Employment and Employability of Higher Education Graduates in India: Challenges and Employer Needs

Mona Khare

Professor & Head, Department of Educational Finance
Centre for Policy Research in Higher Education (CPRHE)
National Institute of Educational Planning and Administration
17-B, Sri Aurobindo Marg, New Delhi -110016

This report [publication, document, etc.] is elaborated and disseminated as a contribution to the 3 rd World Higher Education Conference organised by UNESCO on May 18-20, 2022, with the purpose of enhancing the contribution of higher education institutions and systems world-wide, under the 2030 Agenda for Sustainable Development, its pledge to leave no one behind, and looking at the Futures of Education. The content of this publication does not necessarily express the views of UNESCO or its Member States.

CONTENTS

Employment and Employability of Higher Education Graduates : What Indian Employers Have To Say

Mona Khare*

Introduction

Education and Work

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. Investment in education to develop human capital and its contribution to economic development and growth is evidenced in literature by many authors (Becker (1964), Krueger and Lindahl 2001; Hanushek and Woessmann 2007; Kingdon and Soderbom, 2007a, b; Chadha 2004, Mathur 1990). Well educated and good quality of human capital leads to a country's development by providing it an edge in the global economy.

The new wave of linking 'education to work' resultant from emerging labour market needs, evidences of higher salaries (income elasticity of higher education higher than all other levels of education) and better quality jobs with rising 'skills hierarchy' from the primary to the tertiary levels (World Bank 2002; Chadha 2004; Varghese 2012; Khare 2012) has been quite evident in global education debates in the past decade. Two emerging shifts that have taken shape in deliberations on Post 2015 MDGs/ EFAs on education seem to reflect the above ideology. These being -- Shift in global emphasis from Elementary to higher and Vocational education (18th CCEM) and from access, completion to 'Learning Achievements' post 2015. In fact, in the light of the fact that The United Nations (UN) has made employability one of its four priorities for national policy action on youth employment, the UN's Youth Employment Network has suggested that all countries need to review, re-think and re-orient their education, vocational training and labour market policies to facilitate the school to work transition and to give young people . . . a head start in working life (UN, 2001, p. 4).

*

Higher Education and Labour Market Connect

The close connect between HE and the economy, in particular the labour market has had a long standing. The famous Robins Report as back as 1963 had made an opening observation on the four aims of Higher Education as," We begin with instruction in skills suitable to play a part in the general division of labour….. and went to the extent of stating that "few would enter higher education without an eye to subsequent employment." However, the inter-relationship between HE and the labour market has undergone a considerable change with changing times. The discourses and debates on this relationship too have evolved with the changing structure of the global economy.

The early traditional development models, treated labour as a homogeneous unit, and so the value of labour (wages) was determined by its marginal product assuming that all man-hours of work were the same. It was in the later years that the neo-classical economists brought in the concept of skill differentials across labour (Human Capital Theory) thereby giving greater weightage to worker characteristics as demanded by and supplied to the labour market, individual worker's decision to make the investments made in health, schooling and training on one hand and employer's decisions to hire certain combinations of capacities as against certain others. Thus, the neo-classical models of labour market and education relationship (Carnoy, 1987) consider the education market to be a market for such a trait that has economic meaning and demand from both --- employees and employers. Any mismatch between this supply of educational traits and the demand for those traits may arise due to either labour market imperfections or in the case of education, poor information or trainability of the worker (dual labour market theory). Hence, employment/employability is unrelated to education in an explicit fashion. Another variation of the neo-classical model (segmented labour market theory) too asserts that the relationship between individuals and employment through education is not direct. According to them it is an indirect relationship only because education reproduces social class hierarchies existing in the society which in turn get reflected in the labour market structure and job allocations as per social class positions. (Carnoy, 1987). Those who come from better socio-economic and cultural background by way of race, sex, education, age, psychological tests and previous experience etc are preferred by employers as they reduce training costs for the employing firm. The correlation of education and experience with employment therefore does not establish that more education and more experience contributes to higher productivity and employment probability (Carnoy, 1987). Therefore, if the educated are becoming unemployed, "segmentation theory would concentrate on analyzing the changing nature of the jobs held by secondary and university graduates rather than the nature of their education or the mismatch of education and jobs." However, since State (Government) has an important role to play in the education sector which is not a free

enterprise, it was argued Government can interference to change the pattern of investment in and organization of schooling and training in consonance with changes in employment patterns, degree of unemployment/underemployment as also adopt a progressive approach to make education and training more inclusive to do away with the labour as well as education market imperfections. *Thus, as rightly put by Carnoy "'knowledge and information' though were always important,* have become a primary commodity of exchange in the new global environment and will be at the core of the 21st century society. (Carnoy, 2001). While knowledge here was defined as *cumulated stock* of cognitive skills and information held, Information meant the *flow* of usable knowledge.

The turn of the century however, saw a rising consensus on the theories of 'education for better livelihood' and shaping education to labour market needs. The early nineties saw a multi-polar world with emerging economies of the Asian region witnessing high growth rates with widening employment opportunities. A distinct feature of this growth was it being manufacturing led export-based. As rightly pointed by Woods (1994) the 'skill intensity of these exports were high' with increasing regional and international competition. This necessitated an increasing demand for an educated labour force to leverage competitive advantage in exports so as to maintain the growth. This saw expansion of State supported education systems which in turn played an important role in reshaping the growth patterns of these economies. However, the high growth of the early nineties could not be sustained and soon the 'happy state' of economic progress and household prosperity (Varghese 2001) got a jolt as an externality of the East Asian Economic crisis of the later end of nineteen nineties.

Key structural changes in the macro economic scenario from a protected/semi protected regime to a more open and liberalized regime has had its repercussions on the HE system at large as also on the nature and structure of labour market. The turn of the century saw a revival of economic growth but this time led by an information communication technology revolution resulting in 'knowledge driven' growth. This further strengthened the link between education and economic prosperity with increasing demand for not just educated but highly educated and multi-skilled labour force. Matching shifts in HE sector from an 'elitist' to 'mass' system in many emerging economies in the past decade; gradual withdrawal of the State financing and increasing private participation and expenditure coupled with an socio-politico shift towards a more dynamic post- industrial knowledge driven economy has set new aspirations in the society and the resultant demands from the HE system. Both the labour market and the HE system has become more segmented in recent years. While the labour market has become more flexible and limited (jobless growth) , the HE systems have become more specialized and costly thereby generating greater concerns over the 'value and returns of a University degree' as against the social

prestige attached to it traditionally. The relative looseness in the relationship between HE and the labour market of the yesteryears has thus got ruptured and new questions are being posed on the "specific role of HE in regulating skilled labour, and the overall matching of the supply of graduates leaving HE to their actual economic demand and utility" (Bowers-Brown and Harvey, 2004). On the other hand fast enlarging HE systems have not been able to maintain quality and equity. Infact, a large body of literature points at such massification perpetuating the types of structural inequalities it was intended to alleviate; increased stratification and differentiation in the society arising out of "class- cultural and academic profiles of graduates from different HEIs, along with different rates of graduate return (Archer et.al.2003; Scott, 2005; Little and Archer (2010))

While only a small segment of HE graduates coming out of quality institutions are short in supply but high in demand thereby enjoying high wage premiums, a large body of highly educated graduates are found to be falling short of meeting employers expectations, thereby taking up jobs much below their educational qualifications or are forced into unsuccessful entrepreneurial pursuits. These are large in supply but least in demand. This has created a new kind of demand supply imbalance *the double knife edged mismatch of over- skilling as well as under skilling of the HE graduates*. This has also forced the graduates to further supplement and complement their formal university degrees with other forms of skill based education thereby resulting in creation of new forms of post secondary /HEIs and degree provision.

Today's universities thus have wider missions than creating and disseminating 'knowledge for its own purpose' 'create good citizens' the Humboldt's *Bildung*. They are expected to educate build expertise; participate in development of knowledge, and ensure that both the knowledge created and the experts educated are relevant to society. Works in recent years have further reinstated this multifaceted role of higher education in shaping the youth for work and society. Few recent ones to be quoted are the Dearing Report that underlines the important role that HE plays in modern globally competitive economy that requires "Education and training [should] enable people in an advanced society to compete with the best in the world (NCIHE, 1997.)This is consistent with the views of Reich4 (1991, 2002) who argues that advanced economies need two sorts of high-level expertise: one emphasizing discovery and the other focusing on exploiting the discoveries of others through market related intelligence and the application of interpersonal skills.

He describes such professionals as 'symbolic analysts', who according to him are "imaginative and creative, have at their fingertips relevant disciplinary understanding and skills and the 'soft' or generic skills that enable the disciplinary base to be deployed to optimal effect. Higher education's key contribution to national prosperity lies in development of graduates with such achievement at their disposal."

Knowledge and skills both became a matter to cumulative demand by employers as well as the society at large. The new terminology that gained popularity with the world comprised of a set of both cognitive and non-cognitive attributes and skills in a knowledge framework ---- the **"**Employability Skills**".**

The case of employability skills got intensified only in the latter half of the last decade and since been an important agenda for discussion and drives in countries big and small, developed and developing alike. It is now very much likely that that 'some sort of skills goal could be on the next development agenda' (King 2012).The major catalysts to this rising consensus can be stated as the first thematic consultation on the post-2015 development agenda on structural change, productive capacities, and employment organized by the ILO and UNDP suggesting that there might even be a post-2015 goal related to 'technical, vocational and entrepreneurial skills' (UNDP-ILO, 2012:), as well as a series of UNESCO documents making a case for skills revolution a part of education quality. To quote, 'a new and broadened conceptualization of learning is required, which encompasses learning of generic skills and meta-cognitive skills (including creativity, flexibility and adaptability), learning for living together, and learning for a world in which sustainability is becoming increasingly vital' (UNESCO Bangkok, 2012). It would not be wrong to say that debates over the differential outcomes afforded by a university education, the market value of a liberal versus technical and vocational education, the humanistic knowledge based vs skill based teaching learning approach are of an eternal nature. While there exists a body of academics that argue for the importance of a humanistic education in the personal and intellectual growth of students and the employers too are equally divided in their assessments of liberal or vocationally oriented university programmes, but all value employees who possess the 'employability skills' needed to meet the demands of the new economy. This concept is fast engulfing both employers and employees in developed as well as the developing world.

Conceptualising Graduate Employability

While for a layman Employment and Employability may be used interchangeably, but the two are only related and not the same. Various authors, countries, industrial associations and government bodies have used various definitions to describe the concept of employability and various models have been proposed to understand its multidimensional nature.

Defining Employability and Sustainable Employability

Employability, in fact, is a rather broad term encompassing an individual's preparedness for the world of work in complete. It 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' (York 2004 and 2006); a person's capability of gaining initial employment, maintaining employment and obtaining new employment, if required (Hillage and Pollard, 1998). The World Bank had defined them to be important for progress of self and nation as back as 1990. " Whether or not expanded educational opportunities will translate into meaningful development - for an individual or for society - depends ultimately on whether people actually learn as a result of those opportunities, i.e., whether they incorporate useful knowledge, reasoning ability, skills and values." (UNESCO, WCEFA, Declaration, 1990). According to the Bank, Learning outcomes, refer not only to the "3Rs", but to soft-skills (teamwork, critical thinking, problem solving etc) and to 'specific technical or vocational skills related to an occupation'. It thus depends on a multitude of factors which can be broadly classified under three heads- Knowledge, Skills and attitude. As per another employability refers to graduates who are socially adept and who have the capacity to solve problems, judge merit, and make decisions (Conference Board of Canada, 1998). "Employability not only depends on whether one is able to fulfill the requirements of specific jobs, but also on how one stands relative to others within the hierarchy of job seekers" (Brown and Hesketh, 2004). Therefore, being better than others and continue to remain so is the mantra of being employable; it is understood as a function of two basic factors academic qualification of an individual and the learning environment that helps him build certain generic skills (Khare,2012) Defining employability is not just tough but also extremely diverse.

In today's dynamic economy and rapidly changing work environment employability skills do not remain restricted to just the ones required to gain employment but also constantly improve and upgrade oneself to be able to compete and sustain in the labour market. The concept of sustainable employability is driven by the following facts of a global work environment

- The changing nature of public employment policy, with increasing emphasis being given to skills-based solutions to economic competition, and work-based solutions to social deprivation.
- The supposed end of 'careers' and lifetime job security, which have, of course, only ever applied to a minority of the workforce, the greater uncertainty among employers as to the levels and types of jobs they may have in the future, and the need to build new relationships with employees.

Thus, sustainable employability has to be viewed in the light of the following multiple dimensions:

- the **ability to gain initial employment**; hence the interest in ensuring that 'key skills', careers advice and an understanding about the world of work are embedded in the education system
- the **ability to maintain employment and make 'transitions'** between jobs and roles within the same organization to meet new job requirements, and
- the **ability to obtain new employment** if required, ie to be independent in the labour market by being willing and able to manage their own employment transitions between and within organizations. (Hillage and Pollard 1998)
- The **ability to remain employable throughout life** i.e. sustain oneself by being gainfully employed till one wishes to, known more popularly as life long learning (Scottish Government); developing sustainable competencies.(Watts,2006)
- The **ability to rise higher and higher in the employment ladder** i.e. career development or career management skills. As also,
- **the quality of such work or employment** People may be able to obtain work but it may be below their level of skill, or in low paid, undesirable or unsustainable jobs.

Sustainable employability may thus be defined as Knight & Yorke (2004, p.46) put it, employability 'does not rest when the fi rst graduate job is achieved' but needs 'to be constantly renewed to be sustainable'. Such definitions accordingly include not only the wider range of attributes required to be successful within jobs; they also include the attributes required to manage one's career development in ways that will sustain one's employability.

Watts puts it little differently in simple terms as being capable of getting and keeping fulfilling work. More comprehensively, employability is the capability to move self-sufficiently within the labour market to realise potential through sustainable employment. For the individual, employability depends on the knowledge, skills and attitudes they possess, the way they use those assets and present them to employers and the context (eg personal circumstances and labour market environment) within which they seek work.

As per the Govt. of Scotland "Wider participation in lifelong learning is expected to enable people to become more aware and knowledgeable ……they might lead to a more sustainable lifestyle … increased levels of knowledge and skills are the means of developing innovative solutions to the problems of sustainable development." (Scottish Executive, 2003).

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 weightage. The concept has evolved in this

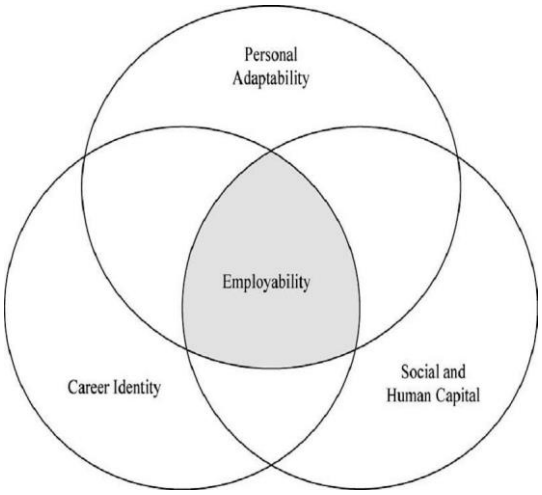
direction more so because of fast changing technology (Berman et. al. 1998), a globalised economy where multi tasking and cross sectoral in and out migration of workers is becoming increasingly common. Employability is now largely looked upon as an "attribute" covering a spectrum of 'getting a graduate job' and a 'product of skilful career planning and interview technique' (Knight and Yorke 2004 and 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" (Watts 2006, Conference Board of Canada, 2000, CBI 2009).

Models of Graduate Employability

Studies have culminated into number of models of graduate Employability. Some of which are discussed below.

M. Fugate et. Al. describe in their Heuristic model (Figure 1) that "employability embodies a synergistic combination of career identity, personal adaptability, and social and human capital." Accordingly, individual's employability subsumes a host of person-centered constructs is a psycho-social construct, characteristics that foster adaptive cognition, behavior.

Figure 1: Heuristic Model of Employability



Source: M. Fugate et al. / Journal of Vocational Behavior 65 (2004) 14–38

It entails skill required for major shift in responsibility for career management and development from employers to employees. This, model talks of four dimensions (KSAOs) --- acquire the knowledge, skills, abilities, and other characteristics as important components of employability skills.

The USEM model developed by Yorke and Knight for Malaysian Graduate Employability skills drawing from the Pedagogy for Employability Group based key discussion around the USEM account is shown below (Figure 2). The USEM acronym represents the four inter-

linking and inter-dependent areas of: Understanding, Skills, Efficacy beliefs (the students own qualities) and Meta-cognition.

Figure 2: The Usem Account of Employability

Source: Yorke and Knight

Given the nature of interdependence between formal education and practical exposure for gaining such skills the triangular work based learning model was developed by Brodie, P. & Irving (2007) Figure 3

Figure 3: WBL Triangle

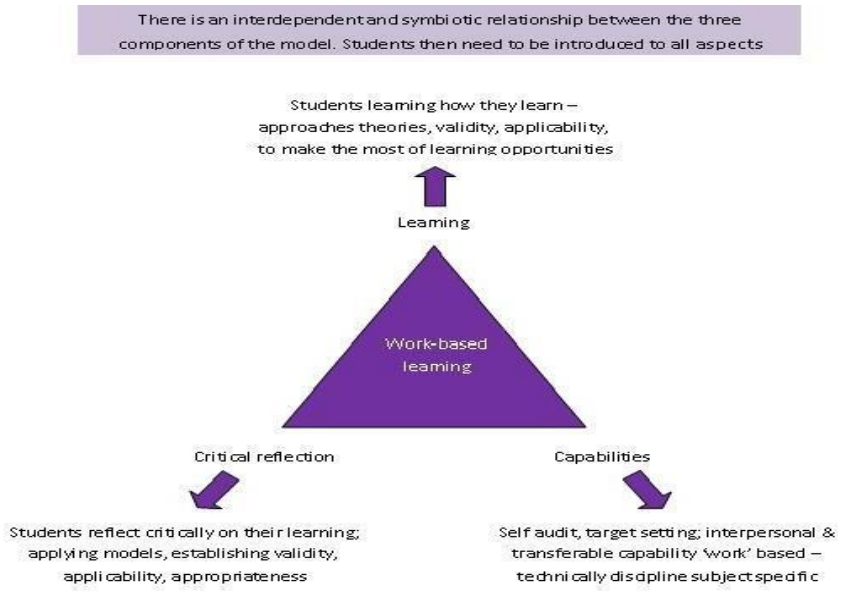


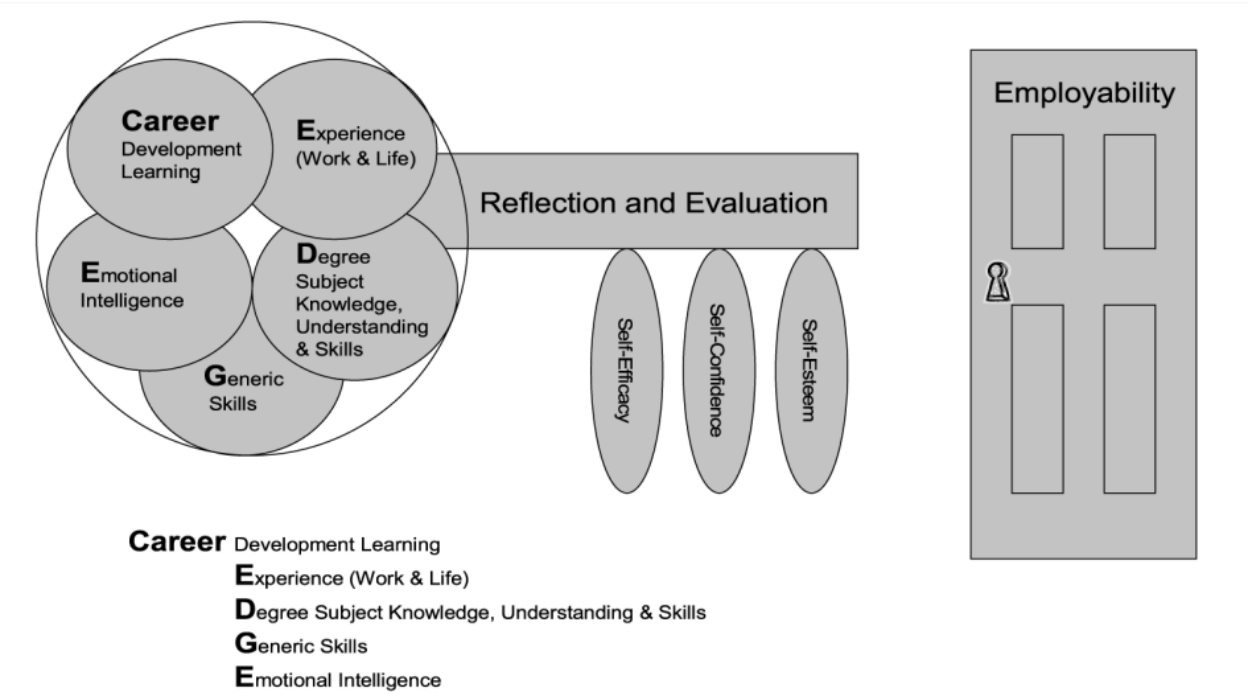
Figure 1: A triangular WBL pedagogical model (Brodie & Irving, 2007:15)

Source: Brodie, P. & Irving, K. 2007. Assessment in work-based learning: investigating a pedagogical approach to enhance student learning. Assessment & Evaluation in Higher Education, *32(1), 11-19.*

In this regard Pool and Sewell (2007) in their model of Graduate employability place 3S to be critical keys to graduate employability (Figure 4). These three draw from a mix of five

factors with some overlap but not a single process is complete at graduation, although there is immense possibilities of how HEI and Businesses can contribute to GE for the benefit of both parties.

Figure 4: 3S of Graduate Employability



(CareerEDGE: The key to employability: developing a practical model of graduate employability, Dacre Pool and Sewell, 2007)

Yet another model developed in UK by the Great Graduate based on the review of multiple models and lists of employability skills valued by employers across many professions to arrive at a comprehensive generic model for the benefit of graduates of any discipline describes 4 key areas of self development valued by most employers (Figure 5).

Figure 5: Great Graduate Model of Employability

Source: Available at www.greatgraduate.co.uk -

Each of these have another set of skill requirements. At the core of this model lies the assumption that your degree and the skills you develop in achieving it along with your life and work determine your employability quotient

As has been rightly put by Shrivastava and Khare (2012) "Although employability skills frameworks vary in terms of the particular skills and attributes they include, all major generic skills schemes include people-related skills and conceptualizing/thinking skills".

While there is general agreement that generic employability skills are important there is no one definitive list of such skills. They may however be classified into the following:

- Fundamental skills – such as literacy, using numbers, technology skills
- People-related skills – such as communication skills, interpersonal skills, influencing skills,
- Negotiation skills, team working skills, customer service skills, and leadership skills.
- Conceptualizing/thinking skills – such as managing information, problem solving, planning and organizing skills, learning skills, thinking innovatively and creatively, and reflective skills.
- Personal skills and attributes – such as being enthusiastic, adaptable, motivated, reliable,
- responsible, honest, resourceful, committed, loyal, flexible, well presented, sensible, able to manage own time and deal with pressure.
- Skills related to the business world – such as innovation skills, enterprise skills, commercial awareness, business awareness.
- Skills related to the community – such as citizenship skills

  These skills may be known by several other names, including key skills, core skills, essential skills, key competencies, transferable skills and employability skills. These skills are required not only to gain employment but also to progress within an organization i.e. sustainable employability.

However, all definitions and descriptions largely converge into similar opinions. In An ILO definition adopted by most countries, Employability refers to 'the capacity and willingness of workers to remain attractive for the labour market(supply factors), by reacting to and anticipating changes in tasks and work environment (demand factors), facilitated by the human resource development instruments available to them (institutions). Employability, thus, in this paper would be understood as composed of Positive Approach supported by Functional technical Skills to be exercised with Personal skills.

Though, at the macro level the influence of many factors such as household labor supply decisions, the influence of the product market on the labor market, the investment climate in a given country, growth and productivity, financial markets, and 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 labor force and in equipping them with the skills needed to engage in lifelong learning experiences.

Developing human resource for this new age industrial transformation is a long-term dynamic and continuous process of skilling, deskilling and reskilling for sustainable employability (Khare 2016a).The constantly evolving employability needs have necessitated not just expansions but a great degree of diversification of the HE sector and prompted studies across the globe to identify the skill gaps among college/university graduates as often challenged by employers.

Analysing Graduate Employability Skill Gaps

Broadly, many of the studies and policy papers attempting to study the problem of "skills gap" can be categorized into three as per their research approach;

1) Field level Primary data Based: those based on employer surveys using various methods to generate employer perceptions of skills gaps (Holzer 1997, Conference Board 1999, National Association of Manufacturers. (2005, American Society for Training and Development. (2009) Business Roundtable. (2009). IMACs Shrivastava and Khare ,2012; Khare 2012).

2) Empirical secondary data Based those that impute skills gaps from aggregate labor supply and demand data using level of education as a proxy for skill level.(OHIO Department of Education 1998, Peters 2000, Dowling et al 2010, Modestino, 2010) and

3) 'Hybrid Approach'of the above two i. e. those that compare benchmarked skill sets identified as in-demand by employers with labor force skill assessment databases. (NSDC , Singh and Goodman 2006 Schippman et al 2000, Agut, S. & Grau, R. 2002. Siddique, C. M. (2004, Guinn,.L. (2000). Holmer, M. (2001).

A brief review of some of them in different country context reveals very similar results. Academy for Education Development (AED) had done an employer survey in Egypt, for the purpose of giving recommendations to the Ministry of Higher Education on Ways of improving the quality of Middle Technical Colleges graduates (AED, 2008). Around 240 companies of different sizes categorized as small, medium and large were identified for the purpose of survey. The surveyors were sent to the companies for personal interviews.

Basis of survey it was found that the three main reasons for demanding increased levels of skills by employers are (i) higher levels of technology, (ii) increasing competition, and (iii) increasing concerns about quality of products. Soft Skills that included personality, honesty punctuality and basic skills that included managerial skill, problem solving and literacy were at top priority for employers.

Paranto and Kelker (1999) analyzed the various skills which were perceived as important by employers while hiring management Executives. 136 employers responded in the survey

done. Factor Analysis was used to arrive at four major factors, namely specific skills, core skills, personal characteristics, and communication skills as mentioned below

Table 1: Skills Under Four Factors

SpecificSkills	Core Skills	Personal Characteristics	Communication Skills
Data Base Knowledge	Self Confidence	Business Ethics	Listening Skills
Mathematical Skills	Critical thinking	Professionalism	Speaking Skills
Spreadsheet Knowledge	Creative thinking		Written communication
Word Processing Knowledge	Interpersonal Skills		
Technical Skills	leadership Skills		
Ability to adapt changing technology	Experience with Real world problems		

It was found out basis t-test that the mean importance rating of the —Core Skills is statistically significantly higher than that of —Specific Skills. In addition, analysis of variance showed that there is no statistically significant difference in the importance of —core skills among employers of different size and different economic sectors. Core Skill came out as the most important set of skills across all participating employers.

Carnoy (1987) in a review of three studies conducted in various parts of India 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 in India would generally give more weight age to employability. The 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. This is one major reason for skewed expansion of India's higher education sector. Though all kinds of education has seen a positive growth in enrolment in the past decade, professional education has clearly outstripped the others. Of the professional education sector, the growth in the seats for management education has been the highest amongst all other professional/technical courses in the country. (Khare, 2012) In today's borderless world, two major factors can be stated to be the drivers of this rising demand --- increasing management job opportunities globally and India's high share in the MBA job market.

Crossman and Clarke (2010) in their paper attempted to study the perceptions of employers, academics and students on the connections between international experience and graduate employability. The study is quantitative in nature for Australia and assesses the

benefits of International academic exposure in the light of increasing globalization and internationalization. The ability to operate in culturally diverse contexts was identified as an important determinant of graduate employability. The other outcomes associated with university exchange programmes were forging of networks, opportunities for experiential learning, language acquisition and the development of soft skills related to cultural understandings, personal characteristics and ways of thinking. All of these go a long way in increasing graduate employability.

Thompson et al (2013) applying mixed-methods research tools, explored the nature and value of extracurricular activity engagement and the significance of institutional schemes encouraging extracurricular activity engagement, amongst students at Lancaster University UK over a period of one academic year. Their findings reveal that many students are actively engaged in a variety of extracurricular activities as they recognise their value for employability. However, there is lack of strategic orientation towards career planning of their experiences on campus activities which is assumed to be important for 'life-wide learning'.

Lindberg (2007) using longitudinal data of graduates with master's degree in nine European countries demonstrates that the understanding of graduate employability varies when the viewpoint of the analysis changes from cross-sectional to longitudinal. According to him longitudinal indicators are useful in displaying the limitations of the higher education system when trying to improve the employability of graduates

Nannette Ripmeester, Expertise in Labour Mobility (ELM) in their study explored the development of employability skills in the UK. The report is based on a primary survey of 414 career advisory staff from institutions in 25 countries. It aimed to draw together selected best practice examples from UK and international HEIs. Though the research demonstrates that UK practice is highly advanced in several areas like extra-curricular activities leading to certification and work placements in specific subject areas, innovation and practice sharing amongst UK careers advisory staff as a continuum, provision of more central support through funding bodies than the other surveyed countries such as the USA and Australia yet there are things to learn from international examples of good practice. The study recommends that though 69% of UK institutions surveyed have a strategy for enhancing student employability it is worth considering compulsory elements of employability studies in degree programmes as only 10% of UK institutions currently do so; greater involvement of the students themselves, alumni and academic staff to shoulder responsibility for employability skills. The study also emphasizes that relations between employers and career advisory staff (CAS) need to be further fostered and developed.

A Better Measure of Skills Gaps 2011 by ACT, Inc (Utilising Act Skill Profile And Assessment Data for Strategic Skill Research) proposes a skills gap methodology that uses

more detailed and specific measures of skills for supply/demand analysis to identify skill gaps in selected industries (manufacturing, healthcare, construction, and energy-related) in USA found that in the target occupations that require a middle or high level of education, majority did not meet or exceed the Locating Information skill requirements and not even 50%met the Applied Mathematics skill requirements for the majority of manufacturing, construction, and energy jobs. The study talks of regional variations in skill gaps and hence recommends that strategies need to be developed to replicate similar research at a state or local levels for better understanding.

American Society for Training & Development in their study emphasized the growing importance of talent to organizational performance and the skills gap that threatens so many organizations today. The study brings out the irony in America's job market as despite a large pool of unemployed workers job openings are lying vacant due to talent crunch as reported by employers. Not only do the organizers felt skill gaps are of very high order but they are increasing. Covering skill shortages at different levels of organizational Hierarchy, it is found that middle- and high-skills jobs comprise the largest gaps. The results show that leadership and executive skills, managerial and supervisory skills, and profession- or industry-specific skills are ranked as the highest areas for skills gaps. It is important to note that managerial and supervisory skills are of most concern to the majority of respondents Toland in his study covering UK agencies and bodies engaged in need assessment of employers in SIVS (Strategically Important and Vulnerable subject) relevant sectors of UK industry reported employability gaps particularly in hi-tech, science and IT sectors all reporting difficulties in recruiting STEM graduates and predicting even greater difficulty in future years. He identified four disciplines of Chemistry, Engineering, Mathematics and Physics as 'strategically important. However, the study reveals the growing importance that employers assign to generic skills "both generic and technical skills needs have emerged as part of a wider recognition of the growing importance of 'T-shaped' skill sets where the depth of the functional or disciplinary skill is enhanced by the horizontal ability to apply knowledge across various work-based situations".

Singh et.al. (2000) identified the perception of employers concerning the employability skills needed in the job market and graduates' perception of the employability skills in Malaysia. Based on a review of existing literature they identified eleven variables as making up employability skills. Primary data was collected through two sets of questionnaires and the 11 variables were eventually reduced into seven factors by making use of factor analysis. The results of the study revealed that employers preferred to hire graduates from public universities. But, graduates and employers perceptions on the order of importance of employability skills were same..However, younger employers tended to be more favorable to graduates' employability skills.

Godwin (2006) in his descriptive correlational study employs employability skills instrument to assess the self-perceived level of competence at performing some basic skills needed for careers in the hospitality industry based on a survey of HRM students from University of Missouri-Columbia. The study indicated students from "program and non-program" equally developed between moderate and major competence to serve as productive employees in the workplace. The study indicated that while students are doing fine with problem solving skills they need improvement in understanding of the political implications of their decisions and interpersonal skills.

Few other studies on hospitality sector Breiter and Clements (1996) and Pavesic (1991) emphasized the importance of upper-level leadership skills such as human resources skills, conceptual skills, communication skills, analytical skills, problem solving skills and planning skills to be more important than the technical skills, which are usually acquired through specific organizational training at various places of employment. Other similar literatures too that encouraged the development of employability skills indicated that leadership skills, critical thinking skills, communication skills, problem solving skills, creative and flexible-thinking, and human resources management skills are necessary for career success (Gustin, 2001; Kay & Russette, 2000). Interestingly, most employers echo common sentiments regarding India's youth employability. Indian youth are more lacking in personal skills as compared to functional skills (Khare, 2012, 2014). Functional skills are relatively more industry specific and are generally taken care by industries during their probationary trainings. Industries that focus on soft skills and customer orientation related attributes at the time of recruitment and imparting functional as well as service oriented trainings on regular intervals to their personnel have workforce which is more adept and has lesser skill gaps.

Crossman and Clarke (2010) in their findings of an Australian qualitative study concerned with the way that employers, academics and students perceived connections between international experience and graduate employability argue that increasing globalisation and internationalisation has heightened the need for graduates with the ability to operate in culturally diverse contexts. The findings suggest that all stakeholders identify clear connections between international experience and employability given outcomes associated with the forging of networks, opportunities for experiential learning, language acquisition and the development of soft skills related to cultural understandings, personal characteristics and ways of thinking.

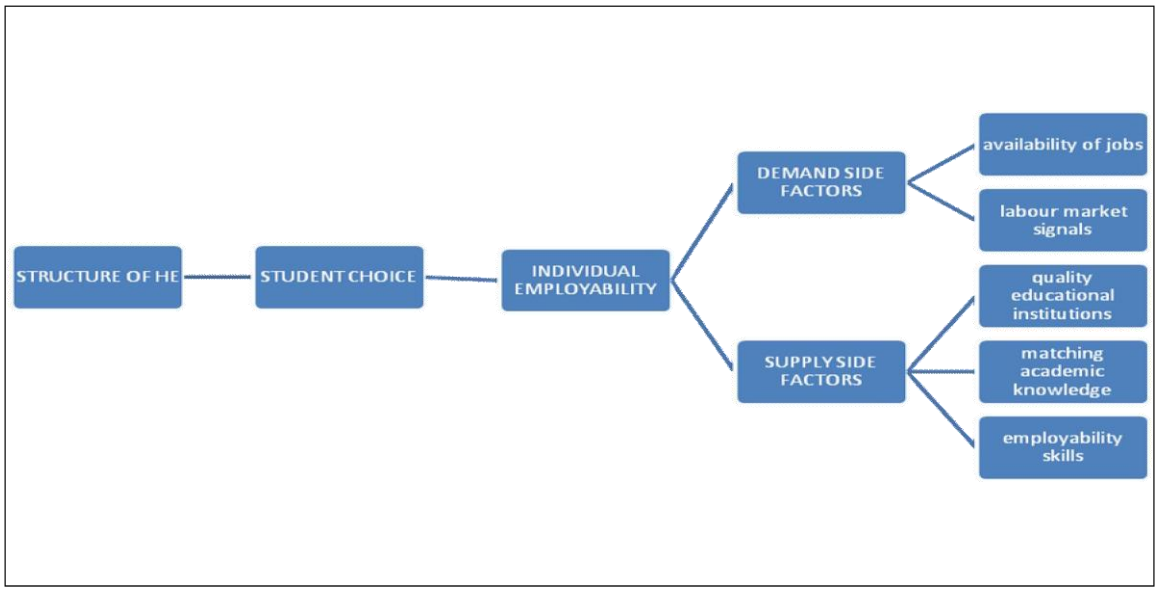
Weligamage's (2009) study too reveals that enhancing Graduate Employability skills is considered as an important task within the Sri Lankan university community. The study was an extensive review survey of educational reports, empirical and theoretical research papers covering Sri Lanka and other countries. The study shows that employability skills to

employer expectations and requirements differ from country to country given their contextual backgrounds.

It is hence no surprise that cross-nationally institutions concerned with labour market policy have emphasised the importance of employability and its relationship with the HEIs. Several studies recommend that not only should Employers' needs and also the learners' skill enhancement capabilities be taken into account in formulating future skills assessments but that the universities should identify skill sets as per labor market projections for future and align programmes accordingly.

Drawing from extensive review of literature and employers' perspective in India, employability is understood to be a function of two basic factors (i) academic qualification of an individual and (ii) the learning environment that helps him build certain generic skills (shrivastava and Khare, 2012).

Figure 6: Factors Impacting Individual Employability And He Structure



Source: Khare (2014)

In the light of the above Khare (2014) defines that 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 6). It thus becomes extremely important to understand the macro economic scenario, employment and unemployment situation of the graduate population before proceeding to understanding their employability skill gaps and the employers' demands.

Growth and Employment of the Educated in India

The structural change in growth and employment has far reaching implications for human resource needs for any nation.

Macro-Economic Snapshot

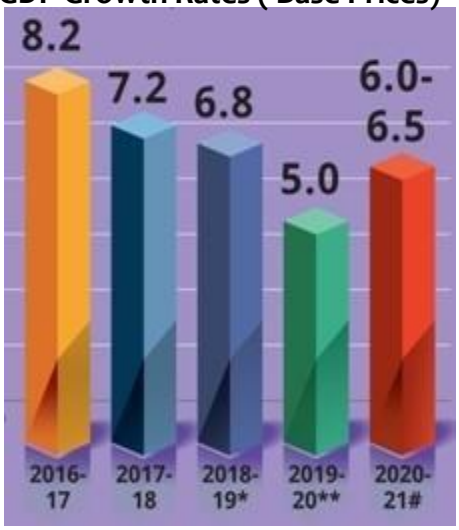
India is today one of the fastest growing economies with the growth rate of GDP ranging from 7 to 9 pc in the last two decades (Table 2).

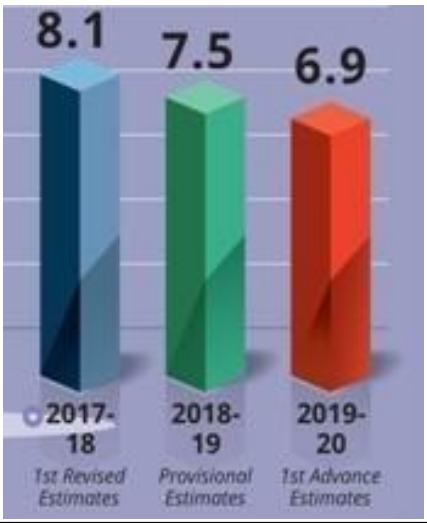
Table 2: Indian Economy (A Snap Shot)

Year/ Item	2015-16	2016-17	2017-18	2018-19	2019-20
GDP Growth (at constant prices)	8.0	8.2	7.2	6.8*	7.0**
Forex Reserves (in US $ billion)	360.2	370.0	424.5	412.9	461.2^
Fiscal deficit (% of GDP)	3.9	3.5	3.5	3.4	3.3
Service Sector Growth (in percent)	9.2	8.4	8.1	7.5	6.9**
Inflation CPI-C (in %)	4.9	4.5	3.6	3.7	4.1*
Inflation WPI (in %)	-3.7	1.7	3.0	4.7	1.5*
Agriculture, forestry & fishing	7.6	6.3	5.0	2.9*	2.8*
Industrial Growth	8.8	5.6	5.9	6.9*	2.0*
Source: Press Information Bureau, Economic Survey, Inflation data from Department for promotion of industry & internal trade (DPIIT), NSSO					
*provisional, ** projected, ^ as on 10.01.2020					

The average annual GDP growth rate increased from 5.57 percent during 1991-2000 to 7.59 percent during 2001-10 to 8.2 in 2016-17 after which it started decelerating (Figure 7) It reduced to 4.8 % in H1 of 2019-20, amidst a weak environment for global manufacturing, trade and demand. [GOI, 2020 a].

Figure 8: Macro Economic Snap Shot





Source: http://pibphoto.nic.in/documents/graphic/gbig619.JPG
http://pibphoto.nic.in/documents/graphic/gbig600.JPG

India's growth story is also 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 and has been the major contributor to its growth of the past decade. The service sector grew at 8.1% in 2017-18 in consonance with the GDP growth (Figure 8).

Also the feature of poor employment growth of the 1960's to 1980's and the increasing number of educated job seekers at an average annual rate of 14.6 per cent (*Statistical outline of India* (1984), too is something unique to India. On the whole although India experienced a reasonably good economic growth post 1990s, the country has been experiencing a situation of jobless growth and high rates of unemployment in recent years. Also, in contrast to the GDP structure, majority of the population is occupied in agriculture and allied activities and not services that contributes maximum to the GDP.

Recent years have however, seen a marked preference for service sector occupations and entrepreneurship, particularly among educated youth. The same is supported by Government's Policy to turn India into a "Knowledge Superpower" in coming years with emphasis on technology led innovation, entrepreneurship, research and development. The significance of services sector in the Indian economy has continued to increase, with the sector now accounting for around 55 per cent of GVA and GVA growth, two-thirds of total FDI inflows into India and about 38 per cent of total exports (GOI, 2020 b). In fact, since the late nineties, the service sector has emerged as a major contributor to exports. With the

increasing importance of the knowledge process outsourcing (KPOs) it is bound to go up the value chain. The country is now focusing Growth by Specializing in Network Products in order to raise its export market share to about 3.5 % by 2025 and 6 % by 2030 as well as create 4 crore well-paid jobs by 2025 and 8 crore by 2030. India's aspiration to become a $5 trillion economy by 2025 as per the survey targets to increase exports of network products with three pronged approach : Specialization at large scale in labour-intensive sectors, especially network products ; Laser-like focus on enabling assembling operations at mammoth scale in network products and Export primarily to markets in rich countries (GOI, 2020 b).

Future projections reveal that 60 per cent increments in jobs would be in the services sector and there would be a visible shift in favour of organized sector jobs that are projected to increase from the existing 8 percent organized vis-a-vis 92 percent unorganized sector jobs to a 10: 90 percent ratio. The workforce too is projected to increase by 27pc to reach approximately 600 million by 2022 [India Skills Report ,2019] thus making India the youngest economy with a vast human resource base in contrast with many other aging economies of the world .

According to ILO estimates, an additional 280 million jobs need to be created to close the global employment gap by the end of this decade. Nearly half of the new entrants to the labour market will come from the Asian region. Boston Consultancy Group's study in 2007 had clearly indicated that by 2020 while India will have surplus of 56 million working people, the rest of the world will encounter a shortage of 47 million working people. The employment situation of educated youth in India but provides a very worrying picture.

Graduate Employment - Unemployment in Indian States

It is a known fact that with economic and population growth, employment growth should rise and unemployment should decline. The productive sectors of the economy should generate enough employment to absorb job-seekers, especially the educated (more so those with HE degrees) due to increasing demand for new high order skills arising out of technological advancements in the changing job requirements. Unfortunately, a look at the unemployment trends in India across education levels gives a contrast picture (Table 3).

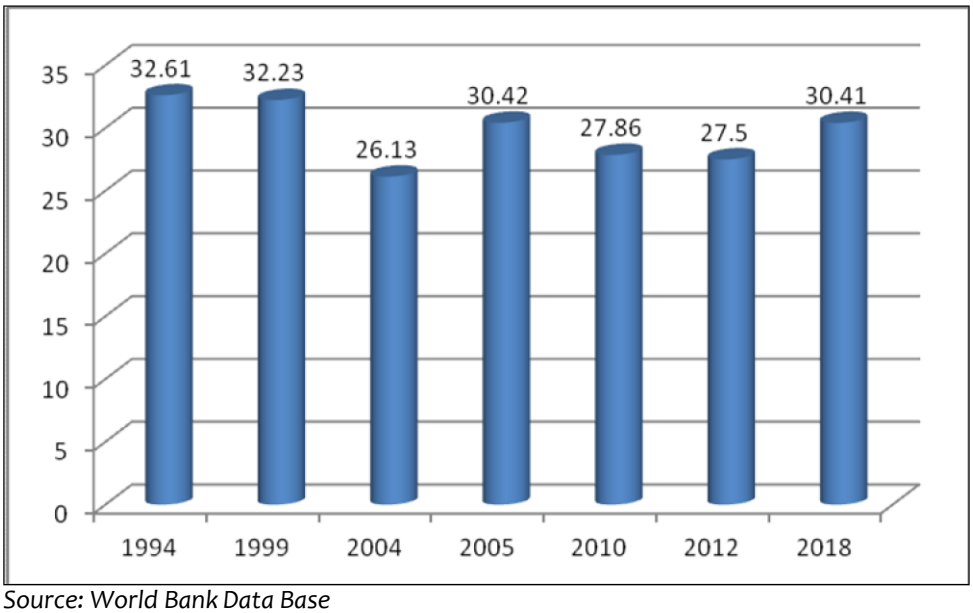
Table 3: Missing Youth Population (age 15-29 years)

		2004-05	2011-12	2017-18
NEET Rate by age:	15-19	23	18.1	18.1
	20-24	36.8	36.8	43.1
	25-29	33.9	39.3	43.7
	15-29	30.9	30.6	34.1
NLET (million)		69.5	83.7	100.2
Open Unemployment Rate (%)		5.4	6.1	17.8

Source: NSS rounds and PLFS 2017-18.

As per the latest report of the Government of India, India has witnessed the lowest jobs in the last 45 years with unemployment figures increasing to 6% - 7.8% in urban and 5.3% in rural areas in the year 2017-18. [14]. The open unemployment rate for youth population stands at a much higher rate of 17.8 in 2017-18, a more than 10 percent point jump from 2011-12. Those not in education , employment or training (NEET) too has increased and remains highest for the age-group 20-29, the most desirable age for any person to be employed or getting . This percentage for the youth population as a whole has not only remained high around (30%) from 1990s onwards but has shown an increasing trend in the past one decade or so (Figure 9).

Figure 9: Share of Youth Not in Education, Employment or Training, total (% of Youth Population)



Source: World Bank Data Base

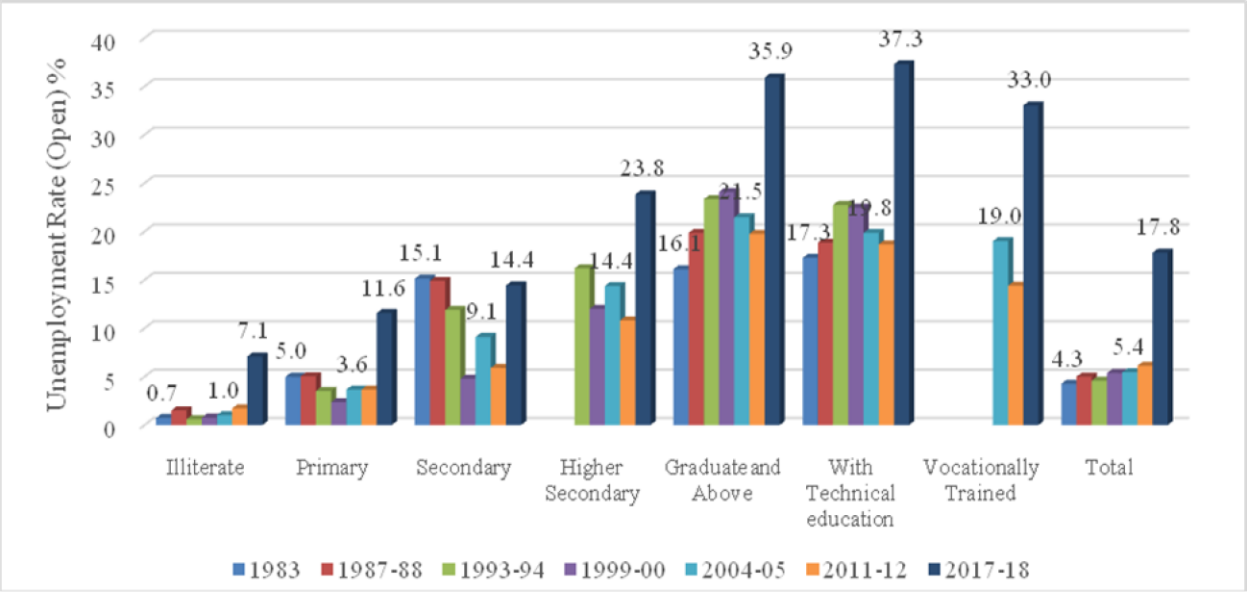
Table 4: Unemployment Rate by Education Levels.

All India	Unemployment Rate (in %)			
	1983-84	1993-94	2004-05	2017-18
Illiterate	0.41	0.49	0.36	1.32
Literate & up to Primary	1.86	1.20	1.64	3.35
Middle	6.12	2.76	3.86	6.34
Secondary	11.09	3.50	6.15	7.32
Higher Secondary	-	5.75	7.80	12.29
Diploma/Certificate Course	-	8.66	11.41	20.63
Graduate	8.94	9.01	9.78	18.90
Post Graduate & above	-	8.78	9.06	16.70

Source: Author's estimation using NSS various rounds unit level data

Not only this, but the unemployment rate was higher among the educated and female. In fact, the rate of unemployment increases with increasing levels of education. Further, the unemployment rates among those with diploma or certificate levels of education are also high. The unemployment rate is consistently increasing for graduate plus population (Table 4). The rates have almost doubled for both Graduate and post graduate degree holders between 1993-94 to 2017-18. Not only is India facing jobless growth, but it is the unemployment of the educated that is on the rise. The open unemployment rate (UR) in India has risen sharply between 2011-12 to 2017-18. The scenario is worse among the youth aged 15 to 29 years (Figure 10)

Figure 10: Youth Unemployment Trend by levels of Education (15 to 29 years)



Source: *Based on NSS various rounds reports, PLFS 2017-18*

Although the youth unemployment rate too has risen much more sharply across all education categories, the increase is the highest for those with graduate plus degrees, the technical education and vocational education categories.

A state-wise analysis of unemployment trends of higher education graduates also provides a very dampening scenario. Though the URs have declined in the initial period, there is a sharp rise from 2011-12 to 2017-18 for all the states. The rise in URs has been the highest among Madhya Pradesh, Tamil Nadu, Andhra Pradesh, Gujarat, and Bihar between 2004-05 and 2017-18. Amongst all the states, Gujarat is the only state that witnessed single digit UR in all the three periods maintaining the lowest rank and Kerala stood first consistently with the highest UR of HE graduates (Table 5).

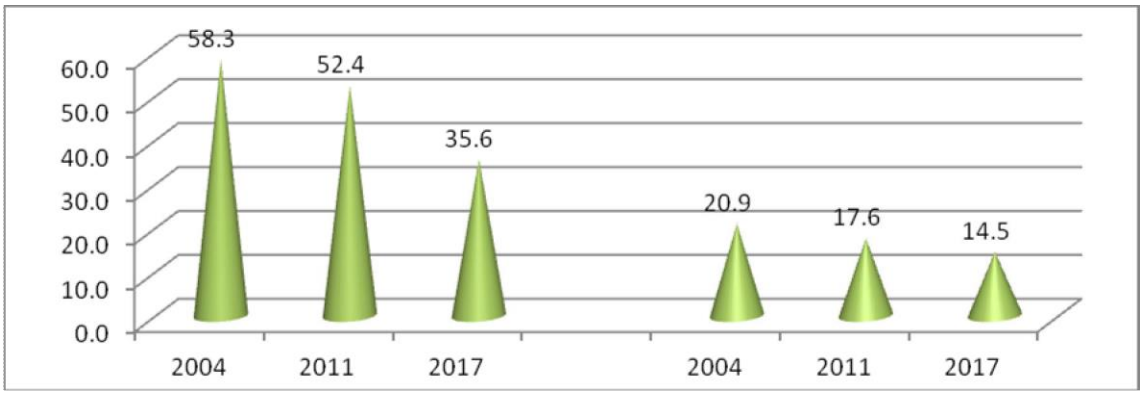
Table 5: Employment Status of higher education graduates (HEGs)

States	Unemployment rate of HEGs			Proportion of HEGs in regular/salaried workers		
	2004	2011	2017	2004	2011	2017
Andhra Pradesh	11.91	11.13	26.08	37.27	41.07	33.99
Assam	15.59	12.83	19.88	40.80	41.01	38.18
Bihar	7.69	7.13	14.95	18.26	22.95	25.71
Gujarat	4.67	1.93	9.15	29.78	31.70	33.82
Haryana	12.53	5.92	13.10	30.48	31.41	30.75
Himachal Pradesh	11.65	5.83	21.73	34.92	36.26	28.21
Karnataka	8.08	5.78	13.15	34.86	39.92	36.97
Kerala	29.43	18.38	32.30	32.77	33.23	30.58
Madhya Pradesh	4.98	3.26	12.67	29.78	34.70	31.17
Maharashtra	5.36	3.74	10.41	34.68	36.38	37.22
Odisha	24.96	11.52	20.73	26.37	34.06	29.02
Punjab	10.02	6.20	16.48	31.96	31.03	29.90
Rajasthan	8.99	8.18	15.74	35.87	33.21	29.40
Tamil Nadu	9.98	9.87	24.42	42.03	40.80	36.70
Uttar Pradesh	9.28	5.83	14.35	20.01	20.85	21.67
West Bengal	10.86	11.04	15.08	26.08	29.53	28.48
All India	11.62	8.04	17.51	31.62	33.63	31.36

Source: computed using NSS various rounds unit level data
Notes: (1) higher education includes technical education (2) estimation is based on ps workers only

Thus, growth, population size, education status of the states seem not to be mattering much when it comes to URoHEG which is rising for all and has remained highest in Kerala, one of the most educationally advanced states in the country. Ironically, the inter-state disparities in terms of URoHEG in the country has declined over the years (Figure 11) not so much because of improvement in the lowly ranked states of earlier period but a deterioration in the better ranked states of earlier period.

Figure 11: Unemployment Rate of HEGs (CV in %) Proportion of HEGs in Regular/Salaried Workers (CV in %)



Source: Author's calculations

On the other hand the proportion of HEGs in regular/salaried workers that reflects the quality aspect of the employment shows that it has remained almost stagnant over a long period with inter-state disparities too much lesser than their URs. There are two inferences that may be drawn from such trends. One, that the quality of employment for HEGs in India does not show any major improvement over time. Two, that the situation remains the same across all states of the country as the coefficients of variation too remain low over the years. Only one observation that may give some hope is the fact that developed states like Tamil Nadu, Karnataka, Andhra Pradesh Assam, Kerala and Maharashtra are consistently better states while States like WB, UP and Bihar consistently remain lowly ranked on this count.

In contrast one finds that the labour force of higher education graduates (HEGs) has expanded from 2004-05 to 2017-18 (table 5). While, a tremendous increase occurred in the initial years from 2004-05 to 2011-12.The addition to the employable pool has been relatively less between 2011-12 to 2017-18. Between 2004-05 to 2017-18, the states of Rajasthan, Tamil Nadu, Karnataka, Andhra Pradesh and Kerala registered the highest rise in HEG labour force. It is worth noting that these states too recorded a higher labour force growth in the initial sub-period of 2004-05 to 2011-12 (table 5).

Table 6: Education Status of Labour Force

States	Proportion of Graduate+ Labour force		
	2004	2011	2017
Andhra Pradesh	8.22	18.28	22.83
Assam	8.99	15.03	18.39
Bihar	12.59	20.46	24.75
Gujarat	11.87	16.90	22.32
Haryana	13.71	34.29	24.56
Himachal Pradesh	9.09	15.08	14.10
Karnataka	9.98	18.05	25.09
Kerala	13.66	26.39	27.99
Madhya Pradesh	10.57	20.39	21.51
Maharashtra	14.63	22.96	26.47
Odisha	10.70	17.81	19.38
Punjab	16.33	21.29	23.94
Rajasthan	8.80	20.64	26.68
Tamil Nadu	12.12	20.11	27.96
Uttar Pradesh	14.21	24.31	28.29
West Bengal	14.27	26.20	24.08
All India	11.86	21.14	23.65

Source: computed using NSS various rounds unit level data

A rise in proportion of HEGs in the labour force is a significant indicator as it reflects an improvement in the education status of the work force conditions. The states that witnessed such a trend between 2004-05 and 2017-18 are – Gujarat, Maharashtra, Karnataka, Odisha and Bihar. Once again a mixed bag of states appear in the list.

The above analysis thus confirms that growth does not necessarily have some positive impact in keeping unemployment rate of HE graduates (URoHEG) low and cannot be considered a sufficient condition for triggering the virtuous circle of Economic Growth – Human development (Khare 2019). While the proportion of HEGs in the labour force is increasing their URs are also on a rise. Such trends certainly forces one to delve deeper into the employers' claim that the educated youth are not work ready and adept with the skills required. Whether a sea change in the HE deliverables desirable and necessitates specific policy interventions for HE sector to be able to supply good quality human resource for economic progress.

Issue of Graduate Employability: The Indian Case

It cannot be debated that India is today one of growing economies with a huge human resource base. It has one of the youngest populations in the world. India's demographic bulge at the centre --- with a growing proportion of people in the age group of 15-59 but also a growing force of HE graduates that can become its biggest advantage; if handled properly.

Thus the biggest challenge lies in harnessing this so called "demographic dividend". The challenges of skill development and education advancement in countries like India are all the more complex given its large population, vast geographical, cultural, social diversities and gender ethnics. These multiple challenges severely limit the chances of gainful employment – be it paid employment or self employment. With the gradual withdrawal of the public sector in generating new employment, increasing privatization and globalization, the nature and demands from labour market have also changed rapidly. In the light of emerging new job responsibilities, new vocational, and 'Knowledge society', multitasking and job hopping, education in India has come under tremendous pressure of achieving job market – education equilibrium.

The problem of a distorted job market/education equilibrium was brought to light by Panchamukhi as early as 1987 where he spoke of four such imbalances.

a) by way of greater unemployment among certain graduates, due to dualities of personal backgrounds (students from poor socio-economic and rural backgrounds);differentiated grading of universities and colleges (in large metropolitan areas being considered superior as they have additional advantages of a larger size of the employment market and more efficient means of integrating job seekers with the job market).

b) by way of devaluation of degrees in the job market due to over-expansion of higher education or some of its branches. And such imbalances impacting students more from vulnerable backwards.

c) by way of lack of labour market connect some graduate employees may find that their education is regarded less or absolutely useless by employees.

a) in terms of a decline in educational efficiency by way of poor quality as an after-effect of over-expansion which in turn may induce employers to employ persons with still higher degrees and diplomas leading to further devaluation of higher education

Unfortunately, all of the above seem to plague the Indian Higher Education system today.

Individuals raise their productivity by spending time and money on education and training (Becker, 1962), but productivity can also be tied to positions, that is, jobs (Thurow, 1975). Different jobs have different skill requirements, which may not only mean that individuals with varying amounts and types of abilities and qualifications get selected into them but also that individual skills develop more in some jobs than in others (Faraks, 2003, Kohn & Schooler, 1983). Employers' perception, role and support in training the youth for skills in demand is hence paramount.

A slide in India's global ranking in the 5th pillar of global competitiveness Index pertaining to Higher Education and training, from 55 in 2007-08 to 85 in 2010-11 is further testimony to

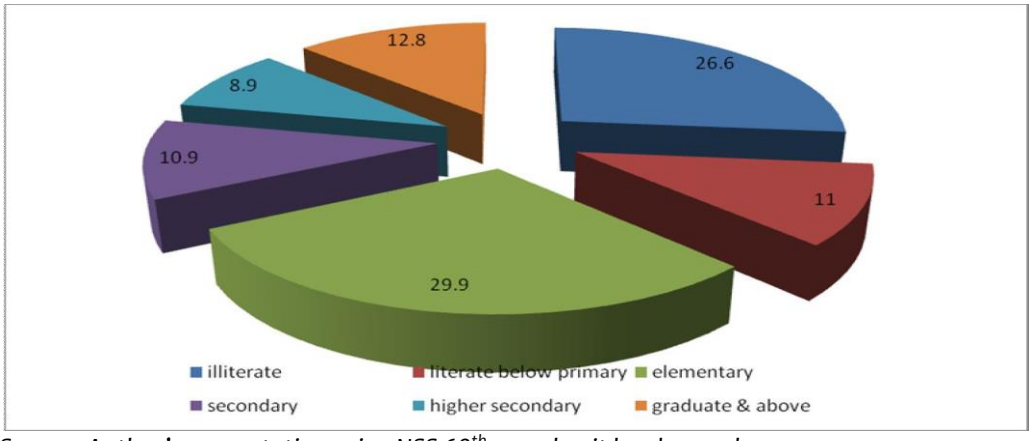
India's challenge of future human resource development (The Fifth pillar: Higher education and training of this index measures secondary and tertiary enrollment rates, quality of education as evaluated by the business Community and the extent of staff training for ensuring a constant upgrading of workers' skills). India slipped down ten places to be ranked 68th in the annual Global Competitiveness Index 2019 and is ranked low in the skills of future workforce indicator at 114 out of 141 (The Global Competitiveness Report 2019).

It is argued that the job market in India is beset with both demand and supply side imbalances in higher education Graduate Labour Force. Such imbalances matched with low job growth lead to the precarious situation of not just the uneducated and untrained lacking skills and struggling for jobs but also the college and university educated to be consistently lying below the required standards. A large body of highly educated graduates are forced to take up jobs much below their educational qualifications or enter into unsuccessful entrepreneurial pursuits. This has created a new kind of demand supply imbalance - the double knife edged mismatch of over - skilling as well as under skilling of the HE graduates. Several reasons can be seen to be responsible for such a precarious situation.

Low Knowledge and Training Base

An important element of India's labour force is its poor education levels. As evident from the Table below it is only 12.8% who have a higher education degree, a minimum benchmark level considered important by employers for work regular formal jobs (Khare 2012). Infact, India qualifies for a Low Base of globally accepted benchmark of Work skills. As evident from the figure 12 it is only 21.7 who have education higher than secondary level (including HS, diploma, certificate, graduate and above education) --- a minimum benchmark level globally accepted for work skills showing some improvement over 17 % from previous years (66th Round of NSS, 2009-10).

Figure 12: Percentage distribution of labour force in the age group 15-59 across general levels of education



Source: Author's computation using NSS 68th round unit level record 2011-12

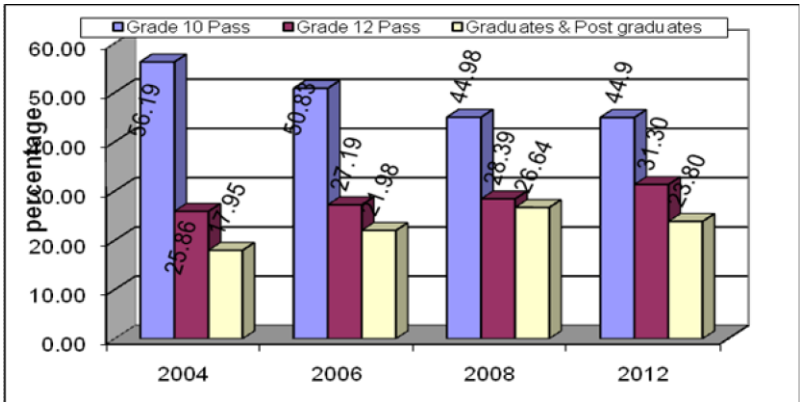
Of these it is only about 8% that possess a formal college education with a graduation plus degree. Here, too a vast majority (83.7 per cent) have never received any kind of vocational training. The proportion receiving any kind of vocational training in this age-group is even worse. It was merely 10 % as per 66th Round of NSS (2009-10) and increased to 16.3 percent by 2011-12 (NSSO 68th round). But, Out of vocationally trained only 1 percent have received formal vocational training. On one hand there is excessive dependence on non-formal system of vocational training while on the other the demand for professional courses is increasing but its size is extremely limited as revealed by the ratio of professional to non-professional education enrolment being 1:3. According to the Periodic Labor Force Survey (PLFS) 2017-18] only 13.53 per cent of the workforce in the productive age group of 15-59 years has received training (2.26 per cent formal vocational/technical training and 11.27 per cent informal training). A large section among informally trained workers, about 55.9 per cent received it either through self-learning (28.66 per cent) or hereditary (27.24 per cent) and about 38.51 per cent have received it on-the-job.

Increasing Share of Higher Education Graduate Job Seekers

Today, increasing number of persons are registering themselves in the employment exchanges in the country, a major share of whom are educated. Though, not all educated job seekers register themselves with the employment exchanges, the figures give a fairly good picture of the educated jobseekers, given the fact that out of the total number of vacancies notified during 2010 (7.1 lakh) around 72% (5.10 lakh) were filled through employment exchanges.

As is evident from Fig. No.11 amongst the educated job seekers it is the percentage of graduates that has witnessed greatest increase in the past few years. This percentage has gone up from 17.85 in 2004 to 26.64 in 2008, registering a 8.79% increase. Also the number of graduate and above in the workforce increased from 23.6 million in 2001 to 33.3 in 2005 to a further of 50.5 million in 2010.

Figure 13: Educated Job seekers by Education Level



Source: Employment exchange statistics, DGET (GOI)

While 10th grade pass still comprise the major chunk of educated jobseekers, their percentage is falling with each passing year. This increase can be explained by two facts, one rising graduate population in the country and two better quality of employment for those with higher education degrees.

Disciplinary Imbalances

A break-up of graduate job seekers by streams of study reveal that majority are from general academic disciplines with Arts graduates topping the list comprising about 40% of the graduate job seekers (Khare, 2014 Sage) Also, 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 (Table 7).

Table 7: Graduate Job- Seekers on Live Register by Streams ('000)

Education level	**2004**	**2006**	**2008**	**2009**
Total educated	29263.2	30691.1	29253.8	29174.8
Graduates & Post graduates	5252.5	6745.8	7793.1	6345.9
Arts	2124.7	2732.1	3156.3	2570.2
Science	983.7	1261.4	1457.2	1186.6
Commerce	769	991.6	1145.6	932.9
Engineering	216	276.6	319.5	260.2
Medicine	47.5	60.7	70.1	57.7
Veterinary	6.9	6.7	7.8	6.3
Agriculture	35.9	47.2	54.5	44.4
Law	21.2	27	31.2	25.4
Education	794.3	1018.7	1176.9	958.3
Others	253.2	323.8	374.1	304.6

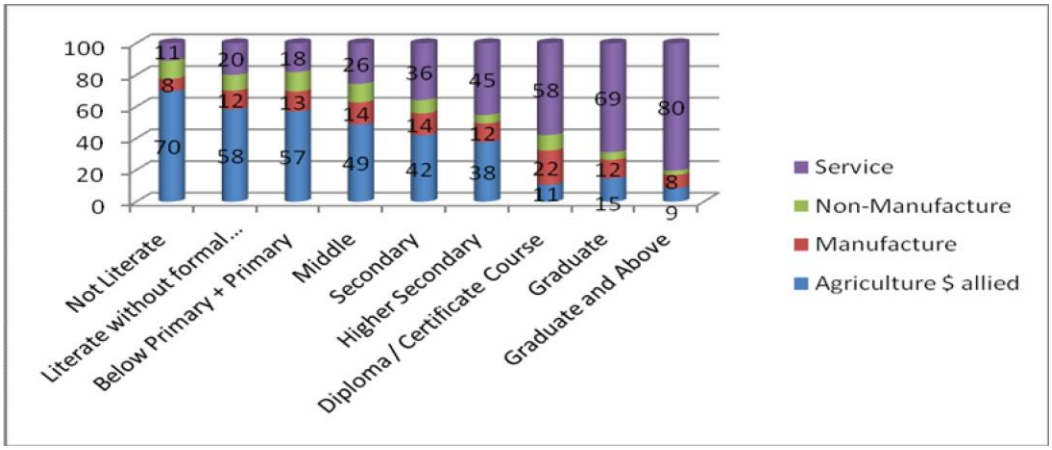
Source: Employment exchange statistics, DGET (GOI)

But, on the demand side it is the professionally and technically qualified graduates that the employers are seeking even in non technical industries and job roles.

Sectoral Bias of Educated and Trained Human Resource

Studies across globe have proved that income elasticity of higher education is much higher than all other levels of education. (World Bank 2002; Varghese 2012). One distinguishable positive feature is revealed by the type of work that HE graduates are engaged in. Almost 50 % are regular workers closely followed by self employed. Only a very small pc (less than 5) are casual workers (India Labour Report). But, their sectoral concentration is very distinct in India. A break-up of the data by major sectors – Agricultue and allied occupations, Manufacturing, non-manufacturing and service sectors reveal a far more interesting picture (Figure 13).

Figure 13: Sectoral Share in Labour Force in Age Group 15-59 by Education Level (%)

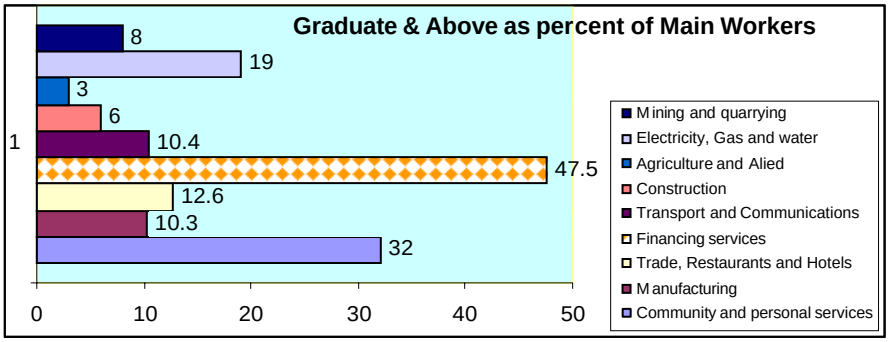


Source:- NSS 66th Round 2009-10

A clearcut preference of highly educated in the service sector can be deduced with almost reversal of the percentage occupied in the service sector from the higher secondary level (42 per cent of secondary graduates being occupied in agriculture sector and 45 per cent of HS graduates employed in service sector. This percentage is as high as 70 and more for those that possess a college degree. Over 72 per cent of graduate workers and 52.1 per cent those with diploma are employed in tertiary sector in 2017-18 (PLSF 2017-18).

Data reveal that of the 70% of college degree holders that are currently engaged in the services sector, their proportions are higher than 50 per cent. in IT/ITES and Financial Services leading the race for the most preferred job sectors (Figure 14). No other sector is employing a sizeable proportion of graduate workers except for community and personal services, power, trade and hotel. Education sector which has quite a high share of graduate and above employee has been kept out of this comparison (Figure 14).

Figure 14: Sector wise Share of Higher Education graduate plus Workers



Source: Khare 2012

Low percentage of graduate and above workers in certain sectors is self explanatory for they may require skilled but not highly educated workers. These include Agriculture and allied, Transport and construction. A low percentage of only 10 percent graduate and above

workers in manufacturing can be explained by way of a sizeable share of HHIs in Indian Manufacturing. Out of a total of 41.6 mil 16.9 mill fall in the HHI category.

45 Degree-Diploma Taboo

The countrymen still face the Degree -Diploma taboo. The ratio of degree to diploma holders in India is around 2:1 as against the ideal 1:3. Although, it would be good to see large number of takers for skill based diploma courses, the situation is otherwise. On one hand, there are very few such courses available in the public domain with the sector being dominated by high fee charging private providers and on the other, the societal perception regarding degree commanding a premium in the job market vis-a-vis diploma is high such that the social prestige attached to diploma vs degree is also low. These become big deterrents to youth opting for such courses in large numbers.

Equity Challenges

To top it all, disparities in graduate employability skills have regional, social-economic and gender connotations (Khare 2016, 2018). Multiple factors such as family and cultural background, place of residence, quality and type of earlier education, capability and ability to access additional learning sources all become the cause of differential employability quotient across groups and individuals. The problem of skills is far grave in rural and semi urban centres. Studies have shown that the gap between the employability of technical graduates between Tier I and Tier II cities is almost 50% and much higher for graduates from other streams. Girls and those from socially and economically underprivileged segments face the double disadvantages emerging from disciplinary and quality distortions described in the above sections and limitations to supplement their skill trainings from the private providers who charge high fees and are available more in urban locales.

Employers' Perception and Needs

It can, thus be seen that the demand-supply gap of work ready HE graduates has several connotations to it. A huge mass of graduate workforce finds it difficult to get jobs due to differently sized labour market for liberal vs professional graduates, there may be two explanations to this phenomenon. One, industries and occupations related to engineering and science have been amongst the top five on employment index across major regions of the world during the period and two, comparatively this group of graduates are better equipped with the 21st century skills for they come from better socio-cultural, economic and academic backgrounds. It can be seen that there is a heavy congregation of industries like IT/ITES, Health and community services, environment, Architecture, Bio tech, life sciences, Pharmacy, Ago-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. (Khare 2014)

An industry wise break up of just the incremental human resource requirement till 2022 in India (IMaCS, National Skill Development Corporation (NSDC) shows that Auto and Auto component, building and Construction, textiles and clothing, transport and logistics, organized retail, real estate and healthcare are going to be on the higher end of the spectrum adding upto a total of 1559 lakh additional jobs. Most of these sectors currently employ very low percentage of graduates as main workers. But, as per a recent report on hiring intentions for graduates in India, (Graduate Development Service Newsletter, 2012) though manufacturing, insurance and chemical segments will have strongest hiring intentions but 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. The Planning Commission has identified twenty high growth sectors expected to provide employment to the burgeoning labour force in the coming years. These are Auto and Auto, Building and Construction Materials, Building and Construction, Real Estate Services, Electronics and IT Hardware, Education and Skill Development Services, Food Processing, Gems and Jewellery, Healthcare, Textiles, Leather and Leather Goods, Organised Retail, Tourism and Hospitality, Transportation and Logistics, Media and Entertainment, BFSI, Chemicals and Pharmaceuticals, Furniture and Furnishings, IT and ITES.

Of the 500 million to be skilled by 2020 in India 25% is at the college plus level which translates to 125 million in figures. Educating and skilling this huge mass in new knowledge and skill domains is daunting. While the industry needs are fast shifting from basic to specialised ones due to industrial transformation towards greater automation and sophistication, majority of the HEIs find themselves incapable to respond to these changes. The challenge hence, is twofold. Firstly, motivating and training the youth for other sectors promising growth and secondly, frequent upgrading and updating of skill delivery in the highly dynamic, volatile, tech savvy IT/ITES and Financial services industry, that employs the vast majority. It is also a matter of great concern that the largest pool of graduates in non-technical, general and social science programmes are generalists with broad socio-economic knowledge, but without any specific technical skills suited to a particular employment segment. What is it then that the labour market finds lacking in these potential pool of graduate employees in terms of skills and how do they want the HEIs to indulge in preparing skilled workforce?.

Employability Gaps

Based on an extensive survey of employers (senior level executives) and newly hired employees in select IT/ITES and Finance companies across different cities in India (CPRHE

study on employment and employability of Higher Education graduates in India) threefold gaps have been identified that may provide some explanation to the poor employability of educated youth in the country. These are as follows:

Awareness Gap

The awareness regarding the new trades and sectors emerging in India and outside is extremely poor on part of the prospective employees (students) and their teachers. While the employers contend that job market is likely to grow with increase in demand for professionally and technically qualified at the graduate plus level and higher qualifications for all jobs across occupational categories, they find that the prospective employees possess quite a pessimistic view. The employers are also of the opinion that the competition in coming years would be tougher for right kind of skill acquisition as "jobs would be there" but it is only the "nature of jobs that will change". There is likely to be greater need for workers at high end technically skilled jobs about which neither the prospective employees are aware nor the teachers are competent enough to deliver them to students. Their idea about competition in the future job market too is rather simplistic – "as there would be more HE Graduates and fewer jobs and hence greater competition." The disciplinary choices of students are thus guided more by past trends rather than future projections on the job front as there is lack of requisite knowledge about future changes in job market. Entrepreneurial instinct is poor with a mere 6% showing interest in self employment and entrepreneurship. With privatisation on the rise and Government withdrawing from many sectors, there is every likelihood that Government jobs would be on a slower growth trajectory than in the past. Creating awareness towards this fact and to new forms and trades of job that are likely to grow in future is imperative. Also aptitude and attitude building, hand holding and mentoring to become a job creator than job seeker is imperative to bridge this gap.

Perception Gap

Similarly, the traits that are perceived more important by the employers may not be perceived as important by other stakeholders, including the newly recruited graduates. A set of thirteen skill sets were identified from an extensive review of literature and pilot survey. The senior employers as well as new recruits (neo-employees) were asked to assign relative importance to them on a five point likert scale. The relative importance assigned by the employers revealed that personal skills followed by communication skills top the chart with 95% and 92% employers rating it to be most important. They rated the foreign language skills as the least important. Not even a quarter of employers considered it to be an important skill set. This possibly reflects limited vision of the employers to see in the future where multilingualism, multiculturalism and foreign language expertise, foreign cultural experience is likely to hold great importance as labour markets become borderless with technological

connectivity. Already cross border job experience is considered important in advanced countries and senior positions in MNCs.

Table 8: Employer – Employee Perception Gap on Skill Importance

Employer – Employee Perception Gap on Skill Importance		Rank
Communication skills	0.09	6
Conceptualization skills	-0.03	10
Technical skills	0.11	5
Numeric Skills	0.76	3
Computer skills	0.08	7
Sector Specific skills	0.84	2
Personal skills	-0.08	13
Managerial	-0.07	12
People related	-0.02	9
Foreign language Skills	1.13	1
Academic excellence	0.03	8
Citizenship skills	0.63	4
Ability to adapt	-0.06	11

Source: Author's own computations: mean score gaps from employers based on survey
Note: Closer is the value to zero lesser is the perception gap wrt importance assigned by employers.

On the contrary, employees assign greater importance to foreign language skills such that the employer-employee perception gap on Skill importance is the highest (Table 8). Similarly, sector specific skills, numeric skills, citizenship skills and technical skills are valued much higher by the employees than the employers in the following order. Although the perception gap with respect to academic excellence is not very high it does exist as employers attach only moderate importance to it but the employees consider it as the basic requirement. Many employees opined that a reasonably high marks in degree examinations are their gateway to the first round of selections in job recruitment. Other factors and skills come into consideration only if they score marks above the minimum threshold level. To quote "we are not even allowed to appear in campus placements if we do not have a high CGPA". Interestingly the satisfaction level of employers' in terms of academic knowledge of the employees is very high. The major areas of negative perception gaps are personal skills, Managerial skills and adaptability skills (Table 8) Negative values reveal that the employees value the said skill less important than the employers and therefore these are the problematic areas. This entire group of skills is generic in nature and not technical or academic. Such gaps in perception call for a critical look at the understanding of the skills importance given by the industry sector. A sector/industry specific as well as transferable skills mapping in a centralized fashion to be easily available to the HEIs and potential

employees can go a long way in bridging such gap. An e-portal of such skills mapping may not be a difficult proposition in today's age of low cost e-technology.

Skills Gap

The third gap that is more explicit and often measured is the skills gap or the skills deficit that is becoming a global agenda of education dialogue and youth concern. To what extent are employers satisfied with their neo employees on the skill sets is clearly evident from the table no. 9. as revealed by the mean scores of importance by employers and satisfaction they derive from their employees who are new entrants into the job market. The table clearly reveals high degree of existence of skill gaps among the employees. Although the perception gap regarding importance attached to these skills is not very high with only five skills emerging as problematic areas, their numbers have increased in terms of skill gaps. This means that though employees are aware about the kind of skills that are considered important but are not able to embrace them up to the mark.

Table 9: Skills Importance and Satisfaction by Employers

	Importance		Satisfaction	
Skill sets	**Mean Score**	**Rank**	**Mean Score**	**Rank**
Academic excellence	1.7	9	1.87	1
Technical skills	1.64	6	2.06	5
communication skills	1.54	3	2.14	8
Computer skills	1.64	7	1.95	3
People related	1.62	5	1.98	4
Managerial	1.65	8	2.13	7
Conceptualization skills	1.5	2	2.29	10
Personal skills	1.45	1	2.21	9
Citizenship skills	2.68	11	2.91	13
Numeric Skills	2.62	10	2.3	11
Foreign language Skills	3.39	13	2.11	6
Rate skill Sector- Specific Skills	2.73	12	2.43	12
Ability to adapt to and act in new situations	1.6	4	1.93	2

Source: Author's computations based on CPRHE study /survey of employers.
Note: Likert scale for importance of a skill: 1 Extremely Important,2. Important, 3.Neutral, 4. Less Important, 5. Not Important Closer is the mean difference value to zero lesser is the skill gap. Negative values reveal skill gap

It can be seen that the skills that are ranked topmost in importance find very low ranks in terms satisfaction as the employers find employees not being adept with them upto their expectations. The top three skills in importance that are Personal skills, conceptualization

skills and communication skills are ranked lowly at 9, 10 and 8 respectively when it comes to satisfaction.

Interestingly, computer skills and academic skills are ranked relatively low in importance by the employers but in satisfaction from employees, these are among the top three.

Also the highest degree of skill gap has been found in the top three important most skills i.e. conceptualization skills, personal skills and communication skills. The difference between the mean scores on importance and satisfaction is not only negative but also the highest among the thirteen skill sets.

Three major inferences that may be drawn from the above are;

1) The perception gap regarding importance attached to the kind of skills valued more by the employers is higher generic and transferable skill category rather than academic or technical skill category. Which indicates that the employees as students are confused about the relative importance attached to skill sets by the employer community and hence may end up grooming themselves in less important ones.

2) The degree of personal skill gaps that are generic in nature and cross cutting across industries and occupations are higher in the employees. Personal skills are those that come to an individual naturally, by birth or through early age experience so that they become part and parcel of an individual. Does this in anyway indicate that the HEIs have been able to play their part of imparting knowledge as expected in their traditional norm reasonably satisfactorily? is getting better grooming both at home and in schools.

3) If so, then can HEIs shy away from responding to the demand for 'work ready graduates' being churned on campus or should readily embrace inclusion of skills training for prospective employees in theory and practice.

No one can remain blind to the fact that there is a growing desire among prospective employees to seek real work-life exposure either by long/short duration study courses, internships, summer trainings etc. as is also highly recommended by the employers.

Employers' Role and Expectations from HEI

Although majority employers (80%) feel that Communication and cooperation with Higher Education Institutions (HEI) is important and also beneficial for them the frequency of such interactions that they make is limited to some campus placement activities, seminar conference participation etc. While campus placement activities may be more structured by way of regular and systematic interaction and mutually agreeable guidelines with the HEIs other modes may be irregular based on personal interest or network. Of individual employers as got distinctly highlighted in our interactions with majority of the senior level company executives. "I go sometimes to deliver lectures on weekends"; "they invite me to

chair sessions in their seminars". It is not systematically embedded in the companies charter of activities except for few MNCs in the IT/ITES sector. Also their participation in curriculum development and design is not very frequent, an area that has been identified as a major lacuna in campus learning by the employees. It is therefore extremely important to see how systematic arrangements can be embedded to ensure effective employer participation in curriculum development and design. Few ways that the employers have listed to be important ways in improving interaction with the HEIs include Participation in conferences, debates or seminars etc, Personal discussions with study programme directors or teachers and internship programmes but when it comes to their expectations from HEIs they are much more intensive and broad based. Table below lists few such expectations in rank order as identified by the employers.

Table 10: Employers' prescription / expectations from HEIs

Rank	Employers' prescription / expectations from HEIs
1	Include practical experience in courses
2	Include sector specific work placements as an integral part of the study program
3	Industry experience to teaching faculty
4	Make courses more relevant to the needs of employers
5	Industry personnel as part time/ adjunct faculty
6	Facilitate variety of relations between Graduates and companies
7	Increase duration of internships

Source: Based on survey results of employers.

It can clearly be seen that including practical experience in courses and industry specific exposure are two top ranking expectations of the employers. It is observed that some fragmented efforts in this direction are already being made by HEIs but they find extremely challenging to induce the industry sector to openly embrace and welcome these requests from them. As already highlighted in the earlier discussion making courses more relevant to industry needs requires greater participation of the employers in the process. As provisions for such interactions already exist and are under implementation by HEIs, these propositions need to be strengthened by greater degree of willingness and commitment to the same by both parties.

Other important expectations relating to point number 3 and 5 may require policy level changes for both the industry and HE sector as this entails shorter / longer duration transfer of personnel from the two sectors which may have financial, legal and administrative dimensions that need to be carefully weighed by both parties.

The last very important expectation/prescription coming from the industry sector relates to the duration of the internship programmes which have largely become an

important component of the college curricula. It has been vociferously recommended by the employers that the minimum duration of such internships should be four-six months, spanning over one full semester. Otherwise, such exercises are not able to make any impact on student learning and remain only ornamental as just orienting the students to the industry environment, sector /company profile and work culture itself takes more than a month or two. By the time the interns get a hang of the companies working its time for them to leave. Such 4-6 week internship that are largely in practice do not add much value to the intern who leave virtually without any proper hands on experience. On the other side, there is not much value added for the industry personnel to put too much effort and time as such interns hardly ever come back to them or learn much to be preferred as prospective employees. Few senior executives clearly opine that there are no incentives attached for the industry employees for any such kind of academic interaction/grooming efforts and hence there is high degree of reluctance on their part to engage much with the interns or the academia at large. There are few good practices where at least employees who have volunteered to be part of the company's industry-academia initiatives and activities are commemorated and may be given small awards/prizes/batches as a mark of recognition of their efforts but there are no financial or career growth incentives directly attached. Although, latter may not be very practical but former can easily be included in company practices. As mentioned by a junior level company employee " a 'feel good' factor from such non monetary recognitions add to a lot of self satisfaction and indirectly are likely to impact both productivity and employee loyalty".

Conclusion and Policy Implications

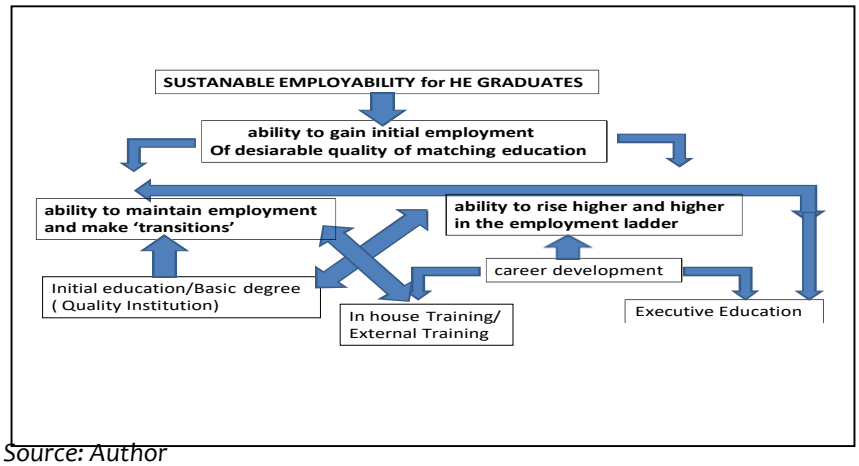
Improving the employability and job preparedness of graduates is certainly important for both – the higher education sector and the industry sector and there is no shying away from responsibilities to that effect on the part of either. The unparalleled demand for higher and professional education in the country led to rather haphazard and unsystematic growth in this sub sector of education, with virtually no planning. 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, infrastructural bottlenecks can all be held responsible in some measure or the other for the rising discontent of the employer community with the kind of graduates coming out of HEIs. More importantly, 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. 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. The trends in the unemployment and employment patterns of higher education graduates in the country support the above fears.

Similarly sectoral shifts towards various service industries with new age technology across the world have created new job needs about which there is dearth of knowledge and awareness among the prospective employees and the HEIs. This becomes the basic cause of the emergence of employability skill gap. It may be concluded that as far as Knowledge and technical know- how are concerned employers are reasonably satisfied with the fresh graduates; functional skills that are relatively more industry specific are taken care by the industry sector as part of their in house training and capacity building, however it is the personal and soft skills that are found to be the major areas of concern. Expectation from the Higher education sector is thus to focus on imparting personal skills – skills that are inborn or acquired aptitude and attitude of an individual through life long experiences. Hence, it cannot be solely left to the HE sector to impart these traits through curricular teaching or ex-curricular campus experience, rather it is the responsibility of major stakeholders of the education-employment ecosystem including Government, employers, parents and society at large.

The role that a responsive as well as dynamic higher education sector can play in harnessing the above cannot be undermined. But, the issue is rather complex as not only it involves multiple stakeholders active engagement and pro active initiatives, it also involves factors that are external and not within the direct control of either the higher education sector or the industry sector such as overall economic growth, job market conditions, societal perception etc. which may see some effect only in the long run. Hence, it is important for all major stakeholders to actively and collaboratively engage with the student community. Although HE sector cannot be solely held responsible, it is important for them to see that students benefit from their overall campus experience for smoother work transition.

Figure 15: Framework for Sustainable Employability of HE Graduates



Source: Author

The framework for sustainable graduate employability that emerges (figure above) is a maze of activities and institutional involvements providing mutual flexibility for flow of students, teachers, industry personnel – entry, exit and re-entry between multiple stakeholders/agencies—HEIs, Industries, training institutes, community participation. While HE has to play a pivotal role in establishing and strengthening this four pronged connectivity at local, national and global level, it is a shared responsibility of all stakeholders and likely beneficiaries. To be proactive and not just responsive to support the HEIs in effective delivery of the learning as per the new demand of the global economy. Three major areas of Policy Intervention that emerge are, Connecting Skill Mapping Agencies and HEIs; Supporting HEIs for Formalising Sustained Industry-academia linkages and Incentivising Industry for mandatory involvement in HE sector.

References

AED (2008). Middle Technical College Employer Survey. Academy For Educational Development, Washington DC, USA.

Agut, S. & Grau, R. (2002). Managerial competency needs and training Requests: The case of the Spanish tourist industry. Human Resource Development Quarterly, 13(1) 31–52.

American Society for Training and Development. (2009). Bridging the skills gap: New factors compound the growing skills shortage.

Archer, L., Hutchings, M. & Ross, A. (2003). *Higher education and social class: Issues of exclusion and inclusion.* New York: RoutledgeFalmer.

Becker, G. (1962). Investment in Human Capital: A theoretical analysis. *Journal of Political Economy, 70* , 9-49.

Becker, G. (1964). The Human Capital: A theoretical and Empirical Analysis with Special reference to Education. Columbia University Press.

Berman, Eli, John Bound, and Stephen Machin (1998). Implications of Skill-Biased Technological Change: International Evidence," *Quarterly Journal of Economics*, 113(4), 1245-79.

Bowers-Brown, T. & Harvey, L. (2004). Are there too many graduates in the UK?. *Industry and Higher Education,* 18(4), 243–254.

Breiter, D., & Clements, C. (1996). Hospitality management curricula for the 21st century, Hospitality and Tourism Educator, 8(1), 57-60.

Brodie, P. & Irving, K. (2007). *Assessment in work-based learning: investigating a pedagogical approach to enhance student learning. Assessment & Evaluation in Higher Education,* 32(1), 11-19.

Brown, P. and Hesketh, A. (2004) The Mismanagement of Talent: Employability and Jobs in the Knowledge Economy. Oxford, Oxford University Press.

Business Roundtable. (2009). Getting ahead – staying ahead: Helping America's workforce succeed in the 21st century. Business Roundtable – The Springboard Project.

Carnoy, M. (1987). Higher Education and graduate employment in India: A Summary of three case studies. *IIEP Research Report No. 64*. International Institute for Educational Planning. Paris.

Carnoy, M. (2001). Work, Society, Family and Learning for the Future, OECD.

CBI (2009). Future fit preparing graduates for the place of Work. available at www.cbi.org.uk

Chadha, G.K. (2004). "Human capital base of the Indian Labour market: Identifying Worry Spots." *The Indian Journal of Labour Economics*" Vol 47, No 1, Jan-Mar.

Chadha, G.K. (2004). "Human capital base of the Indian Labour market: Identifying Worry Spots." *The Indian Journal of Labour Economics*" Vol 47, No 1, Jan-Mar.

Conference Board of Canada (2000). *Employability Skills 2000+,* May 2000.

Conference Board. (1999). Turning skills into profit: Economic benefits of workplace education programs.

Crossman, J. E., & Clarke, M. (2010). International experience and graduate employability: Stakeholder perceptions on the connection. *Higher Education*, 59(5) 599-613.

Dowling, T., Estevao, M., & Tsounta, E. (2010). The great recession and structural unemployment. United States: Selected Issues Paper, IMF Country Report, July 2010.

Faraks, G. (2003). Cognitive skills and non-cognitive traits and behaviors in stratification processes. *Annual Review of Sociology , 29* , pp. 541-562.

Fugate, Mel, Angelo J. Kinicki, and Blake E. Ashforth (2004). "Employability: A psycho-social construct, its dimensions, and applications", *Journal of Vocational Behavior,* 65, 14–38.

Godwin, C. O. (2006). "Employability Skills and Students Self Perceived Competence for Careers in Hospitality Industry", Dissertation, University of Missouri Columbia, Missouri. Online Avaiable at https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/4403/research.pdf?sequence=3

GOI (2019). *Annual Survey, PLFS 2017-18.* New Delhi: National Statistical Office. India,

GOI (2020a). *Economic Survey 2019-20.* New Delhi. https://www.indiabudget.gov.in/economicsurvey/

GOI (2020b.). *Chapter 9: Services Sector.* Retrieved from indiabudget.gov.in: https://www.indiabudget.gov.in/economicsurvey/doc/vol2chapter/echap09_vol2.pdf.

India Skills Report 2019. Wheebox, India retrieved from https://www.aicte-india.org/sites/default/files/India%20Skill%20Report-2019.pdf

Graduate Development Service Newsletter (2012). India's Industry Trends Edition, May 2nd.

Guinn, S.L. (2000). Succession planning without job titles. Career Development International, 5(7), 390-393.

Gustin, M. (2001). Think for yourself: bringing critical thinking skills to the classroom.

Hanushek, Eric A., and Ludger Woessmann (2007). "The Role of Education Quality for Economic Growth." Policy Research Working Paper No. 4122, World Bank, Washington, DC.

Hillage, J. and Pollard, E. (1998) Employability: developing a framework for policy analysis. Research Brief 85, Department for Education and Employment, London.

Holmer, M. (2001). Skills and competency management. Industrial and Commercial Training

Holzer, H.J. (1997). Is there a gap between employer skill needs and theskills of the work force?. In A. Lesgold, M. J. Feuer, & A.M. Black, (Eds.), Transitions in work and learning: Implications for assessment. (pp.6-33).Washington, D.C.: National Academy Press.

Kay, C., and Russette, J. (2000). Journal of Hospitality and Tourism Education, 13(1) 41-47Hospitality management competencies. The Cornell Hotel and Restaurant Administration Quarterly, 41(2), 52-61.

Khare, M. (2012). "Aligning India's Higher Education to the employability needs of a Global Economy" paper presented at the 18th (CCEM) Commonwealth Education Ministers Conference held in Mauritius University, Mauritius, August 27-30.

Khare, M. (2014). Employment, employability and higher education in India: The missing links. *Higher Education for the Future,* 1(1), 39–62.

Khare, M. (2016). Disparities in graduate employability skills. In N.V. Varhgese, Nidhi Sabarwal and Malish, C.M *ed India Higher Education Report 2016: Equity (*pp 331-356) Routledge (Francis and Taylor), South Asia edition. New Delhi.

Khare Mona (2016 a) "Higher education-university: Taking the skills march forward in India—Transitioning to the World of Work "in Pilz Matthias ed India: Preparation for the World of Work, Springer VS.

Khare, M. (2018). Employability of graduates in India- Hard realities. *International Higher Education* 95, 29-31. USA: The Boston College Centre for International Higher Education.

Khare, M. (2019). Exploring the relationship between economic growth, employment and education in Indian states. In E. b. Govinda, & P. M., *India's Social Sector and SDGs: Problems and Prospects* (pp. 264-282).

Kingdon, Geeta, and Mans Soderbom (2007a). "Education, Skills, and Labor Market Outcomes: Evidence from Ghana." Background paper prepared for the World Bank study, "Linking Education Policy to Labor Market Outcomes."Washington, DC. (World Bank Education Working Paper Series)

Kingdon, Geeta, and Mans Soderbom (2007b). "Education, Skills, and Labor Market Outcomes: Evidence from Pakistan." Background paper prepared for the World Bank study, "Linking Education Policy to Labor Market Outcomes."Washington, DC

Knight, P. and Yorke, M. (2004, reissued 2006) Employability: Judging and Communicating Achievements. *Learning and Employability Series*. York: Higher Education Academy.

Kohn, M. L., & Schooler, C. (1983). *Work & Personality.* Noorwood,NJ: Ablex.

Krueger, Alan, B., and Mikael Lindahl. 2001. "Education for Growth: Why and for Whom?" *Journal of Economic Literature*, 39 (4): 1101-1136.

Lindberg, M. E. (2007). At the Frontier of Graduate Surveys' Assessing Participation and Employability of Graduates with Master's Degree in Nine European Countries. Higher Education, 53(5), pp. 623-644. Published by: Springer available at http://www.jstor.org/stable/29735076

Little, B. & Archer, L. (2010). Less time to study, less well prepared for work, yet satisfied with higher education: A UK perspective on links between higher education and the labour market. *Journal of Education and Work,* 23(3), 275–296.

Mathur, A. (1990). "Human Capital, Spatial Disparities and Economic Development", Manpower Journal, 26, (3).

Modestino, A.S. (2010). Mismatch in the labor market: Measuring the supply of and demand for skilled labor in New England. Federal Reserve Bank of Boston - New England Public Policy Center, Research Report 10-2.

National Association of Manufacturers. (2005). 2005 Skills gap report: A survey of the American manufacturing workforce. National Association of Manufacturers.

National Sample Survey (2010). NSS, 66th Round 2009-10, MoSPI, GOI.

OHIO Business Roundtable, Ohio Department of Education, and ACT.(1998). Knowledge & know-how: Meeting Ohio's skill gap challenge. Ohio Department of Education.

Paranto, S.R., Kelker, M. (1999). Employer Satisfaction with Job Skills of Business College Graduates and Its Impact on Hiring Behavior. Journal of Marketing for Higher Education, 9(3), The Haworth Press, Inc., New York, USA.

Pavesic D. V. (1991). Another view of the future of hospitality education, Cornell Hotel and Restaurant Administration Quarterly, 32(4), 8-9.

Peters, D. (2000). Manufacturing in Missouri: Skills-mismatch index. Missouri Department of Economic Development - Missouri Economic Research and Information Center.

Reich, R. B. (1991). *The Work of Nations.* London: Simon and Schuster.

Reich, R.B. (2002). *The future of success*. London: Vintage Books.

Schippman, J. S., Ash, R. A., Battista, M., Car, L., Eyde, L. D., Hesketh, B. et al. (2000). The practice of competency modeling. Personnel Psychology, 53(3), 703-740.

Scott, P. (2005). Universities and the knowledge economy. *Minerva,* 43(3), 297–309.

Scottish Executive (2003). Life through Learning through Life, February.

Shrivastava, A. and Khare, M. (2012). "Skills for Employability: South Asia, Results for Development Institute, Washington, DC, August.

Siddique, C. M. (2004). Job analysis: A strategic human resource management practice. International Journal of Human Resource Management, 15(1), 219-244.

Singh Gurcharan, Kaur Gurvinder and Singh Garib, Kaur Sharan (2000). Malaysian Graduates' Employability Skills. UNITAR E-Journal, 4(1), pp 15-45. Singh, N. & Goodman, M. (2006). Skills gap: Where are the jobs? Commonwealth Corporation, Research Evaluation and Brief, 4(1), 1-4.

Statistical outline of India (1984). Tata Services Ltd. Dept. of Economics and Statistics. Bombav House. Bombay.

Thompson, L. J., Gordon Clark, Walker Marion and Whyatt J Duncan (2013). It's just like an extra string to your bow': Exploring higher education students' perceptions and experiences of extracurricular activity and employability. Active Learning in Higher Education 14(2) 135-147. Accessed at http://alh.sagepub.com/content/14/2/135)

The Global Competitiveness Report 2019. Switzerland: World Economic Forum. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Thurow, L. (1975). *Generating Inequality.* New York: Basic Books.

UN (United Nations) (2001) *Recommendations of the High Level Panel of the Youth Employment Network.* New York: United Nations.

UNDP-ILO (2012). *Growth, Structural Change and Employment. Report of the First Thematic Consultation on the Post-2015 Framework for Development*, Tokyo, Japan, 15-16 May

2012.http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/meetingdocument/wcms_185832.pdf

UNESCO (1990). *World Conference on Education for All (WCEFA). World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs*. UNESCO: Paris.

UNESCO Bangkok (2012). *Towards EFA 2015 and Beyond – Shaping a New Vision of Education*. Summary Outcomes.

Varghese N.V. (2001). Impact of the economic crisis on Higher Education in East Asia: Country experiences, IIEP UNESCO, Paris.

Varghese, N.V. (2012). Society for Educational and Economic Development, Foundation Day Lecture-Seminar on higher Education reforms: Global Initiatives, National University of Educational Planning and Administration, Aug 09.

Watts, A.G. (2006). Career Development Learning and Employability. *Learning and Employability Series*. York: Higher Education Academy.

Weligamage, S. S. (ASAIHL 2009). Graduates Employability Skills: Evidence from Literature Review.

Woods, A. (1994). *North-South trade, employment and inequality: Changing fortunes in a skill-driven world.* Oxford: Oxford University Press.

World Bank (2002). Constructing Knowledge societies: New Challenges for Tertiary education. Washington, D.C.: World Bank

Yorke, M. (2004, reissued 2006). Employability in Higher Education: What it is – What it is not. *Learning and Employability Series*. York: Higher Education Academy.