HIGHLIGHTS OF SKILL DEVELOPMENT IN TAPPING BETTER HUMAN RESOURCES EFFICIENCY IN INDIAN CONTEXT

Management

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ABSTRACT

The Education and Skill Development Services Sector broadly comprises of School Education, Higher Education, and Industrial/Technical Training, including Vocational Training. It should be noted that while, in general, 'skill development' refers to the larger objective of 'equipping an individual with marketable skills', however, in recent times 'skill development' has been largely used in the context of technical/vocational training for the manufacturing/industrial or services sector.

KEYWORDS

Skill Developments – Types of Programmes – Education – Training – India.

INTRODUCTION

With rising incomes and changing demographic profile, the proportion of private sector spend on education as well as the overall spend of households on education is likely to increase. Increasing investment by the private sector is evident from their increasing share in the number of high/higher secondary schools and higher education institutions. Traditional, large chains of institutions include DAV, Delhi Public School, the Padma Seshadri group of institutions, etc. New schools with corporate identity include Zee International Learning Solutions, Educomp, Everonn, etc., to name a few. Apart from these, there are a large number of private trusts, including religious institutions, which also run schools.

The following figure presents an overview of the structure of the Educational and Skill Development Sector in India.

Figure 1: Structure of Education and Skill Development in India
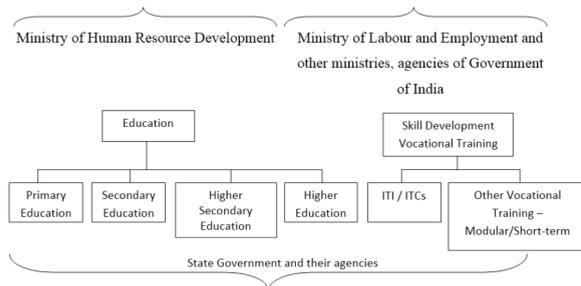
As seen from the above figure, various aspects of Education, right from Primary to Higher Education, falls under the ambit of the Ministry of Human Resource Development. Vocational Training, largely offered through Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs), falls under the ambit of the Ministry of Labour and Employment through the Directorate General of Employment and Training (DGET). The All India Council for Technical Education (AICTE), set-up in November 1945 is the national level apex advisory body to conduct survey of the facilities in technical education1 and to promote development of education in the country in a coordinated and integrated manner. With respect to industrial/vocational training, the DGET is the apex organisation for development and coordination at the national level for the programmes relating to vocational training with curriculum being set and implemented by the National Council for Vocation Training (NCVT). There are also several initiatives being undertaken by various other ministries and agencies of the Central and State Governments.

OVERVIEW OF THE EDUCATION AND SKILL DEVELOPMENT SECTOR IN INDIA
Current Capacity and Enrolment in School Education
There are close to 1.3 million schools in India with a total enrolment of over 227 million students right from the Primary School (Standards I to V) to Higher Secondary Schools (Standards XI and XII). Given, that a large proportion of students drop-out at Primary School level (at Standard V) and at Middle School (at Standard VIII), it is evident that a large portion of the capacity and enrolment is up to these two levels of education.

Table 1: No. of Schools in India

	Board of Intermediate Secondary Education	Pre-Degree Junior Colleges/ Higher Sec. Schools	High/ Post Basic Schools	Middle/ Senior Basic Schools	Primary/ Junior Basic Schools	Pre-Primary/ Pre Basic Schools	Total
No. of Institutions	41	53,643	106,024	288,493	772,568	67,157	1,287,926
Proportion (%)	-	4.17%	8.23%	22.40%	59.99%	5.21%	100.00%

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

Out of the over 227 million students enrolled across different levels of education, about 60% of the enrolment is in the level of Primary Education.

Table 2: Enrolment in various levels of Education in India (in '000s)

	Pre-Primary	Class I-V	Class VI-VIII	Class IX-X	Class XI-XII	Total
Enrolment (in '000s)	5,264	132,049	52,195	24,972	13,414	227,894
Proportion (%)	2.3%	57.9%	22.9%	11.0%	5.9%	100.0%

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

The country has witnessed a steady increase in the Gross Enrolment Ratio, a steady decrease in Drop-Out Rates, and a steady increase in the enrolment in Education.

The Drop-Out Rates between Standards I to X have fallen from about 67% in 2000 to about 62% in 2006.

Enrolment in various levels of Education in India
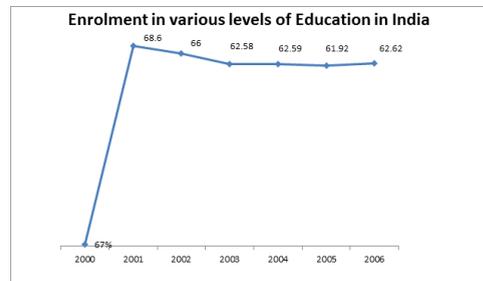
The enrolment in Education in India has witnessed a Compounded Annual Growth Rate (CAGR) of about 3.3%, with High and Higher Secondary Education (Standards IX-X and Standards XI-XII respectively) recording a higher growth rate of 5.4%.

Table 3: Enrolment in Schooling in India (in million)

	Primary	Middle	High and Higher Secondary	Total School Education
2000	113.6	41.3	28	182.9
2001	113.8	42.8	27.6	184.2
2002	113.9	44.8	30.5	189.2
2003	122.4	46.9	33.2	202.5
2004	128.3	48.7	35	212
2005	130.8	51.2	37.1	219.1
2006	132.1	52.2	38.4	222.7
CAGR	2.5%	4.0%	5.4%	3.3%

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

In addition to the above, there is also a 'Vocational Education' stream. The Vocational Education Programme (VEP) is offered through the National Institute of Open Schooling (NIOS). However, the Vocational Education stream has a capacity of only about 22,000 students. Even if the entire capacity under NIOS is considered, this totals to about 3 lakh students only. As is obvious, Open Schooling and Vocational Education contribute a minimal portion of the enrolment as compared to regular schooling (without a 'vocational' component).

CURRENT CAPACITY AND ENROLMENT IN HIGHER EDUCATION

Higher Education in India comprises of the following colleges/institutions: Arts, Science and Commerce colleges (general college education), Engineering, Technical and Architectural colleges, Medical colleges, Teacher Training colleges, Polytechnics, Others (Law, Management, etc.), apart from education directly delivered by Universities, Institutions of National Repute (such as National Institutes of Technology), and Research Institutions.

The following tables illustrate the number of institutions available and the enrolment at various streams of Higher Education.

Table 4: No. of Institutes in Higher Education in India

Institution	No. of Institutes
Universities and other Institutions	
University	236
Deemed University	101
Institutes of National Importance	13
Research Institutions	140
Higher Education Institutions	
Arts, Science and Commerce Colleges	11,698
Engineering, Technical and Architecture Colleges	1,562
Medical Colleges, Dental and Pharmacy	2,053
Teacher Training Colleges	1,669
Polytechnics	1,274
Others (Law, Management, etc.,)	2,513
Total Higher Education	20,769

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

The total enrolment in different years of study in Higher Education in India is about 14.3 million students. It should be noted that Diploma Polytechnics are also categorized under Higher Education.

Table5: Enrolment in Higher Education in India (in '000s)

Course	No. of Students (in '000s)	Proportion (%)
Ph.D/D.Sc/D.Phil	36	0.3%
MA	482	3.4%
M.Sc	230	1.6%
M.Com	157	1.1%
BA	3,728	26.0%
B.Sc	1,579	11.0%
B.Com	1,455	10.2%
BE/B.Arch	1,668	11.6%
Medicine, Dentistry, Nursing, Pharmacy	306	2.1%
B.Ed/BT	245	1.7%
Enrolment in Open Universities	774	5.4%
Polytechnics	690	4.8%
Others	2,974	20.8%

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

The number of Higher Education Institutions has grown at a CAGR of 11.1% between 2002 and 2006 while the enrolment in Higher Education has grown at a CAGR of about 13%.

CURRENT CAPACITY IN VOCATIONAL TRAINING

Vocational Training in India is being offered by the DGET under the Ministry of Labour and Employment. The DGET is the apex organisation for development and coordination at national level for the programmes relating to Vocational Training.

The DGET undertakes Vocational Training through several schemes. The schemes available are:
- Craftsmen Training Scheme (CTS) - ITI/ITC training
- Apprenticeship Training Scheme
- Craftsmen Instructor Training Scheme
- Advance Vocational Training Scheme
- Women Training
- Research and Staff Training
- Instructional Material Development
- Hi-Tech Training
- North Eastern States
- Modular Employable Skills (MES)
- Centre of Excellence and World Bank Assistance
- Upgradation of ITIs through Public Private Partnership (PPP)

Vocational Training is primarily imparted through Industrial Training Institutes (ITI) and Industrial Training Centres (ITC). The administration of Industrial Training Institutes rests with the State Governments/Union Territories Administrations (as this is a Concurrent Subject as per the Constitution of India).

Several initiatives have been taken in recent times - such as the introduction of a framework for imparting short-term 'Modular Employable Skills', developing ITIs through the PPP route and enhancing their capacity as Centres of Excellence (CoE).

There are a total of 6,906 ITIs and ITCs in India with a total seating capacity of 9.53 lakh. The region-wise and state-wise capacity (as of 31.3.2009) is shown in the table below.

Table 6: Total Capacity of it is and ITCs in India

State	No.of Government ITI	Seating Capacity	No.of Private ITC	Seating Capacity	Total No.of ITI and ITC	Total Seating Capacity
Northern Region	705	107,986	1,116	107,937	1,821	215,923
Southern Region	338	85,916	2,427	264,830	2,765	350,746
Eastern Region	193	46,586	696	111,357	889	157,943
Western Region	761	167,662	670	61,610	1,431	229,272
Total	**1,997**	**408,150**	**4,909**	**545,734**	**6,906**	**953,884**

Source: Annual Report 2008-09 of Ministry of Labour and Employment, as of 31.03.2009

KEY TRENDS

This section reviews the key trends in the Education and Skill Development Services Sector across:
- School Education
- Higher Education
- Vocational Training.

The following are the key trends expected in the above-mentioned

areas in India:
- Continued presence of Private Education: The Private Final Consumption Expenditure (PFCE) on Education is expected to grow at a CAGR of over 13% till 2022 . A large portion of the Primary Schooling infrastructure has been developed by the Government and/or Government agencies/aided bodies. The proportion of Private investment is much higher in the Higher Secondary and Higher Education space as shown in the following table.

Table 7: Proportion of Schools – by management

	Government	Local Bodies	Partly Aided	Private	Total
Pre-Primary Schools	55.8%	26.5%	4.8%	12.9%	100.0%
Primary Schools	42.6%	46.5%	3.1%	7.8%	100.0%
High Schools	31.6%	9.2%	27.9%	31.2%	100.0%
Higher Secondary Schools	33.4%	1.1%	30.8%	34.8%	100.0%

Source: Selected Educational Statistics – 2005-06, Ministry of Human Resource Development, IMaCS analysis

- **Regulatory aspects to continue:** Educational institutions have to be run as a 'Trust' or a 'Society' as per legislation. This has to, a great extent, limited private sector participation. Regulatory and related controls are likely to stay in this sector even going forward though significant changes can be expected.
- **Increasing presence of well known private chains and International Schools:** Large, established, private/chains of institutions are likely to expand further. Also, there is an increasing participation of International Schools in the Indian market aiming to provide premium international education (example: Billabong High).
- **Corporatization of coaching institutions:** Coaching and tuition institutions are likely to expand and many such large institutions such as FIITJEE, IMS, TIME, Career Launcher will continue to grow and more will be added.
- **Large private firms in Education:** Companies such as Educomp, Everonn, who initially started as teaching and training content providers are all set to expand into K-12 (Kindergarten to Standard 12) space as well as the Higher Education space. Many players have also started using innovative business models and corporate structures such as using indirect means like lease rentals, management fee, etc to extract the surplus stuck in a non-dividend paying educational trust.
- **Increasing use of Information and Communication Technology (ICT):** Many schools have started to use ICT enabled content to aid in delivery. This is also applicable to long distance higher education programmes such as those run by NIIT Imperia, etc. Going forward, this will play a major role in bridging the access to quality education as well as bridge the gap in the student to teacher ratio.
- **Increasing presence of large private players in Higher Education:** Players such as Manipal Education, Sikkim Manipal University, Amity, ICFAI have presence across different segments of Higher Education. This trend is likely to continue.
- **Opening up of Education Sector:** Opening of the education sector to foreign players, as and when it happens, as envisaged by the draft Foreign Education Bill, will also serve as a driver in transforming the sector.
- **Growing need for Vocational Education:** While Vocational Training would seek to build marketable skills in the workforce, there is also a need to ensure that there exists a strong system where Vocational Skill Building is imparted as a part of Education - i.e., as evidenced by a need for a strong and vibrant Vocational Education system. There is much room to strengthen this stream. This is expected to be an important focus area going forward to serve the needs of those who would miss out on education and or formal vocational training.

SKILL REQUIREMENTS FOR TEACHERS AND TRAINERS
In this section, we shall review the skill requirements for teachers and trainers in the Education Sector. This is reviewed in terms of typical hierarchy of persons employed in the Education and Skill Development Services Sector at the level of an educational institute.

SKILL REQUIREMENTS AND SKILL GAPS IN EDUCATION SECTOR
The following table presents the skill requirements and gaps across various functions and hierarchical/reporting 'levels' in a typical educational institute.

Table 8: Skill Requirements Common to Education Sector

Level	Skills required
Principal	• Responsible for the overall functioning of the institution • Ability to hire qualified teachers • Ability to handle the required legal aspects related to the institution-complaints, audits, reviews • Ability to formulate strategic plans for building infrastructure for the institution • Ability to build the 'brand' of the institution • Ensuring availability of Information and Communication Technology (ICT) to smoothen the teaching and learning process. • Ability to increase the enrolment and out-turn • Ability to appraise the performance of faculty on a regular basis • Ability to coordinate with the external authorities / government officials and liaison with them. • Ensuring the safety of students • Ensuring discipline inside the campus.
Head of the Department	• Responsible for the overall functioning of the department • Allocating of work to faculty / teachers/ trainers • Preparation of timetable for various theoretical and practical sessions • Ensuring adequate quality of teaching and pass percentage • Facilitating industrial visits • Handling classes • Reporting to the Principal periodically, on the performance of the students • Assisting the principal in identifying qualified faculties / teachers
Teachers/ Professors/ Lecturers	• Adequate knowledge of principles of teaching • Strong theoretical knowledge of subject • Ability to communicate the knowledge of the subjects to students in a manner that can be understood • Ability to deliver the content in a simple way to facilitate understanding • Good communication skills • Ability to empathise with students • Observation skills to understand the ability of the students to grasp a particular topic and to plan the teaching methods accordingly • Ability to address doubts patiently • Ability to use computers in teaching (Microsoft PowerPoint presentation, Microsoft Excel, other ICT tools) • Industry exposure, especially in case of faculty handling technical courses. For example, a faculty handling modelling course in a fashion technology institute should have experience in ramp walk, conducting events, etc.
Placement Officers	• Ability to run the Placement Cell • Maintaining the list companies that needs to be invited for campus placements • Understand requirement of students and demand from industry • Coordinate with industry players, to track their requirements • Scheduling the Placement week and interview slots based on industry demand and skill sets available in the institution

Source: Primary Research and IMaCS

PROJECTED DEMAND FOR TEACHERS AND TRAINERS
In this section, we shall assess the demand for teachers and trainers in India till 2022 across the key segments of the Education and Skill Development Sector.

CONCLUDING OBSERVATIONS

Eligible population: The population in the age group of 5 to 24 years is the target age group for all segments of the Education and Skill Development Services Sector, right from Primary Education to Higher Education, as well as Vocational Training. We expect the following trends in population in these age groups.

Table 8: Trends expected in Population and Relevant Age Groups (in '000s)

(in '000s)	2008	2022
Total Population	1,144,734	1,352,695
Population in age group of 5 to 14	247,593	228,196
Population in age group of 15 to 24	227,463	232,166

Source: *Population Projections for India and States 2001 to 2026, Report of Technical Group on Population Projections Constituted by the National Commission on Population, and IMaCS analysis*

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