Development initiative, to engage academia on a sustained basis through faculty development programs, mentorship of colleges, curriculum updates and regular industry-academia interface. Another important area that industry aims to address through such initiatives is the development of soft skills -especially in communication and presentation. It has signed MoUs with UGC and AICTE to take forward these initiatives. It has been exploring the possibility of 2-3 month courses in a "finishing school" for IT professionals. This will add 20-25

percent people to the 'employable' pool. Meanwhile, there is already BPO certification available for entry-level employees (NASSCOM Assessment of Competence). The objective of this is to test candidates on seven identified basic skills required of BPO employees. These include keyboard, communication, articulation and presentation, in addition to teamwork. But all these initiatives are limited to IT industry. Similar models of training need to be extended to other branches and management graduates.

VI. Conclusion

Human resources, in terms of quality and quantity, are India's biggest assets. A favorable demographic structure (with about 50 percent of the population below 25 years of age) adds to this advantage. However, to capitalize fully on this opportunity and not face the possibility of a skills-shortage, it is essential to gear up the education system through innovative initiatives.

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