

# **Bridging Industry Academia Gap Through Skill Development**

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**Abstract – Delivering quality education is vital for holistic development of a Nation and is a key facilitator for ensuring inclusive and sustainable development. Amplifying access to higher education, skill development and vocational training enhances a Nation's competitiveness in the global economy and propels socio-economic development. India has one of the world's largest education system with the education market valued at USD 80 bn. With more than 50% of India's population below the age of 25 years, it is necessary to focus on the youth of the country and provide a suitable impetus to reap the demographic dividend. The present paper highlights the structure of education and skill development in India, skill requirements of an industry, various initiatives taken by government and educational institutions to bridge industry academia gap and challenges ahead.**

**Keywords – Demographic Dividend, Holistic, Impetus, Inclusive.**

## **I. INTRODUCTION**

*“Education, vocational training and lifelong learning are central pillars of employability, employment of workers and sustainable enterprise development”*

- International Labour Organisation

Skill development is essential for economic growth and social development. The demographic transition of India is putting pressure to ensure employment opportunities for more than 12 million youths entering working age annually. It is reckoned that during the seven-year period of 2005-2012, only 2.7 million net additional jobs were generated in the country. The youth need to be equipped with necessary skills and education to meet the demand of employment ready workforce

The country presently faces a dual challenge of severe paucity of highly-trained, quality labour, as well as non-employability of large sections of the educated workforce that possess little or no job skills. The skill development issue in India is thus relevant both at the demand and supply level. To meet the demand side challenge, consistent efforts are being made towards expansion of economic activities and creation of large employment opportunities. On the supply side, a look at the projected youth population gives a fair reason to believe that India has the strength to fulfill to this demand. However, the employability is debatable and is a major area of concern. Already huge gaps exist between the industry requirements and the level of skills of workers due to numerous reasons like inadequate training infrastructures, inappropriate mix of skills and education, outdated curricula, limited industry interfaces, limited standards, etc.

The skill development ecosystem in India is directed towards a formal education system with limited vocational training. While the vocational training is in a depressing state both qualitatively and quantitatively, the higher

education system itself is grappling with issues related to scale and quality.

Moreover, there is disengagement between the formal education system and work requirements, compounding the challenges related to the skill gap. A concerted action is thus required on the supply side to ensure sustained employability of the Indian youth. Extensive efforts to skill the workforce are required, both in quantity and quality. Transforming the skill development ecosystem and making it responsive to needs of both industry and citizens requires a scalable, efficient and comprehensive vocational training ecosystem to meet future requirements.

## **II. OBJECTIVES**

The objectives of the study are:

- To understand the structure of education and skill development in India.
- To study the skills requirement of an industry.
- To study the gaps in Indian higher education system
- To study the Skill development initiatives and strategies adopted in India
- To study the challenges faced by skill development in India
- To suggest possible solution and ways forward

## **III. REVIEW OF LITERATURE**

- 1) Lokesh Mehra (2015) in the article “Bridging the skill gap with industry-Academia partnership” focused on shortage of skilled labour in various organizations in the country. The reason behind it is high dropout ratio of students after school education. Multinational are establishing alliance with academic institutions on specific initiatives covering faculty up gradation, internships, curriculum revision etc to cope up the problem of skill shortage.
- 2) Tammy de Boer (2014) in her study “Bridging the gap between academia and industry – a collaborative partnership” concluded that industry and academia must work together which lead to innovation thereby enhancing economic development.
- 3) Neeti Sharma (2014) stressed on unemployability of graduates and postgraduates on one hand and vacant position in the industries on other hand in the article “Bridging the industry – academia gap”
- 4) Marilym larkin (2014) illustrated some companies that have collaborated with educational institutions in the article “Building successful partnerships between academia and industry.”
- 5) Prachi kapil (2013) in the study “Bridging the industry – academia gap A conceptual investigation with special emphasis on the management education in India” highlighted some initiatives required to accelerate

independence between academic and industrial prospects in India.

- Ryan Raver (2012) has evaluated reasons for industry academia gap and gives suggestions to overcome the problem in the article “One step at a time: Bridging gap between academia and industry.

#### IV. RESEARCH METHODOLOGY

The study is descriptive in nature and based on secondary data collected from articles of research journals, books, prominent sites, report sets relevant to higher education and skill development. The study is all about to focus on contemporary educational scenario with respect to skill development in the India.

#### V. SKILL DEVELOPMENT ECOSYSTEM IN INDIA

The skill development ecosystem in India is composite, massive and diverse, providing varied levels of skills across an extremely heterogeneous population. Skill development in India can be broadly classified into **Education** and **Vocational Training**. The broad framework of Skill Development in India is shown in the Figure below;

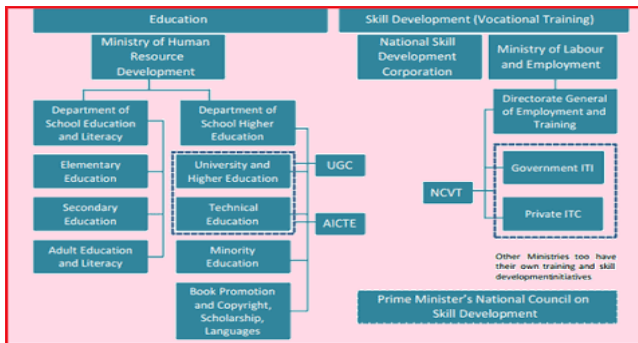


Fig. I. India’s Education and Skill Development Structure  
Source: FICCI, skill development landscape in India, 2010.

#### VI. STATUS OF WORKFORCE, SKILL DELIVERY AND POPULATION OF INDIA

1) Indian workforce (in the age group of 15-59 years) current skill levels in the form of their general educational levels and vocational training levels are as under:

- The drop-out rates of educational institution was estimated to be 50% in the age group of 5-14 years and 86% after 15 years of age and in contrast to this after 14 years of age the participation rate of the workforce rises rapidly and it results in a semi-literate workforce which finds it difficult to absorb higher form of skills.
- In Indian workforce 38% illiterate, 25% has education below primary or up to primary level and remaining 36% has an education level of middle and higher level.
- In Indian workforce around 80% of the workforce does not possess any marketable skills.
- Only about 2% have received formal vocational training and 8% non-formal vocational training, thereby implying that very few new entrants to the work force have any marketable skills as compared to

developed economies such as Korea (96%), Germany (75%), Japan (80%) and United Kingdom (68%).

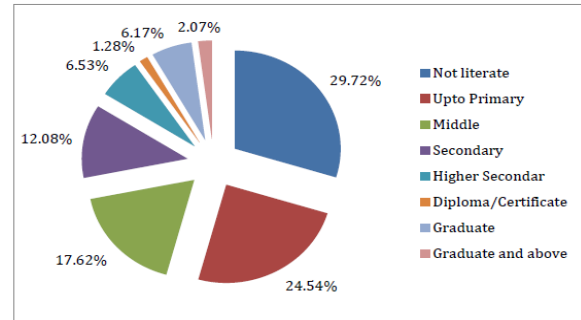


Fig. II. Educational level of the workforce in India  
Source: Tejas, IIM, Bangalore 2014.

2) As shown in Exhibit below, in India, skill delivery mainly takes place through professional technical institutes, vocational schools, specialized institutes for technical training and industry led apprenticeship programs. The following table show some of the government and private initiatives that aim to train 500 million youth by 2022

Table I. Training capacity in India

Institution	# of Institutions	Capacity (in million students)
Polytechnic	1200	0.5
Industrial training institute (Govt. run)	2271	0.48
Industrial training institute / centers (Pvt.)	8073	0.98
Public and private establishments	20000	-

Source: Tejas, IIM, Bangalore 2014.

3) In India, about 12 million persons are expected to join the workforce every year. While observing the demographic patterns that are expected to emerge, about 860 million persons were in the age group of 15 to 59 by 2022 (as compared to about 725 million currently)

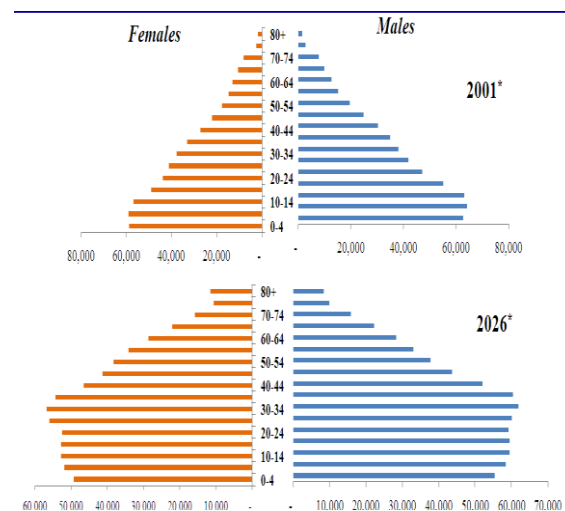


Fig. II. Projected population till 2026  
Source: FICCI, skill development landscape in India, 2010.

4) Human resource requirement across select sectors as shown in Figure below:

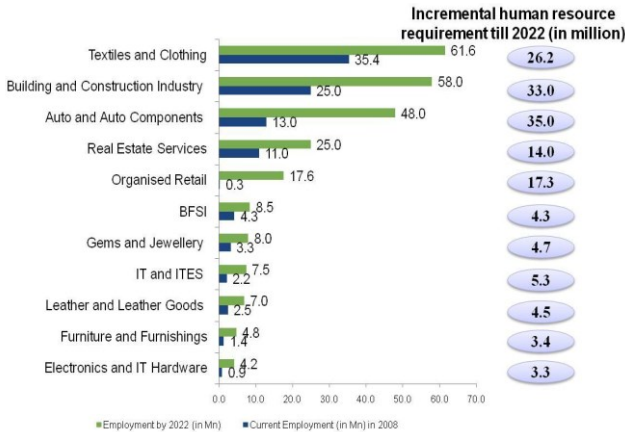


Fig. III. Human resource requirement across select sectors till 2022

Source: FICCI, skill development landscape in India, 2010.

5) The Labour Bureau’s survey report for 2013-14 reveals that Almost 9% of the graduates and post graduates labour force is currently unemployed. As per the report, the key reason behind such poor employability statistics is inadequate preparation in the domain area.

## VII. SKILLS REQUIRED BY EMPLOYERS

Skills required by employers in their prospective employees are shown in the Figure below:

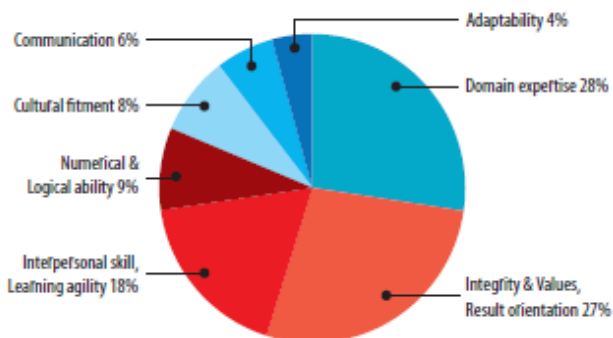


Fig. IV. Skill required by employer

Source: Weebox India Skill Report 2016

## VIII. GAPS IN THE INDIAN HIGHER EDUCATION SYSTEM

- Lack of Industry emplacement – examination based evaluation processes is followed instead of project based assessments;
- Rigidity – the process of re-evaluation of course content becomes non-flexible as all educational institutions are bounded under UGC regulations;
- Teachers themselves lack industry experience;
- Lack of attention towards pure sciences.

## IX. SKILL DEVELOPMENT INITIATIVES IN INDIA

### 1. The Government’s Response

National Skills Policy formulated in 2009 as a step towards realization of demographic dividend which set a target of delivering skills training to 500 million, by 2022.

An apex institution of a three-tier structure for policy direction and review is Prime Minister’s National Council on Skill Development, and it is 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 liaise action for skill development both in the public and the private sector.

The members of The National Skill Development Coordination Board are 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.

### 2. The National Skills Development Corporation (NSDC)

The National Skill Development Coordination Board has been set up under office of the Deputy Chairman of The Planning Commission in the Public Private Partnership mode (PPP). It formulates strategies to implement the decisions of the Prime Minister’s Council on National Skill Development, invigilate and assess the outcomes of the various other schemes and programs for the council. It also develops appropriate and practical solutions and strategies to address regional and Social Imbalances, safeguard quality control in Vocational Training and Education, supervise private participation strategies and helps put in place sectoral action plans. It has planned to set up 1500 new ITIs and 5000 skill development centres, in the country and National Vocational Education Qualifications Framework (NVQF) for affiliations and accreditation in the vocational, educational and training systems.

### 3. Initiatives of Ministry of Rural Development

The Ministry of Human Resource Development (MHRD) has introduced multiple schemes that integrate skills training into the school curriculum in an innovative manner. Under the vocationalization of Secondary Education programme 6800 schools have been covered, for students passing out of class 10. The National Program on Technology Enhanced Learning (NPTEL) is prepared at IITs which gives support for distance education and web based learning. Distance vocational education programmes is undertaken by The National Institute of Open Schooling (NIOS) for students dropping out after the 5th, 7th, 8th and 10th standards. The Apprenticeship Act has vocational courses for students graduating from a 10+2 vocational stream

### 4. Ministry of Urban Development and Poverty Alleviation

The Ministry of Urban Development and Poverty Alleviation had launched the Swarna Jayanti Shahari Rozgar Yojana (SJSRY) in 1997 to address the Skill development issues of the urban poor and had been comprehensively rebuild in view of addressing the drawbacks observed in implementation.

### 5. Industry Initiatives

Private sector is making collaborations with government and international entities for upgrading its in-house training facilities and also to provide job training to potential employees. Many corporations like Larsen & Toubro,



Bharti Group, Hero Group, Maruti, ITC, Infrastructure Leasing & Finance Services Ltd. Etc., are offering world class training programs that create an environment of e-learning and innovation.

#### 6. *International Collaborations*

The Government is stimulating several international collaborations with developed and industrialized countries like the UK, Germany, and Australia and so on.

### **X. SKILL DEVELOPMENT CHALLENGES IN INDIA**

India faces a huge challenge of evolving a skill development system that can equip the workforce adequately to meet the requirements of the industry. The workforce needs to be trained across four levels, from the high end specialised skills for ‘White Collar’ jobs to the low-level skills of the ‘Rust Collar’ jobs. Moreover, these skills have to be adequately linked to the available job opportunities.

1. The existing infrastructure, both physical and human, is grossly inadequate considering the projected demand for skilled labour. While there is a need to create additional capacity in existing institutes, at the same time there is a need to create an adequate infrastructure even in small towns and villages.

2. Skill development in India is way below the requirements due to a lack of awareness on the type of courses as well as information on the ensuing career prospects. More importantly, there is limited acceptance of skill development courses as a viable alternative to formal education. Skilling is often viewed as the last resort meant for those who have not been able to progress in the formal academic system. This is partly to do with the lack of integration between the two options and also due to rising aspirations for white collar jobs which necessitate higher qualifications. Moreover, skill development is often associated with blue collar jobs, which is largely perceived to be of low dignity and provides low wages/salaries.

3. Skill development steps in India continue to be largely dependent upon the government funds or public-private ventures. Due to high capital requirements and low return on investments, skill development is often looked at as a non-scalable model and remains underinvested. Additionally, a fee-based model also faces challenges as prospective students are often unwilling or unable to pay high fees for training. Even the bank’s willingness to lend for skill development activities is low as educational loans are perceived as high risk products due to uncertainty with respect to future employment.

4. There is a serious mismatch between the industry’s requirements and the skills imparted in educational and training institutes.

The issue relates to the quality of infrastructure, trainers, as well as curricula and pedagogy. In terms of infrastructure, the institutes often lack appropriate machinery to give students hands-on training. Even the course curricula often are outdated, redundant and non-standardised. Additionally, the lack of industry-faculty interaction on course curricula leads to irrelevant training modules.

5. There is limited mobility between formal education and vocational training in India due to lack of equivalent recognition for the latter; a student enrolled in vocational training often cannot migrate to institutes of higher education due to eligibility restrictions.

6. India’s large geographical territory, difficult terrain and varying social economic conditions make the implementation of systematize skill-based instruction a huge challenge.

About 89% of the 15-59 year olds have had no vocational training. Of the 11% who received vocational training, only 1.3% received formal vocational training. The present training capacity is a fraction of the 12.8 million new entrants into the workforce every year which has posed a major challenge in providing access to skills programs.

7. Since India has set a huge target for itself of 500 million people it requires programs that are changeable in size, replicable and obtainable, this has created a unique opportunity in terms of economies of scale for the new providers entering the market. While this has resulted in a number of new organisations to venture into the bottom of pyramid skills space, there is still immense need for more companies to enter the market and offer good quality service if they are adequately incentivised.

8. Although India has made progress in fortifying access to primary education, the share of students who remain in the education system until higher education is considerably less. Ensuring equitable access to higher education is also a challenge with disparities seen across gender, regions and socio-economic groups.

9. There is an inadequate focus on research in higher education institutes. The main reasons include insufficient resources and facilities, as well as, limited numbers of professionally qualified faculty to advise students. According to the data from 2009, enrolment for PhD/M.Phil constitutes only 0.48 per cent of enrolment in higher education in India.

10. Insufficiency of financial resources for higher education is amongst the major concerns in this sector. According to the Planning Commission approach to the 12<sup>th</sup> Five Year Plan document “state universities and their affiliated colleges which constitute more than 90% of the enrolment suffer from severe fund constraint and poor governance leading to poor quality.

### **XI. SUGGESTIONS**

- Mission should be triggered at local level i.e. state, district and villages for creating awareness on need for skill development.
- There is an urgent need to build new training capacities for different trade across the country.
- Training infrastructure needs to be created close to the catchment areas including sourcing cluster so that issue of migration can be confronted.
- General education should be blended with vocational education in schools and colleges.
- Course curriculum should be designed as per industry requirements and upgraded time to time on the basis of feedback from industry.

- There has to be a smooth facilitation from secondary to higher education if a student chooses to study vocational courses. This would also motivate more students to opt for vocational training as the distress of not being able to pursue higher education in the future will not be there. The Australian VET system allows easy movement in and out of vocational training, which offers flexibility to students.
- Dual systems like that in Germany integrate work-based and school-based learning and impart more practical skills. The system of apprenticeship needs to be encouraged and could be made compulsory for specific vocational courses.
- Industry exposure to student will help in acquiring relevant skills and improve the prospects of placements.
- Industry linkage is also important for faculty training to keep them abreast of latest changes.
- Since it is not feasible for the state to undertake the entire cost of skill development, incentive mechanisms that persuade private players and students to invest must be instituted. The funding framework of China can serve as a good example
- The standardisation process to improve the quality of vocational education and training is already in process but needs to be expedited. National Standards for each occupation should have national as well as international recognition.
- The ITIs need to be upgraded in terms of equipment, course content, as well as faculty. ITIs adoption by private enterprises should be encouraged.
- The Higher Education policy needs to be in line with present and projected employment opportunities, and hence there should be a focus on revising the curriculum and offering relevant new courses
- Students are willing to take huge loans for their higher education but not so for skilling. Innovative ideas need to be evolved to encourage students to take out loans for skill training too. First of all, skill courses need to be made more attractive by ensuring placements and attaching a premium to the pay for higher skill capabilities. Costs of funds for willing students can be lowered by introducing interest subvention schemes for skill related loans, providing tax exemptions towards repayment of such loans, etc.
- Schools can be engaged effectively for counseling students at early stages about vocational education, apprenticeship and associated career paths
- School staff and teachers to be sensitized about vocational training and apprenticeships as potential career paths for students.

## XII. CONCLUSION

The Indian higher education system in the last decade has made considerable progress in terms of capacity creation and enrolment but it lags significantly in terms of “global pertinence and competitiveness”. The gaps found mainly in our existing system are as follows:

**Low employability of graduates**, due to several factors like outdated curricula, shortage of professionally qualified

faculty, high student-teacher ratios, lack of linkages between industry and higher education institutions, and lack of freedom to introduce new and innovative courses.

**Low impact research output and patents filed** given relatively low government and corporate spending on research, insufficient doctoral students, missing research focus and culture in most institutions, and lack of international research collaborations

**Limited focus on entrepreneurship** on campus as depicted by the fact that there are few institutes that offer programs in entrepreneurship and have active incubation / entrepreneurship cells

**Complex regulatory requirements and hurdles** as depicted in poor institutional governance standards, and lack of professional management.

Government has taken several steps and some are proposed to improve the higher education system on above aspects ;but still there is a scope to do lot more which can make India’s education system a role model for other emerging system. Institutions to become globally relevant and competitive can adopt transformative and innovative approach in curricula, pedagogy, and use of technology, partnerships, governance and funding.

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