



Skill Based Education System in Meeting Employer's Needs

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Skills gaps, emerging themes, Generic and Specific skills, Initiatives in Education systems.

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ABSTRACT *Indians are deeply concerned about their present and future prospects in a time of economic uncertainty. Policy makers have a make-or-break opening and an obligation – to chart a new path for 'public – education' that will secure our economic competitiveness. India has a great opportunity to meet the future demands of the world, India can become the worldwide sourcing hub for skilled workforce. Indian economy ruled by innovation and knowledge, in a world of tremendous opportunities and risks facing complex business, political, scientific, technological, health and environmental challenges. The ingenuity and skills of Indian people are crucial to Indian competitiveness. This paper provides an account of the main approaches, evidence in the education system, in meeting employer's needs for skills. It highlights the role of education system in inculcating Generic Skills and Vocational Skills to meet employer's needs. The importance of Generic and Specific skills, a global perspective of skills gaps and reasons of these skills gaps, and how Indian education System fulfils the demand of skill -oriented workforce globally and meet the challenges in this direction. This paper summarizes the Indian economy needs, workforce, and education system, generic and specific skills in education. Special emphasis on some of the emerging themes that reflect the principal areas of focus is being laid.*

Introduction

India's population is huge and is fast expanding at a rate of 17% and integrating rapidly into the global economy. India is among the 'young' countries in the world, with the proportion of the work force in the age group of 15-59 years. However, presently only 2% of the total workforce in India have undergone skills training. India has a great opportunity to meet the future demands of the world and can become the worldwide sourcing hub for skilled workforce. Education has a very broad connotation. It is not to be straitjacketed with schooling. Any experience of life that results in learning is education. Schooling is a planned and organized learning process. The skills transmitted by an innovative farmer to his fellowmen, by a mother to her children are also a form of education that may result in directly productive and tangible experiences or lead to the development of desirable habits of life. This is termed as informal education. Knowledge and skills developed in training programmes, apprenticeship programmes are also not like formal schooling. Still they are educative and contribute to economic growth. They are known as non-formal education. Skill building can be viewed as an instrument to improve the effectiveness and contribution of labour to the overall production. The speed of growth is placing huge demands on the Indian education system. It will have to develop an appropriately skilled workforce that can meet the ever-changing human resource requirements industry is creating. These are ambitious targets that demonstrate an awareness of the need for significant change. Consequently India is fast becoming a global hub for talent. It is extremely difficult, if not impossible, for an education system to respond to these challenges quickly and in the right ways – particularly in a country as large and as diverse as India. The education system is struggling to address significant issues around basic skills.

So much of discussion is going on these days on Skill development. Let's first understand what are *Skill Gap and Its impact*. A skills gap is a significant gap between an organization's current capabilities and the skills it needs

to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities. The impact of the skills gap is far reaching and varied, with effects on global economics, human capital development, and business performance. In advanced economies, skill imbalances will lead to more long-term and permanent joblessness and a greater polarization of incomes between high- and low-skilled workers. Developing economies likely will slow their climb into higher value-added industries and see millions of low-skilled workers trapped in subsistence urban poverty. The low levels of employment during the recession actually may mask the way that changes in the industry, especially the growing green job market, require new skills and better training.

Emerging themes in the education systems that reflect the principal areas of focus are:--

The difficulty in measuring soft skills: Vital elements in the ongoing development of the workforce include good communication skills, the ability to work in a team, confidence in your own ideas and the capability and attitude to continuously learn.

Creating a culture of learning: It is vitally important for students and employees to have a passion for self-development. It is unreasonable to expect education to provide individuals with all the technical and functional skills employers need as they change so rapidly. If employees are able and keen to learn, businesses are often happy to take on the burden of training.

The value of certified education and training: A lot of education (particularly vocational) is seen as too theoretical with not enough of a connection to the workplace. Employers can be suspicious of the value of a particular qualification as it may not be a good measure of whether the individual can do a job.

The cross-cultural differences of the new economy: Rapid growth and unprecedented change has created some new cultural issues. For example, the significant increase of women in management level roles has caused some issues in sections of (male) society where it is not acceptable for men to be 'subservient' to women. There is therefore a general need to develop more managers who have the ability and sensitivity to deal with cross-cultural issues.

Focusing on the creativity, ideas and knowledge economy: It is generally accepted that India needs more 'knowledge workers' and that, for economic growth to continue at current levels, there should be a greater emphasis on creativity and innovation. These skills are in extremely short supply and, while the need to develop such skills is clear. India needs to equip itself more effectively in order to develop and exploit this new emphasis on 'cognitive capital'.

Some changes are taking place in further and higher education where the focus is more on educating for employment. But this change is slow and, as a consequence, business and industry are increasingly operating in a parallel universe to education. They are assuming responsibility for the development and up-skilling of their workforce in total isolation from the formal structures of public education. Let's take a look at the *Qualities valued by employers across the Globe*.

- High aspirations
- A sense of responsibility for oneself and others
- The right applicable domain knowledge
- An ability to handle information, extract meaning and make decisions
- A desire to learn
- Visual communication and observation skills - recognising visual clues, body language
- Creative and innovative
- A great team worker
- Precision and accuracy in work
- The ability to multi-task
- Honesty and integrity
- The ability to have ideas and communicate them.

Generally when people talk about 'generic skills' they are referring to a very mixed bag of things - skill components, attitudes, values and dispositions. Some of these may not be improved with practice in the narrow sense of guided repetition. Rather the attitudinal and dispositional qualities are better seen as products of cultural, ethical and social circumstances that may be refined and modified by knowledge and reflection. In these circumstances, a term such as 'attribute' is probably a better indicator of the collection of qualities that together constitute 'generic skills'.

Why are Generic Skills Important:

The growing emphasis on generic skills in higher education has several sources. One is the increasing evidence of demand from business and employer organisations for graduates to possess generic skills. There are also various economic, technological and educational arguments that have brought generic skills to wider attention. The contemporary focus on generic skills is really part of a bigger, as yet unresolved, debate about the purpose of education and how to develop well educated persons who are both employable and capable of contributing to society. What is curious here is the seemingly confident assertion that these social and cognitive capabilities are skills easily measured in a job interview, or from a job application, rather than being dispositions of character, developed in response to a variety of circumstances and the challenges of life. Creativity, for example, requires considerable confidence, breadth of knowledge and technique and, even, a relaxed frame of mind. Where employers can find this 'skill', it is presumably on

the basis of inference from other areas of an applicant's life. Yet it is presented as a 'deficiency' of the applicant when the inference made by employers is not strongly supported, by them, on the evidence. In the case of 'independent and critical thinking', it is a sufficiently weak inference to cost the applicant the job.

Inculcating Generic Skills

At the same time as business and employers are calling for more emphasis on generic skills, so too are educational providers. While this interest is stimulated partly by a desire to appeal to business and employers in an era of increasing competition and accountability, these are not the only relevant factors. There is increased awareness that well founded sets of generic skills have the potential to deliver several educational advantages to course providers whether vocational and/or educational in emphasis. Generic skills can also play a significant role in quality assurance measures that are suitable for use in higher education. For example, having a consistent terminology for describing course outcomes can improve course development across an institution. Let's take an overview of how educators inculcate Generic Skills through general school / college curriculum. An overview of each of the "Four Cs": Critical thinking and Problem solving, Communication, Collaboration, and Creativity and Innovation.

Critical thinking and Problem solving: Critical thinking has long been a valued skill in society. Today, every student—not just the academically advanced—needs it. While critical thinking and problem solving used to be the domain of gifted students, now it's a critical domain for every student. Teaching critical thinking and problem solving effectively in the classroom is vital for students. Learning critical thinking leads students to develop other skills, such as a higher level of concentration, deeper analytical abilities, and improved thought processing. Today's citizens must be active critical thinkers if they are to compare evidence, evaluate competing claims, and make sensible decisions.

Communication: Expressing thoughts clearly, crisply articulating opinions, communicating coherent instructions, motivating others through powerful speech—these skills have always been valued in the workplace and in public life. While education has always emphasized fluent reading, correct speech, and clear writing, there is evidence that students are not mastering these most basic skills. Additionally, there are now "global teams" that work together in business. Effective communication is essential to contribute successfully to these teams. And as technology gives rise to global work teams that span time zones, nations, and cultures, it is imperative that tomorrow's graduates communicate clearly and effectively in a variety of languages. Linguistically and culturally *effective listening* and *effective communication* skills are essential skills for every person in the service economy.

Collaboration: Collaboration is essential in our classrooms because it is inherent in the nature of how work is accomplished in our civic and workforce lives. Collaboration has been accepted as a skill that's essential to achieve meaningful and effective results. In the past decade, it has become increasingly clear that collaboration is not only important but necessary for students and employees, due to globalization and the rise of technology. Various scholars and authors have emphasized the importance of collaboration. Author **James Surowiecki**, for example, explains how we use the "**Wisdom of Crowds**" in the new economy by

saying that “under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them.” Not only does a collaborative effort create more holistic results than individual efforts but it also creates knowledge for a greater number of people. As a result of students/ employees working collaboratively, the group can generate more knowledge, making collaboration a key ingredient to success in today’s global society.

Creativity and Innovation: In the past, Indians perceived creativity and innovation as secondary in our national curriculum. Today, creativity and innovation are key drivers in the global economy. Author Daniel Pink remarked, “The future belongs to a very different kind of person with a very different kind of mind—creators and empathizers, pattern recognizers and meaning makers. These people... will now reap society’s richest rewards and share its greatest joys.” If students leave school without knowing how to continuously create and innovate, they will be underprepared for the challenges of society and the workforce. In today’s world of global competition and task automation, innovative capacity and a creative spirit are fast becoming requirements for personal and professional success. Sir Kenneth Robinson, a leading thinker and speaker on creativity said, “Creativity is as important in education as literacy and we should treat it with the same status.” Perhaps Pink sums it up best, “In a world enriched by abundance but disrupted by the automation and outsourcing of white-collar work, everyone must cultivate an artistic sensibility. We may not all be Dali or Degas. But today we must all be designers.”

The National Curriculum Framework (NCF) advocates that Educators must reflect on what changes are required as the Essential Learning standards and the School exams deemphasize memorization and more strongly emphasize critical thinking and problem solving. Educators must adopt strategies that accentuate the importance of problem solving. Project-based learning is one of the strategies likely to be helpful in this context. Professional development must emphasize how to teach critical thinking, collaboration, communication, and creativity skills. This can be done effectively in professional learning communities where colleagues work collaboratively to improve classroom practices of the “Four Cs.” Assessments must be developed based on the Essential Learning Standards that place more emphasis on critical thinking and communication skills.

The Specific Skills / Vocational Skills – Indian Perspective

The realization of this demographic dividend led to the formulation of the “National Skills Policy” in 2009 which set a target of imparting skills training to 500 million, by 2022. The Prime Minister’s National Council on Skill Development

is an apex institution for policy direction and review. The Council is at the apex of a three-tier structure and would be concerned with vision setting and laying down core strategies. The Council would be assisted by the National Skill Development Coordination Board chaired by the Deputy Chairman, Planning Commission which will coordinate action for skill development both in the public and the private sector. The National Skill Development Coordination Board was set up under the chairmanship of the Deputy Chairman of The Planning Commission, on the Public Private Partnership model (PPP). It performs the following functions:

- 1) Formulates strategies to implement the decisions of the Prime Minister’s Council on National Skill Development.
- 2) Monitors and evaluates the outcomes of the various other schemes and programs for the Council.
- 3) Develops appropriate and practical solutions and strategies to address regional and social imbalances.
- 4) Ensures quality- control in Vocational Training and Education.
- 5) Monitors private participation strategies and helps put in place sectoral action plans.
- 6) It has planned to set up 1500 new ITIs and 5000 skill development centres, across the country, as well as a National Vocational Education Qualifications Framework (NVEQF) for affiliations and accreditation of the vocational, educational and training systems.

The secretaries of Human Resource Development (MHRD), Ministry of Labour and Employment, Ministry of Rural Development, Ministry of Housing and Urban Poverty Alleviation and Ministry of Finance are members of National Skill Development Coordination Board. In addition to it another national framework for vocational education is National Vocational Education Qualifications Framework. National Vocational Education Qualifications Framework enables horizontal and vertical mobility between general and technical education, recognition and certification of competencies irrespective of the mode of learning. NVQF, with an open/flexible system, will permit individuals to accumulate their knowledge and skills, and convert them through testing and certification into higher diplomas and degrees. NVQF will provide quality assured various learning pathways having standards, comparable with any international qualification framework. NVQF will support lifelong learning, continuous up gradation of skills and knowledge.

Government initiatives in imparting Specific / Vocational Skills through Education systems

Apprenticeship Training for students of +2 Vocational stream	One year	Students graduating from a 10+2 vocational stream	▸ Vocational courses are covered in different areas of the Apprentices Act 1961.
National Programme on Earthquake Engineering Education (NPEEE)	Faculty development through short-term crash programs	Recognized engineering colleges/ polytechnics and schools of architecture with related academic degree of diploma program	▸ NPEEE was made with the objective of training teachers in engineering colleges, polytechnics and schools of architecture, and to develop suitable curricula.

Schemes/Programs	Duration	Target group	Details
Vocationalisation of Secondary Education (6800 schools covered)	2 years	Students who have passed 10th class	<ul style="list-style-type: none"> Vocational education is provided in 9,619 schools with 21,000 sections covering around 1 million students. The scheme proposes to expand vocational education to 20,000 schools and the intake capacity to 2.5 million by 2011-12.
Polytechnics (1244) + Institutions for diploma in pharmacy (415), hotel management (63), architecture (25)	3 year- diploma	Students who have passed 10th class	<ul style="list-style-type: none"> These offer diploma courses in civil, electrical, mechanical engineering, electronics, computer science, medical lab technology, hospital engineering, architectural assistantship, etc.
Community Polytechnic Scheme (675 CPS)	3 to 6 months	Poor sections of society in rural and urban areas	<ul style="list-style-type: none"> CPS acts as a focal point to promote transfer of science and technology to the rural sector.
Jan Shikshan Sansthan (JSS) (157 Vocational Training Centers run by NGOs offering more than 250 courses)	Need based (1- 4 weeks)	Disadvantaged groups of adults – priority being given to adult neo-literates/ semi literates, SC and ST, women/girls, oppressed people, migrants, slum/ pavement dwellers and working children	<ul style="list-style-type: none"> These act as district level resources to organize vocational training and skill development programs.
National Program on Technology Enhanced Learning (NPTEL) – Support for Distance Education & Web-based Learning	Designing course material – time-bound project	Engineering and physical science under-graduate/ post-graduate and all teachers/ faculty members in science and engineering fields	<ul style="list-style-type: none"> Launched in 2003, it is meant to enhance the quality engineering education in the country by developing curriculum-based video courses (at least 100) and web-based e-courses (at least 115) that will be prepared at the seven IITs (Delhi, Bombay, Madras, Kanpur, Kharagpur, Guwahati, Roorkee and IISc).
National Institute of Open Schooling (NIOS) – Distance Vocational Education Programmes	6 months to 2 years	5th, 7th and 8th and 10th pass	<ul style="list-style-type: none"> These constitute a network of 11 regional centers and around 2,067 study centers. There are around 1,063 accredited vocational institutes in the the country. The cumulative enrolment in VET during the last five years is 93,000.

Source: FICCI-Ernst & Young: Knowledge Paper on 'Strategic and Implementation Framework for Skill Development in India. September 2011

Private Sector initiatives In Skill Enhancement Education Systems:

Manufacturing sector ¹³		
Sector	Company name	Training initiative
Construction	Larsen & Toubro	<ul style="list-style-type: none"> L&T has established Construction Skills Training Institutes (CSTIs) in Chennai, Panvel, Ahmadabad, Bengaluru, Hyderabad, Delhi and Kolkata to impart construction vocational training.
Textile	Vardhman Group	<ul style="list-style-type: none"> The group has established the Vardhman Training and Development Centre (VTDC) at Ludhiana to enhance employee skills across all functions.
Electronic goods	Godrej Industries	<ul style="list-style-type: none"> Godrej has recently tied up with The George Telegraph Training Institute (the pioneer in vocational training in eastern India) to launch specialized courses in refrigeration, air-conditioning and washing machine technology. On completing the course, deserving students will be offered employment with Godrej.
Automotive	Maruti Suzuki India Ltd. (MSIL)	<ul style="list-style-type: none"> MSIL has tied up with 17 ITIs (in November 2010) and has placed nearly 400 students in its service network. It plans to ramp up its network to 53 ITIs and absorb 500-600 more ITI students in coming months. The company has also tied up with other institutes such as the BGS institute of Science & Management and the ABT Technical institute to conduct Maruti-certified courses. MSIL has also set up a Technical Training Centre (TTC) to cater to the training needs of employees working in the manufacturing domain and train them on the latest technologies.

Services sector ¹⁴		
Sector	Company name	Training initiative
Retail	ITC	<ul style="list-style-type: none"> ITC Wills Lifestyle has tied up with professional courses provider NIS Sparta, which is a part of the Reliance ADA Group, to provide training in retail management.
Hospitality	Grand Hyatt	<ul style="list-style-type: none"> Hyatt Hotels Corporation has its in-house training initiative, School of Hospitality at Grand Hyatt Mumbai. It also has three more schools of learning – the School of Leadership, the School of Management Studies and the School of General Studies.
Information technology	Infosys	<ul style="list-style-type: none"> Infosys' global training center in Mysore is one of the largest corporate training establishments in the world and can accommodate 15,000 people.
Financial services	ICICI Bank	<ul style="list-style-type: none"> ICICI has established ICICI Manipal Academy (IMA), in association with Manipal Education, to train newly recruited junior managers of the bank in banking and finance. The institute has an intake of 550-600 students every three months.
Aviation	Pawan Hans Helicopters Limited (PHHL)	<ul style="list-style-type: none"> PHHL's training institute provides Aircraft Maintenance Engineering (AME) courses and imparts knowledge on helicopters and their systems to students.

Source: FICCI-Ernst & Young: Knowledge Paper on 'Strategic and Implementation Framework for Skill Development in India. September 2011

Concluding Message for Educators & All Stakeholders: If we accept that there are a set of generic skills or attributes that most employers are looking for in their employees, it follows that a curriculum developed around these requirements

could provide a solution – particularly in helping individuals become work-ready. An essential part of the curriculum should be the ability to learn. It should be compulsory for businesses to be involved in the design and delivery of professional education programmes, and governments should provide incentives for business to participate. Engagement between industry, policy and education is vital at every stage. Professional education can only meet its goals if industry clearly and continuously defines its demands. Learning-by-doing has long been accepted as the most effective way of teaching someone a skill. Classroom-based teaching must focus more on practical exercises, group work and creative activities. To supplement this, there should also be a considerable increase in the time students spend gaining hands-on experience of the work environment. Governments and education providers/educators should instigate an internationally recognised quality assurance system to assess and grade professional education programmes. Here the Education /Training System Plays the pivotal Role. And it is important that both sectors compliment each other's efforts. The corporate houses could participate actively in industry led skill development programmes and by channelizing funds allocated for corporate social responsibility into funding and supporting the skills development initiatives by the government. Therefore we need to refine our education system right from the elementary level to develop generic Skills and Vocational/ specific skills so that we may have the opportunity not only of positioning us ahead in the race but can also position as Global Leaders.

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