

Employment, Employability and Higher Education in India: The Missing Links

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Abstract

The demand for labour in India is likely to remain high and robust in the coming years, both nationally and internationally. But this would demand skilled and qualified labour. The employability of Indian youth has emerged as a major concern in recent years. Ironically, it is not just the uneducated and untrained that lack skills but it is also the educated that consistently lie below the required standards. It is with this background that the study focuses on analyzing the growth and changing structure of the Indian higher education system in the light of the education profile of the Indian jobseekers, labour market demands and the employability index for India's high-growth sectors on the basis of existing skill gaps and suggests a broad pathway to plug in the gaps and missing links. A more robust demand for personnel in technical and professional services and a better employability index for the same sectors have probably led to skewed growth of the higher education sector. The greater challenge is therefore, to prepare our larger lot of the educated graduates from the general education streams for the emerging skill needs of employable youth.

Keywords

Employability, skill gaps, higher education, labour market trends, educated job seekers

Introduction

It is being increasingly realized all over the world that economic well being and productive efficiencies are a function of man's intellectual and professional

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capabilities. The fact cannot be denied that a good quality human resource base is extremely important in today's highly competitive environment. The very concept of development has evolved in this direction in the past two decades moving from income and income distribution to human resource development. This is the very reason for the marked shift in the welfare approach of education to the right based approach—providing the foundation for the right to dignified living. The investment in education to develop human capital and its contribution to economic development and growth are evidenced in literature by many authors (Becker, 1964; Chadha, 2004; Hanushek & Kimko 2000; Kingdon & Soderbom, 2007a, 2007b; Krueger & Lindahl 2000). Well-educated and good quality of human capital leads to a country's development by providing it an edge in the global economy.

India's growth story is unique in the sense that it has defied the widely-accepted model of economic development, that is, shifting from agriculture to industry and then services. The Indian economy has clearly bypassed the industrial sector and moved directly from agriculture to the services sector that contributes about three-fourths of India's GDP. Unfortunately, the same is not the case on the employment front where still a majority is occupied in the agriculture and allied activities a major section of which is subsistence level traditional agriculture. However, future projections reveal that 60 per cent increments in jobs would be in the services sector. This should be considered positive in the light of India's demographic bulge at the centre—with a growing proportion of people in the age group of 25–50 who are constantly craving for white-collar jobs. The role that a responsive as well as dynamic higher education sector can play in harnessing this so called “demographic dividend” cannot be debated at any platform. But, the industry has been rather disappointed with the kind of graduates emerging from our Higher Education particularly for want of the right kind of employability skills. Though India has one of the largest education systems in the world, the employability of the educated graduates is often quoted as one of the biggest challenges the country faces today. Ironically, it is not just the uneducated and untrained who have been said to lack skills but it is also the educated that consistently lie below the required standards.

Theoretical Underpinnings and Methodology

Employability has been viewed differently by different people: ‘a set of achievements—skills, understandings and personal attributes—that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy’ (Yorke, 2004); a person's capability of gaining initial employment, maintaining employment and obtaining new employment, if required (Hillage & Pollard, 1998). It thus depends on a multitude of factors which can be broadly classified under three

heads—knowledge, skills and attitude. ‘Employability not only depends on whether one is able to fulfil the requirements of specific jobs, but also on how one stands relative to others within the hierarchy of job seekers’ (Brown & Hesketh, 2004). Therefore, being better than others is the mantra of being employable. This is affected by both demand and supply side factors. Though, at the macro level the influence of many factors such as household labour supply decisions, the influence of the product market on the labour market, the investment climate in a given country, growth and productivity, financial markets, foreign direct investment (FDI), etc., can be considered to be important determinants, at the individual level it is education that plays a central role in preparing people to enter the labour force and in equipping them with the skills needed to engage in lifelong learning experiences. Production-relevant skills are assumed to be embodied to a greater extent in those individuals who have acquired quantity and quality of education, with a ‘skills hierarchy’ rising from the primary to the tertiary levels (Chadha, 2004). In today’s fast globalizing economy a country’s competitiveness and movement up the value chain beyond simple production processes and products is highly a function of its quality of higher education and training (Schwab, 2010).

Thus, for individuals their employability quotient is both a resultant and a determining factor of the quality of their higher education sector. On the demand side it is largely the availability of jobs and the labour market signals and on the supply side it is the availability of good quality educational institutions that can generate matching academic knowledge and employability skills that determine the students’ choice for the type of higher education (Figure 1). This in turn, is largely responsible for the changes in the structure of a country’s higher education (HE) driven by market forces of a liberalized economy. In one line it can be said

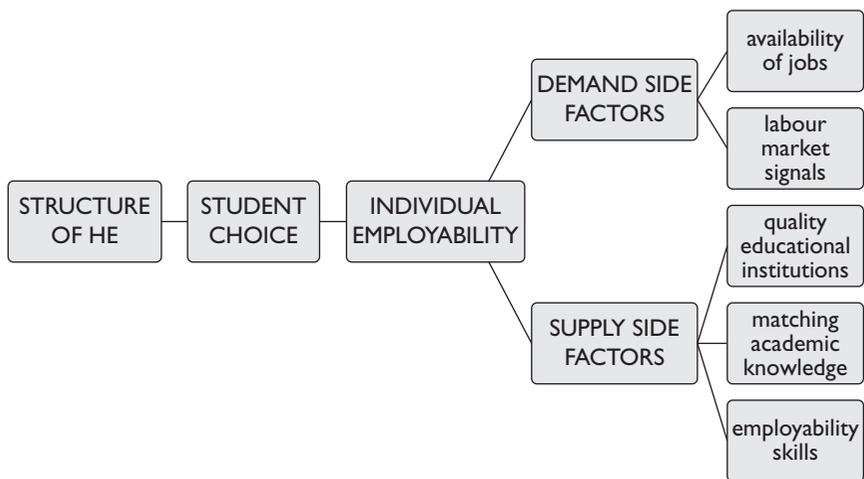


Figure 1. Factors Impacting Individual Employability and HE Structure

Source: Author’s own construct drawn from literature review.

that the demand for HE is a derived demand—demand derived from employment and employability factors.

The discipline of one's study becomes very important in case of specialized/technical jobs but a large set of disciplines of study cut across various industries. Since technical skills are extremely industry specific there is a growing acceptance amongst the international community that for measuring comparative employability generic employability skills should be given more weight. The concept has evolved in this direction more so because of fast changing technology (Berman, Bound & Machin, 1998), and a globalised economy where multitasking and cross-sectoral in and out migration of workers are becoming increasingly common. Employability is now largely looked upon as an 'attribute' covering a spectrum of 'getting a graduate job' and a 'product of skilful career planning and interview technique' (Yorke & Knight, 2004, 2006). In fact, employability skills are being considered as the skills required by almost everyone to do almost any job—'skills that make specific knowledge and technical skills fully productive' (Conference Board of Canada, 2000; CBI, 2009; Watts, 2006). Employability, thus, in this paper too has been used in the context of generic skills falling under the classification of UK Commission for Employment and Skills, 2009, defining employability skills as composed of a Positive Approach supported by Functional Skills to be exercised with Personal Skills. Drawing from extensive review of literature and employers' perspective in India, employability is understood to be a function of two basic factors: (a) academic qualification of an individual; and (b) the learning environment that helps him build certain generic skills (Shrivastava & Khare, 2012).

The focus of the present paper is thus on analyzing the changing structure of the Indian higher education sector as a response to employment and employability trends to suggest a broad pathway to tackle the latter by drawing inferences from the employability index for India's high growth sectors (a derivative of employers' perspectives emerging from primary sources of study).

The paper uses expansive quantitative and qualitative data drawn from a wide spectrum of secondary sources including national and international reports, web resources, University Grants Commission Annual reports, Employment Exchange Statistics of the Government of India, National Sample Survey Organization Reports, India Labour Report, Government of India, All India Council of Technical Education Online database, Monster Employment Online database and other researches.

Analysis

Education Profile of Indian Jobseekers and Labour Market Trends

Though even today a large chunk of India's labour force is engaged in the informal sector, the percentage of illiterate workers is continuously decreasing from

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57.5 per cent in 1983, to 48.5 per cent in 1993–1994, to 44.1 per cent in 1999–2000 and further down to 38.8 per cent in 2004–2005, with a corresponding increase in the educated workers. The number of graduates and those with further qualifications in the workforce increased from 23.6 million in 2001 to 33.3 in 2005, to a further 50.5 million in 2010; the majority of whom are employed in the organized sector. Despite declining employment opportunities in the organized sector, an increasing number of persons are registering themselves in the employment exchanges in the country, a major share of who are educated. Though, not all educated jobseekers register themselves with the employment exchanges, the figures give a fairly good picture of educated jobseekers, given the fact that out of the total number of vacancies notified during 2010 (7.1 lakh), around 72 per cent (5.10 lakh) were filled through employment exchanges.

Not only the headcount number but also the percentage of educated job seekers to total job seekers has increased from 70.7 per cent in 2000 to 76.5 per cent in 2009 and further to 81.5 in 2010. As is evident from Figure 2, amongst the educated job seekers it is the percentage of graduates that has witnessed the greatest increase from 17.85 in 2004 to 26.64 in 2008, registering an 8.79 per cent increase, but declined in 2010. The percentage of school graduates seeking jobs has in fact gone up indicating difficulty in finding jobs with lower qualifications. Still those with the grade 10 pass comprise the major chunk of the educated jobseekers.

This shift can be explained by two facts: one, the rising graduate population in the country; and two, better quality of employment for those with higher education degrees. As per the India Labour Report, about 46 per cent of the ‘graduate and above’ workers in India are regularly employed. Studies across globe have proved that income elasticity of higher education is much higher than that of all

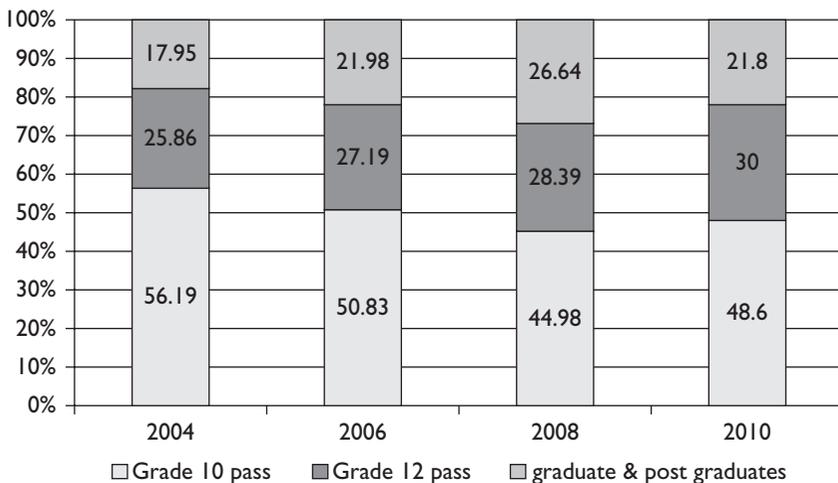


Figure 2. Registered Jobseekers by Level of Education (%)

Source: Employment exchange statistics, DGET (GOI).

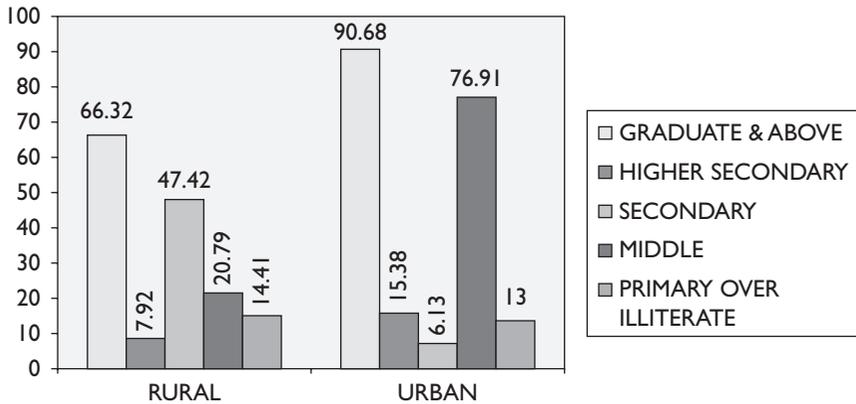


Figure 3. Increase in Average Daily Earnings over Previous Levels 2004–05 (₹)

Source: NSSO 64th round.

other levels of education (Varghese, 2012; World Bank 2002). This is equally true in the case of India.

The gap between the average wages by different levels of education confirms that there are two thresholds of wage increase. The first threshold for rural and urban India differs—middle to secondary in rural and, primary to middle in urban areas. However, the difference is highest between higher secondary school graduates and higher (college/university) educated in both rural and urban India (Figure 3). This can clearly be stated as an important reason for the rising demand of higher education in the country.

This to some degree justifies the increasing share of jobseekers with graduate and above degrees. A break-up of graduate job seekers by streams of study reveals that the majority are from general academic disciplines with Arts graduates topping the list comprising about 40 per cent of the graduate job seekers. Also, the last few years have hardly seen any change in their percentage shares by major disciplines. Only a marginal dip is observed in the percentage share of science, engineering, veterinary and education graduate job seekers (Figure 4).

This is indicative of the fact that it is comparatively easier for engineering and science graduates to get employed may be for the simple reason that industries and occupations related to engineering and science have been amongst the top five on employment index across major regions of the world (Table 1).

It can be seen that there is a heavy congregation of industries like IT/ITES, health and community services, environment, architecture, biotech, life sciences, pharmacy, agro-based and allied in the top growth group across all major regions of the world, all of which draw from the graduate pool of science and technology. In addition these graduates are also employed in large numbers even in non-engineering occupations and industries.

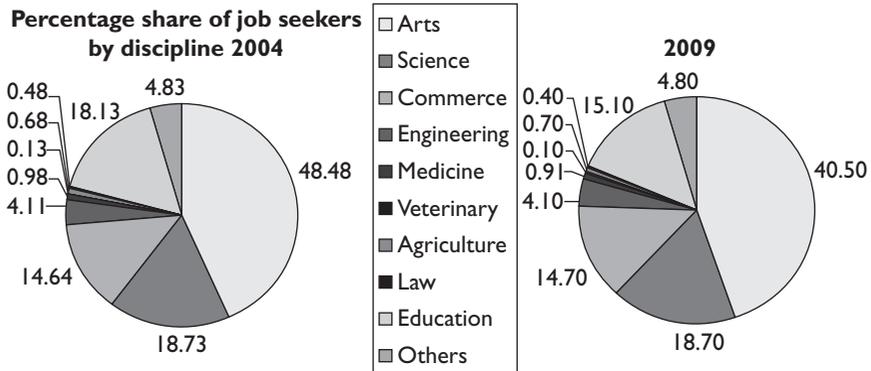


Figure 4. Job Seekers by Major Disciplines of Study

Source: Author's calculations based on Employment exchange statistics, DGET (GOI).

Table I. High Growth Industries in Employment Index (between 2006 and 2012)

INDIA	US	UK	EU
Agro-based	Transport & Warehouse	Public/defence	Environment/ architecture/urbanization
Travel & Tourism	Wholesale	community services	Telecom
Healthcare	Agriculture/ forestry/fishing	IT/ITES	education/training & library
Bio-tech & life Sc. Pharmacy	Finance/ Insurance	hotel & tourism	Real estate
Printing/Packaging	Retail Trade	transport/post/ logistics	IT/ITES
Garment/Textiles/ Gems & Jewellery	IT/ITES	administration/ organization	Hospitality & Tourism

Source: Compiled by author on the basis of Monster Employment Index online database.

Sector-Specific Employability

The same category of industrial sectors that rank high on the employment index, also rank higher on the employability index in the country. In a study Khare (2012) developed an employability index (Figure 5) derived from a skill gap matrix prepared for ten broad industrial sectors based on both primary and secondary sources of information. Drawing largely from the sector specific skill gap reports of the National Skills Development Council of India and a triangulation analysis of the output of the focused group discussions (FGDs) held with

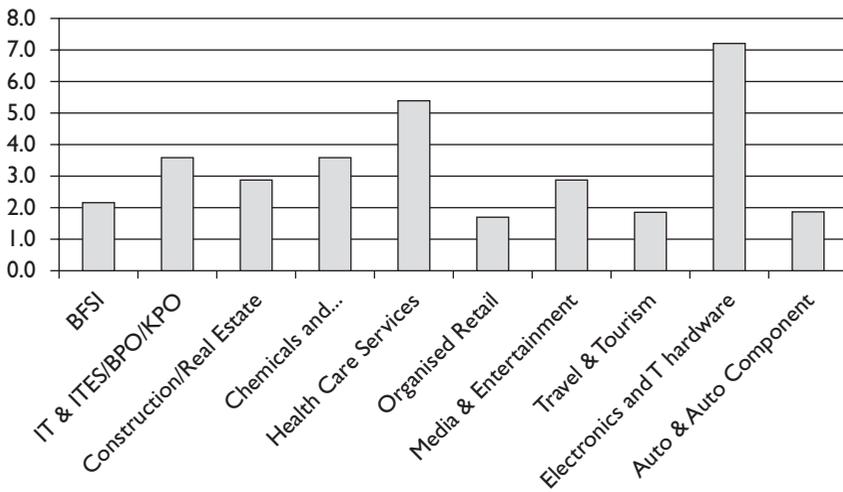


Figure 5. Sector-wise Employability Index

Source: Khare (2012).

a mixed bag of various stakeholders—industry experts, executives, educationists, local entrepreneurs, public sector and government officials representing: 55 per cent from the private corporate sector, 35 per cent from the public sector and 5 per cent each from the NGO sector and the self employed. The study covered 10 out of the 20 high growth sectors identified by the Planning Commission in India. Only those 10 sectors were chosen which employed a sizeable proportion of the graduate employees, namely, Banking, Financial Services and Insurance (BFSI), Information Technology (IT) and IT Enabled Services (ITES), Construction/real estate, Chemicals and Pharmaceuticals, Health Care services, Organised Retail, Media and Entertainment, Travel & Tourism, Electronics & IT hardware and Auto and Auto component parts. The matrix was derived from the Sector Specific Skill Gap Reports of NSDC and further substantiated by FGDs with a total of 147 personnel across selected sectors.

A skill gap matrix was prepared limiting the analysis to only those levels of jobs where the minimum required qualification is under-graduation. The index however is only relative in nature and not absolute in character.

Based on 41 generic skill gaps required for a positive approach towards work broadly classified into two categories—functional skill gaps comprising of 17 traits and personal skill gaps comprising of 24 attributes—the study revealed that, personal skill gaps have greater weightage in the overall skill gap index for all sectors except Electronics and IT hardware. Thus, it may be inferred that personal skills are considered more important by employers in the country in determining the employability of an individual. Those sectors that have a lower share in the personal skill gap score were found to be ranked higher on the employability index.

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The study revealed that Electronics and IT hardware has the highest employability index followed by Health care services, IT/ITES, and Pharmaceuticals and Chemicals in decreasing order. This indicates that professionally qualified might be by and large better in the employability quotient, too. The employability advantage of the professionally qualified was matched by higher job prospects for matching professions, thereby giving them a double advantage over their counterparts from general education seekers. The same trend is likely to continue in coming years in the job market.

As per a recent report on hiring intentions for graduates in India, (Graduate Development Service Newsletter, 2012) manufacturing, insurance and chemical segments will have the strongest hiring intentions while technical and engineering functions will have the greatest headcount increase. The most sought after jobs will be in sales, engineering, and research and development functions at the junior-management level. Thus, even if the demand in the traditionally robust sectors in India as per past trends, namely BFSI, IT and ITES and Electronics is going to be lower, in no way will it undermine the importance of these sectors, for if not locally, additional demand would be generated globally as the most developed countries are fearing acute shortage of engineers and professional technicians. Skilled trades positions are currently the most difficult to fill in Europe, the Middle East and Africa (EMEA), America and the Asia Pacific (Manpower Group, 2012). The top 10 jobs that employers find difficult to fill at the global level largely include the ones requiring higher educational qualifications and specialized/professional skills (Table 2).

Another way in which the human resource requirements in future are going to be different is the increasing shortfall of workers at high end technically skilled jobs (Cedefop, 2008). For example, in BFSI high-end skills in risk management, credit evaluation, financial engineering, financial planning and selling are top on the priority list of employers. In the IT and ITES sector it is medical engineering/KPOs,

Table 2. Global: Top 10 Jobs Employers Are Having Difficulty Filling

1	Skilled trades
2	Engineers/technicians
3	Sales representatives
4	Health service providers
5	IT Staff
6	Accounting and financing staff
7	Drivers
8	Management/Executives
9	Labourers
10	Office support staff

Source: Talent shortage survey research results (2012).

application development, green computing, etc., that are gaining strength. Such a situation is bound to promote professional education.

Responsiveness of Higher Education in India to Employment and Employability

With growing consciousness of linking higher education to employment and employability, this might be the reason for the changing demand for educational streams as reflected in the changing structure of higher education in the country.

Growing Professionalization

India today possesses one of the largest networks of higher education systems which offers facility of education and training in almost all aspects of human, creative and intellectual endeavours: arts and humanities; natural, mathematical and social sciences, engineering; medicine; dentistry; agriculture; education; law; commerce and management; music and performing arts; national and foreign languages; culture; communications, etc., but with a growing bias towards more professional and job-oriented courses. Table 3 clearly reveals this trend as evident from the lowering of growth rates in enrolments for general education.

Interestingly, a break-up of faculty-wise enrolment in higher education (Table 4) seems to follow trends in the number of job seekers by faculty. The first three places in enrolment are occupied by Arts, Science and Commerce as also in terms of job seekers. Since they form the major chunk of graduate enrolments they also constitute a major chunk of job seekers. But, more important is to note the mismatch between these percentages in engineering/technology and education

Table 3. Annual Growth in Enrolments by Type

Year	General	Professional	Vocational
2001–2002	–0.71	19.08	11.96
2002–2003	6.57	36.05	8.60
2003–2004	5.95	8.62	–0.75
2004–2005	5.67	16.97	1.26
2005–2006	5.30	12.36	1.24
2006–2007	5.01	12.38	3.69
2007–2008	4.76	12.24	2.05
2008–2009	4.54	12.05	2.17
2009–2010	4.33	11.78	2.20
2010–2011	4.14	11.65	2.22
2011–2012	3.98	11.39	2.25

Source: Khare (2012).

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Table 4. Percentage Share by Faculty in Student Enrolment

Faculty	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
Arts	45.13	44.51	43.07	42.01	36.39
Science	20.45	20.55	19.15	19.30	18.42
Commerce/Management	18.01	18.13	18.23	17.83	17.11
Education	1.46	1.52	2.10	2.50	3.36
Engineering/Technology	7.21	7.39	9.63	10.33	16.86
Medicine	3.16	3.27	3.27	3.48	3.84
Agriculture	0.58	0.59	0.59	0.55	0.55
Veterinary Sciences	0.15	0.16	0.16	0.14	0.16
Law	3.05	3.07	2.80	2.35	1.93
Others	0.80	0.81	1.00	1.51	1.37
Total	100	100	100	100	100

Source: UGC Annual Reports.

streams. Though the percentage share of engineering enrolment is high their share in job seekers is low.

In contrast to this, though the share of student enrolment in education stream is pretty low its share in the job seekers is much higher. This shows that while engineering and technical graduates are able to find jobs more easily, many directly through campus placements, even the small percentage of graduates in certain other streams are unable to do so.

The growing popularity of engineering courses is thus, in no way surprising. Figure 6 clearly shows the structural pattern of students’ enrolment in the past

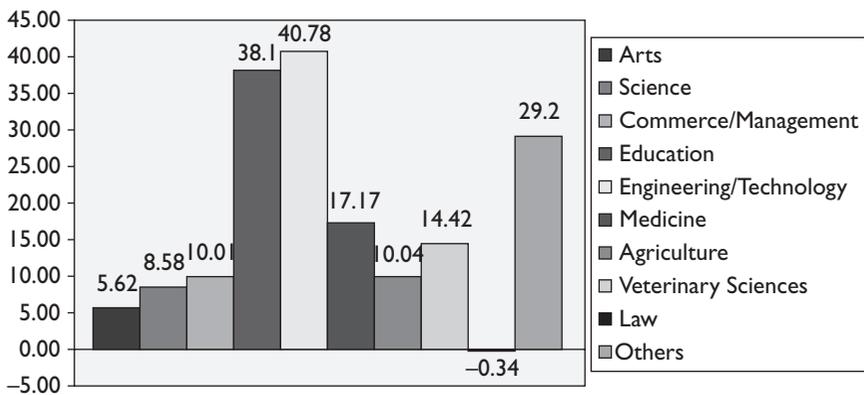


Figure 6. Five-Yearly Growth Rate in Enrolment (2005–2006 to 2010–2011) Per cent

Source: Authors’ calculations based on UGC Reports.

five years. The growth in enrolments is highest for engineering/technology stream closely followed by education. Medicine and veterinary sciences are fast catching up but Arts, Science and even Commerce and Management enrolments could not grow at half the pace of engineering technology.

Such trends in India match with experiences elsewhere in the world. Carnoy (1987) in his study showed that the graduates from the arts faculty had the highest unemployment rate, followed by science and commerce. Compared to this, students graduating in education, engineering, law, or medicine had better employment prospects. Another undesirable observation made by him is that such students with professional qualifications were often from a higher socio-economic background.

However, recent years in India have seen some change of course with a few non-traditional disciplines like Music/Fine Arts, Library Science, Physical Education, Journalism, Social Work, and Travel and Tourism clubbed under 'others' witnessing remarkable growth in enrolments. This is reflective of the changing mindset of the society at large and the youth in particular. The youth today have become more enterprising and open and are ready to experiment with new job spheres. They take bold decisions to follow their hearts and aptitudes in choosing their lines of study followed by careers. Yet another stream of study that has caught the fancy of our young learners is education as evidenced by the high rate of growth of student enrolments in education stream. This sudden popularity in education discipline may be explained by way of the growing number of educational institutions requiring huge mass of school/college and university teachers and other non-teaching educational professionals.

Thus, it can be said that professionalization of HE is gaining strength in recent decades as a fallout of industry requirements with greater emphasis on operational knowledge rather than scientific/academic knowledge as in other parts of the world. This is supported by an earlier study by Carnoy (1987). In a review of three studies conducted in various parts of India, he showed that students in India attend university primarily to get better jobs, and an important reason given for choosing a particular subject studied is its career potential. This demonstrates that students would generally give more weightage to employability.

Skewed Professionalization

It can be inferred from the preceding paragraphs that students generally base their choice of subject to study on how it will contribute to their future employment opportunities rather than on what was intrinsically interesting. As a result, in India professionalization too is highly skewed. It is seen that engineering and management eat up the major chunk of professional education in the country (Table 5).

In absolute terms a minor shift can be observed towards new streams in the last two years. Though India has already built up one of the largest stock of scientists, engineers and technicians, the demand for such courses continues to rise high. Both demand and supply factors are responsible for such a scenario. On one hand only 15 per cent of all students are enrolled into engineering courses and about 20 per cent in sciences while on the other side, Engineering and IT have been among

Table 5. Growth of Different Programmes in Technical Institutions

Year	Engineering	Management	MCA	Pharmacy	Architecture	HMCT	Total
2006–2007	2.44	7.57	2.73	5.72	–1.69	–8.57	4.34
2007–2008	10.39	1.53	1.42	28.42	0.00	26.56	6.94
2008–2009	43.17	32.59	7.67	19.56	0.00	7.41	26.33
2009–2010	23.20	27.36	6.79	3.23	–8.62	6.90	17.88
2010–2011	10.16	10.80	2.60	4.55	17.92	8.60	8.35

Source: Authors' calculations based on online data <http://www.aicte-india.org/misappgrowth.htm>

Table 6. Growth of Seats in Different Programs in Technical Institutions

Year	Engineering	Management	MCA	Pharmacy	Architecture	HMCT	Total
2006–2007	10.26	17.70	2.26	20.82	3.75	–4.35	11.18
2007–2008	18.57	28.68	24.13	32.43	0.00	24.35	21.42
2008–2009	28.74	22.72	4.94	22.69	0.00	9.84	25.13
2009–2010	27.45	20.06	46.68	13.43	–9.02	10.23	26.42
2010–2011	23.54	38.42	11.60	42.60	19.36	10.55	26.09

Source: Authors' calculations based on data from <http://www.aicte-india.org/misappgrowth.htm>

the major functional areas contributing towards increasing hiring intent (Employment Outlook Report, 2012). Thus a huge gap exists between their demand and supply in the country. Even today, their number in percentage terms is much lower than the domestic demand as well as comparison with many developed nations. This calls for further expansion of professional education along with diversification albeit with a word of caution. But, in recent years, a slackening in the growth of engineering, management, computer and pharmacy programmes can be seen with a substantial growth in the architecture and Hotel management and catering institutes. But, when it comes to the growth in the number of seats by different technical streams, engineering and management continue to retain their supremacy over other streams, though pharmacy has taken over the two in 2010–2011. Architecture and Hotel Management and Catering Technology (HMCT) are the recent trendsetters with much above 10 per cent annual increase. High growth of the real estate, urban infrastructure, travel tourism, hotel and recreation industries in recent years seems to have pulled up enrolments in these courses.

Issue of Educated Employability

The unparalleled demand for higher and professional education in the country led to rather haphazard and unsystematic growth in this sub-sector of education, with virtually no planning. This has resulted in a vast majority of service providers jeopardizing both quality and equity.

Most of the institutions in the country failed to keep pace with the latest developments in basic disciplines, knowledge and technology. Outdated curriculum, institutional apathy, faculty resistance to change and adapt, poor governance and quality control and infrastructural bottlenecks can all be held responsible in some measure or the other for the deteriorating quality of higher and professional education over the years. Unfortunately, these problems plague the general education sub-sector more acutely, the one that has a major share in India's higher education enrolments and educated job seekers. Studies have proven that despite massification of the sector there exists a huge gap of supply of educated, employable human resource and its demand by the labour market in the country. As per a NASSCOM report (NASSCOM and McKinsey, 2005) only one fourth of India's engineering graduates and only 10 per cent of its other graduates are employable. Another recent study by PurpleLeap reveals that one-third of the graduates from the Tier II, III and IV engineering colleges are not employable even after interventional training.

The number of readily employable graduates in Tier II, III and IV colleges equal the number of the total talent pool in Tier I engineering colleges (TOI, 2012) which (IITs and IISc) jointly contribute to less than 1 per cent of the engineering graduates in the country. On a scale of 10 the gap between the employability of technical graduates between Tier I and Tier II cities is worrisome (Figure 7). This has been the case despite the World Bank assisted programmes of the last two decades like TEQIP I, II and TECH ED I, II, III aimed at making technical education more industry responsive as a follow-up to the National Policy of Education, Government of India.

This gap is almost 50 per cent for most of the high growth tech sectors in the country. The situation is far worse in case of graduates from other streams. A slide in India's global ranking in the fifth pillar of global competitiveness index pertaining to Higher Education and training, from 55 in 2007–2008 to 85 in 2010–2011 is further testimony to the above observations. The fifth pillar: higher education

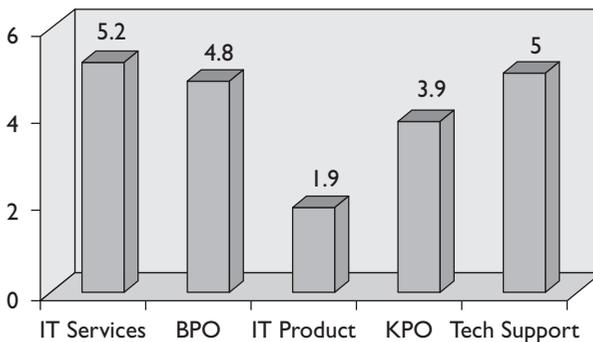


Figure 7. Gap in Employability of Technical Graduates between Tier I and Tier II Cities (%)

Source: AMCAT: Aspiring Minds Computer Adaptive Test http://www.aspiringminds.in/assessment_technology.html

and training of this index measures the secondary and the tertiary enrolment rates, the quality of education as evaluated by the business community and the extent of staff training for ensuring a constant upgrading of workers' skills.

Another study by Khare (2012) revealed that most employers echo common sentiments regarding India's youth employability. Indian youth are more lacking in personal skills as compared to functional skills. Functional skills are relatively more industry specific and are generally taken care of by industries during their probationary trainings. Industries that focus on soft skills and customer orientation related attributes at the time of recruitment and impart functional as well as service oriented trainings on regular intervals to their personnel have workforce which is more adept and has lesser skill gaps. The expectation from the higher education sector is thus to focus on imparting personal skills which are more of general nature, fitting into the requirements of a broad cross section of industries.

The problem of unemployable graduates for India is more glaring given by its sheer magnitude of absolute numbers. Though, India is already the second largest in the world when it comes to absolute numbers, HE in India despite rapid growth across all subsectors can still be termed 'elitist' and skewed. Even today almost 82 per cent of the population in the relevant age group does not have access to higher education as revealed by a gross enrolment ration (GER) of 18.8 in 2012–2013 which is rather equal to the enrolment ratios of the developed countries (89 in US, 84 in New Zealand, 80 in Australia, 91 in Finland, 88 in Canada). The GER in India is not only much lower than the world average of 27 and developed nations (59 in UK, 55 in France) but also developing countries as Indonesia (24 per cent), Philippines (29 per cent), Thailand (45 per cent) and Malaysia (36 per cent) (UNESCO, 2011). The enrolment ratios in the country are still lower for girls and other minority social groups—12.7 for females against 17.1 for males, 14.8 per cent for OBCs, 11.1 per cent for SCs, 10.3 per cent for STs and 9.6 per cent for Muslims (SES, MHRD). If today we are unable to ensure quality for not even one fourth of our youth desirous of higher education, what would happen when more and more would enter the system as demand for higher education is bound to grow in coming years with a fast growing service sector and the 'demographic bulge' at the centre.

The mismatch between the number of higher education institutions and teaching faculty is yet another major cause of worry as this is bound to aggravate the problem of low quality education. A good teacher is the pivot around which the whole teaching-learning process revolves in an educational institution (Thankamma, Sharma & Singh, 2010). It is the teacher who is responsible for identification to development to transaction of a course, more so at higher levels of education. As per the latest report, even the premium league institutions like the Indian Institutes of Technology (IITs) and (Indian Institutes of Management (IIMs) are suffering from acute faculty shortage for want of good quality teachers. Thirteen IIMs have to fill 111 vacancies out of 638 positions. Four Indian Institutes of Information Technology have almost 50 per cent vacancies, National Institutes

of Technology across 30 states have more than 25 per cent positions vacant. Even the less than a decade-old Indian Institutes of Science Education and Research with five branches have been afflicted with a faculty crunch—131 vacancies out of the total strength of 518. The situation is worse in universities and colleges of general education. Lack of good quality visionary teachers will tell upon the quality of education and consequently continue to fall short of industry expectations. This has serious ramifications not only for the current but also future growth of the country as more and more unemployable educated youth coming out of such a system will be more of a burden than a resource.

How to convert this sleeping giant (the HE sector) into a proactive, dynamic and responsive sector capable of churning out good quality human resource is the biggest challenge. The role of academic leadership and teaching faculty assumes great responsibility in this context. Thus, retention, recruitment of quality faculty and faculty development should be given top priority because even the best of infrastructure and good amount of funds cannot do anything without devoted, innovative and enthusiastic teachers.

Concluding Observations

There has been tremendous expansion and reasonable diversification in India's higher education but it is still largely state owned. However, the growth trends seem to be largely determined by the skill needs of a growing economy with greater emphasis on operational knowledge rather than scientific/academic knowledge as in other parts of the world. This has led to uncontrolled professionalization, which too is skewed in favour of only engineering and management. Newer specializations are coming up in the light of emerging job profiles but need to be standardized and controlled for quality.

The poor quality is getting reflected in the low employability of the Indian graduates both with professional and non-professional degrees and requires immediate interventions. The problem is however, more acute for the youth graduating in general academic streams and in smaller towns and cities. Similarly, the participation of girls and other minority and weaker sections in professional education is quite low. Not that no efforts were made so far to make teaching more practice oriented at the policy level. A 'sector wide approach' and shift in focus from quantity to quality is clearly visible in all recent government documents at all levels of education. Measures have been taken to address the issues of educational quality and employability skills by investing in infrastructural development, teacher training, faculty and curriculum development. Specific efforts have been made to integrate elements of skills delivery right from elementary to higher level of education. Emphasis on developing basic and life skills—basic numeracy and language, value based education, financial literacy at elementary level; renewed impetus to large scale vocationalization at the secondary level; expansion

of technical and vocational education, rejuvenation of huge network of existing universities are all geared towards making the transition from education to work easier and smoother. The recent initiative of the Government of India by setting up the National Skills Development Corporation (NSDC) in the public-private partnership (PPP) mode to tackle the issue is a step in the right direction. The National Skills Development Corporation (NSDC) brings together 17 ministries/departments of GOI and industrial associations (FICCI, CII, ASSOCHAM) in a massive skills enhancement drive aiming to train 500 million youth by 2022 (IMaCS Reports 2008). The NSDC is a no-for-profit company set up by the Ministry of Finance under Section 25 of the Companies Act with a 49 per cent stake of GOI and 51 per cent of the private sector.

However, the focus of the NSDC is more on the informal sector and the uneducated/drop outs, untrained and semi-trained youth/workers. Given the expanse of the problem and the fact that the issue is nonetheless important for our educated and professionally qualified youth it is important to integrate the element of skilling into our academics and revamp the huge network of existing State Universities.

Suggestive Roadmap

A thorough investigation of the employability gaps in our graduates as revealed by the above analysis helps pave the way to draw a broad roadmap for our higher education sector so as to align it to employability needs and labour market trends. Visionary teachers and academic leaders need to be identified and groomed in this direction.

The four pillars of making Indian Higher Education responsive to current employability needs are Scalability, Quality, Equity and Connectivity (both professional and cross-cultural) but it should be undertaken on a selective basis so as to make it physically as well as financially feasible. The suggestive broad roadmap could thus be built around these four fundamentals.

Scalability

India already has a huge network of HEIs but still falls short of global standards of accessibility norms as many seats remain vacant in substandard institutes. Two of the following steps may help redress the problem to some extent.

Total Revamping of the Existing Affiliating Universities with Greater Emphasis on Management and Quality Assurance of Affiliated Colleges

A cap should be placed on the number of colleges to be affiliated with each such university to ensure proper governance and monitoring. To tackle the problem of shortage of teaching faculty in affiliated colleges, the university teaching staff may be asked to contribute to teaching in these colleges for certain number of hours on a weekly basis on rotation. It should also be made mandatory for each

University Teaching Department (UTD) in such universities to start a market-responsive/industry-oriented post-graduate programme on self-financing basis within the purview of their basic disciplines. While the focus of these universities should be more on teaching and quality support to affiliated colleges, the non-affiliating and other research universities/institutes should limit themselves to only MPhil/PhD teaching with greater focus on high end research and consultancy. Greater autonomy, flexibility and support are desirable in this direction.

Expansion and Diversification of Other Categories of Universities

A new generation of specialized 'research universities'; 'business facing' universities, like the university of Hertfordshire and Thames Valley via employer engagement, not only through courses but through research and professional universities (national law universities, state technical universities, medical universities, etc.), should be opened in greater number.

Drawing from the labour market trends of a slowly diversifying employment base in India, new occupations and industrial sectors such as arts, design and creative professions are attracting more students. The growing higher and middle class is ready to experiment and take risk with non-traditional professions. This gets reflected in growing demand for courses catering to media, animation, fashion, designing, event management, gems and jewellery, performing arts and many more. The higher education base for such non-traditional courses is extremely narrow. Many such institutes that have come up in recent years in a sporadic fashion to quickly fill the gap are unrecognized, non-accredited ones mainly giving short-term training courses rather than full-fledged graduate programmes. Well-structured degree programmes are essential to fully equip the students with the required skills to sustain in the highly competitive global environment and rise up the career ladder. For such graduate programmes scalability with quality control is required.

Some unique universities specific to India's traditional knowledge base (BCG Survey 2003) in indigenous medical therapies (Homeopathic, Ayurvedic, Unani, Yogic sciences, Naturopathy, etc.) and indigenous/classical art forms should be promoted with a global clientele in mind.

HE at Work (as in Scotland)

Institutions and programmes meant for middle and high level workers/executives and professionals should be opened aiming at up-skilling for working group. Currently, such programmes are run only in a few select management/engineering institutes. Up-skilling is a rising demand by employers across all industries hence not only the scalability of such endeavours but also its diversity across other professional and non-professional streams is needed.

Quality

A stop should be put to unscrupulous expansion of institutions and more attention should be paid to quality improvement in the existing institutions via emphasis on faculty improvement programmes, curriculum updation and transaction.

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Faculty Improvement

The importance of up-skilling at all levels has been realized and consciously practiced in the corporate world particularly in the developed countries. A systematic process of faculty up-skilling by way of short period training in national/international institutions of high repute and industry/corporate houses so as to provide exposure to latest research techniques/tools/methods and discipline specific knowledge domain may help bridge the quality gap of teaching faculty. Such exposure may be provided to the faculty on a 20:80 or 10:90 financial sharing between the individual and the institution to a certain percentage of faculty members forming a group from each district each year during the vacation period. Sponsorships from the industrial/corporate/Government sectors can also be tapped. In order to ensure 100 per cent participation in this up-skilling drive the facility may be extended on a rotational basis. Such programmes may be need based and customized as per institutional character and requirements, designed, developed and organized jointly at the institutional level and with corporates/local industries/global industrial giants.

Curriculum Development and Transactions with Personal Grooming

Well-crafted curriculum, regular updation and innovative transaction by way of expert and student involvement across academia and the world of work can go a long way towards improving quality across board. A host of personal and functional skills required by all workers in all industries can be easily imparted in HEIs with little effort on the part of the teaching faculty and leadership. Overall personality grooming is a must to improve employability. Many educated but unemployable young graduates are unable to move to bigger cities for work due to lack of confidence arising out of poor exposure and personality grooming. Their humble family backgrounds often restrict their mobility and lack of such facilities in their colleges renders them ill equipped to compete with their urban counterparts. It has been observed that many such students from smaller towns who qualify in written examinations for recruitment are unable to make through the interviews.

English language communication as an international language, both verbal and written (only 17 per cent in India speak English) needs to be a part of graduate learning, compulsorily. Grammatical errors, diction and pronunciation and comprehension are some major issues with even those who have studied in the English medium. If such training facilities are made available on campus or through institutional arrangement, it would go a long way towards making our graduates more employable. These additional fringe services may be differentially charged. Such initiatives need to be taken more prominently in small towns and for weaker sections of the society.

Financial Viability

The perpetual debate of quality vs. quantity is not exclusive to India but even in the developed world the problem of 'degree mills exist'. Reaching out to smaller towns and cities and lower income groups is a major challenge to reap the demographic

dividend in a country as big and diverse as India. It is high time we realized that even, this huge segment of the population is ready to pay for good quality education. A system of differential fee should be introduced on the basis of the relative paying capacity of students, particularly in for-profit private institutions. In public HEIs so far fee has been kept artificially low to just cover 5 per cent of the operating cost on an average. This may be brought up to a reasonable level for those who can afford. Such attempts would augment financial resources to be used for quality improvement.

Equity

The access to HEIs is lopsided regionally most of which are concentrated in the southern part of the country—as well as between urban–semi-urban and rural areas. Though an equitable geographical spread is desired by opening more institutions in deficit regions, there is yet another angle to equity issue. There is difference in the basic objective for studying further in smaller towns/cities and among poorer sections of the population. For them, getting a job immediately after graduation is need driven and not choice driven. Bridging the gap between the employability of the big town educated versus the small town educated is again a challenge.

Innovative Programmes

Innovative programmes like low cost bachelor of vocational studies degrees (UK), one year/short-term sandwich vocational/hands-on work programmes (UK), etc., should be promoted at the collegiate level. A self-financed add-on vocational courses scheme was initiated in India at the undergraduate degree level to prepare ‘ready-to-work graduates’. However, in the absence of local opportunities of industrial exposure in small cities/small colleges, lack of faculty commitment as well as competence to run such programmes, they became just like any other routine programme. Therefore, the response to such programmes remained lukewarm, particularly as they could not generate any employable vocational/professional skills in the students. Many colleges had to withdraw such programmes soon after starting them. However, in some educational institutes self-financed postgraduate professional courses are being run successfully. A high degree of faculty involvement and leadership plays an important role in making such endeavours successful. The practice is only at a nascent stage and it seems to be virtually nonexistent in maximum affiliated colleges and universities of general education. Scalability is required in this direction.

On-Campus Professional Support and Guidance

Universities Careers Services will provide a gamut of professional support and guidance to students seeking employment. Placement cells with full-fledged trained placement officer and support staff have to be compulsorily established in order to generate and share labour market knowledge, provide career guidance/counselling

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and help in resume development. Such services may be sought from private players existing in the market but on campus and at subsidized rate for all or differentially charged. For universities and big colleges placement cells should be a permanent, regular body. However, for small sized institutions such services may be provided with private participation on monthly or quarterly basis. In order to make it financially viable for small institutes, a common placement cell may be created in a collaborative fashion.

Connectivity

Networking and connectivity has become important in the HE sector so as to improve the employability quotient of the students. Strong connectivity needs to be built at the local, national and international level. Very few educational institutions, mostly the premier ones, have been able to create such networking. A four-point networking may be intensified both at the university and the institutional levels.

Industrial Networking

Two-way flow between academia and industry has found an important place in the existing literature for improving student employability. It is the need of the hour to develop academic networking with global and national academia on one hand and industry and corporate houses on the other hand. Knowledge exchange programmes by universities and experiential exchange programmes by industry are a common practice in the developed world. But the Indian situation warrants a unique approach to make this happen on a large scale given the extent of diversity in its HEIs. Right from curriculum development to transaction to high end research, such connectivity is a must in order to make our HE system market responsive. While it is possible for all institutions to take industrial support in the first two activities if not globally at least locally, it is neither feasible nor desirable for each big and small institution to engage in high quality research for want of technical and human resources for the same. But it can be made mandatory for all the for-profit HEIs charging high fee to spend a certain minimum amount of their earnings in hard core R&D by collaborating with local/regional industries or with other national/international institutions of research. Industry sponsored research is also a small segment restricted only to the four walls of the few Indian elite HEIs. Greater momentum needs to be generated in this direction, particularly by bringing Central universities in its inner circle.

In order to promote graduate placements, particularly in smaller towns and cities, academia must be linked to SMEs locally as well as nationally. Identifying new courses in coordination with small and local entrepreneurs so that the students are able to seek employment near their home towns and employers are able to find the right talent locally will help make suburban and rural areas more dynamic and lessen the burden of congestion in urban centres.

Alumni Networking

Stronger and proactive alumni associations need to be formed in HEIs. Alumni participation in other parts of the world and good HEIs are a good source of

exposure for students, which is weak in most HEIs in India. Contributions from the alumni for institution building by way of financial contribution or honorary services should be promoted. An alumni consortium to provide financial support to bright and needy students, placement guidance, personality grooming, industry exposure, etc., can be sought through such networking. Alumni–student interaction has two-way benefits, students gain by developing contacts, pride and perspective while alumni are able to find future employees.

Global Networking

The global experience of different countries and cultures is fast gaining on global employability needs due to the shrinking world of labour market. As per a study, 65 per cent Indian employers indicate having overseas exposure, be it short-term study or work tours, as one of the important considerations while hiring in multinational corporations (MNCs). In fact, in such a vast and diverse country like India, such inter-state collaborative measures are also desirable. Group internships through institutional collaborative arrangement, transfer and mutual recognition with foreign universities are required.

Social Networking

With the growing importance on corporate social responsibility the employers have also started valuing students' involvement in social work. Though a scheme of the National Service Scheme (NSS) is functioning in Indian educational institutions as an extra-curricular course, very few colleges and universities are offering it and even fewer are running it in the right spirit. For that very reason, very few students join the NSS during their under-graduate studies. Efforts should be made and opportunities consciously explored to compulsorily involve students in social activities by forming clubs and promoting serious interaction with the local society. This would not only help generate awareness regarding the local and the global issues related to social, environmental, religious and political spheres but also give a real life experience to the students in improving the 'world around you'.

To wind up in one sentence, India needs extensive differential planning at the regional, sub-sectoral level of higher education aiming to develop parallel and distinct sub-sectors within the overall umbrella of higher education in the country. Planning for both horizontal and vertical expansion of HE is the demand of the day. While the former can take care of regional disparities and social inequalities, the latter can smoothen India's globally required movement from a 'worker trajectory' to a 'knowledge trajectory'. However, the skills drive needs to be interwoven with good academics—knowledge with know-how and not knowledge or know-how.

Notes

Employability skills have been defined as composed of a positive approach (being ready to participate, making suggestions, accepting new ideas and constructive criticism and taking responsibility for outcomes), supporting three functional skills, namely, using

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numbers effectively, using language effectively and using IT effectively, to be exercised in the context of four personal skills, namely, self-management—punctuality and time management, fitting dress and behaviour to context, overcoming challenges and asking for help when necessary, thinking and solving problems, working together and communicating, understanding the business (The Employability Challenge FEB 2009 UK Commission for Employment and Skills).

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