CHAPTER 1- EDUCATION

Introduction

This chapter provides an introduction to the education sector. It gives a glimpse of how the Indian education sector has progressed from British rule to the present day. Education imparts an individual knowledge and skill along with a balanced attitude and experience. An educated person is considered as civilized and cultured. Therefore education not only makes an individual refined but also makes the society civilized.

Meaning of Education

The word ‘Education’ has been derived from different Latin words.

a) ‘educare’ which means ‘to bring out’ or ‘to nourish’.
b) ‘educere’ which means ‘to lead out’ or ‘to draw out’.
c) ‘educatum’ which means ‘act of teaching’ or ‘training’.
d) ‘educatus’ which means ‘rear, to bring up, educate’.
e) ‘ēducātiō’ which means “a rearing, a bringing up, a breeding.”


The word Education as defined by Dictionary.com (2014) is

- the process or act of acquiring or imparting general knowledge, developing the powers of judgment and reasoning, and generally of preparing oneself or others intellectually for mature life.
- the act or process of imparting or acquiring particular skills or knowledge, as for a profession.
- a degree, level, or kind of schooling: a university education.
- the result produced by instruction, training, or study: to show one's education.
- the science or art of teaching; pedagogics.
1.1 Current Scenario about the Population and Literacy in India

Today India’s total population is 127 crore. According to the final census as on 1\textsuperscript{st} March 2011 the population was 121 crore, which was 17.7\% more than the previous decade, and growth of females was higher than that of males. There was an increase of 18.196 crore persons in absolute number of population during 2001-11. An increase of 9.097 crore males and 9.099 crore increase in females. It was observed that the growth rate of females was 18.3\% which is higher than males 17.1\%. India’s population grew by 17.7\% during 2001-11, against 21.5\% in the previous decade. The highest growth in population was in Bihar (25.4\%) while 14 states and Union Territories have recorded population growth above 20\%. India’s literacy level has increased by 9.21\% in the past 10 years to reach 74.04\%, according to provisional data of the 2011 census. According to the data, 74\% of the total population were literates aged seven and above and illiterates form 26\%. The literacy rate went up from 64.83\% in 2001 to 74.04\% in 2011 showing an increase of 9.21\%.

Interestingly, female literacy level saw a significant jump as compared to males between 2001-2011. In 2001 female literacy stood at 53.67\% which has gone up to 65.46\% in 2011. The male literacy in comparison rose from 75.26 to 82.14\%. Kerala with 93.91\% continues to occupy the top position among states in the field of literacy while Bihar remained at the bottom of the ladder with a literacy rate of 63.82\%. The gap of 21.59 percentage points recorded between male and female literacy rates in 2001 census has reduced to 16.68 percentage points in 2011 (Live Mint, 2011).

1.2 Background about the Education in India

1.2.1 Historic Period

History is the witness that India had a long tradition of well established educational system in the form of Nalanda, Taxila, Gurukuls, etc not only providing religious education but also for the practical education in the field of science, medicine and other areas much before great western Universities made their impact in the field of learning. Our country produced some great astronomers like Arya Bhatta, philosophers like Adi Sankaracharya, Sri Ramanuja, Sri Madava Acharya; great writers like Kalidasa, Kambar and Tiruvalluvar, not to mention grammarians like Panini, great sculptors and architects who developed intricate temple
architecture, and well-planned cities and bridges much before the Western Civilization brought their wisdom into this country (Shivkumar, 2013).

Universities like Nalanda founded in the 5th Century A.D., is one of the oldest schools. 2,000 Teachers and 10,000 Students from all over the Buddhist world lived and studied at Nalanda. The University flourished during the 5th and 12th century. Some of the distinguished preachers of philosophy like Nagarjuna, founder for logic concept- Dinnaga and the Brahmin scholar- Dharmapala, taught there. Hieun Tsang, the famous Chinese traveller and scholar, stayed at Nalanda too. In many ways it was like a modern university. It was tough to gain entry for education in the University as it was considered greatly prestigious. The students received explanations by conversing, debating was also practised. However, there wasn’t a specific period of study or no degree was granted. The mediocre students were humbled and the talented were praised. An elected person was the most learned man of the time. Primarily the purpose of education was to impart knowledge to humans which would help him in his development as well as the development of the society.

1.2.2 Development of Education during British Rule Period

The modern Indian Higher Education systems’ growth owes its origin to the British Colonial era. The European Colonizers be it the British, the French, or the Portuguese wanted to impart education to the ‘pagans’ civilization so that the ‘natives’ would serve their economic and political interests (Shivkumar, 2013).

British introduced English to educate the Indians so that they could employ them to work on low wages. Not only would it reduce the expenditure on administration but also create a class of Indians who were loyal to the British. Also, they wanted to use education as a means to strengthen their political authority in the country. They thought that some educated Indians would spread English culture to the masses and that they would be able to rule through this class of educated Indians. Jobs were given to Indians who knew English thereby compelling many Indians to go in for English education. Therefore only the rich and the city dwellers could get educated.

In the Charter Act of 1813 issued by the British Parliament a sum of Rupees One lakh was sanctioned for promoting western sciences in India. However the charter act failed for the following reasons; it did not state the language for medium of instruction for educational
institutes, it was also ambiguous about the means of expanding education in India and it was also not stated that education should be given to all or to the selected few. There was a debate between two sections of people over the medium of instruction; one who wanted to promote education in India through the medium of classical languages such as Sanskrit, Persian and Arabic called the Orientalists and the other section were Anglicists who wanted to promote Western Education in India which supported English as a medium of instruction. The British, of course, decided in favor of teaching western ideas and literature through the medium of English. Also, due to the Woods Despatch of 1854, Departments of Education were instituted in all provinces and Affiliated Universities were opened in 1857 at Madras, Bombay and Calcutta. A few English schools and colleges were opened instead of many elementary schools which ignored the education of the masses. However, this was insufficient to cater to the needs of the Indian people. Even though the British followed a perfunctory education policy in India, western ideas and the English language had some positive impact on the society. Many reformers like Swami Vivekananda, Raja Ram Mohan Roy, Swami Dayanand Saraswati, Sir Syed Ahmad Khan and Ishwar Chandra Vidyasagar absorbed western ideas of liberalism and democracy and used it to reform some of the non-humanitarian social and religious practices of the time.

1.2.3 Current Education Scenario
According to the data collected in 2008, there are about 16,00,000 schools in India and average computers in school are 13.46%. The investment made in higher education in the 1950s and 1960s has given us a strong knowledge base in many fields and contributed significantly to economic development, political democracy and social progress in independent India. The growth can be ascertained from the fact that there were only 20 Universities and 500 Colleges with 0.1 million students in all disciplines at the time of independence. This number increased to 702 universities and 36,000 Colleges in 2013 with over 14 million students enrolled therein. A World Bank study outlines a tremendous opportunity:

The time is very opportune for India to make transition to the knowledge economy- an economy that creates, disseminates, and uses knowledge to enhance its growth and development. Tertiary education is critical for the construction of knowledge economies. India currently produces a solid core of knowledge workers in tertiary and
scientific and technical education, although the country needs to do more to create a larger cadre of educated and agile workers who can adapt and use knowledge. (Arora, 2013, p.9).

The enrolment in higher education is 2.6% in Central institutions, 38.5% in State institutions and rest 58.9% of the total enrolment is in private institutions at the end of the 11th FYP. Eventually, during the 11th FYP, 17 private deemed universities, 98 private universities, 3581 private diploma institutions and 7818 private colleges were set up which only helped increasing the enrolment of private institutions from 54.2% (in the beginning of 11th FYP) to 58.9% at the end of the plan. The government’s target for the 12th FYP is to increase enrolment capacity by another 10 million (0.6 million in Central Institutions, 2.6 million in State Institutions, 5.8 million in Private Institutions while the rest is expected to go with Diploma Institutions) and further the demand for higher education is estimated to increase at a compounded rate of 11-12% till 2022, an additional capacity of about 26 million seats over the next decade would be required. The government might be planning to increase the enrolment in the higher education through different ways and the larger part seems to be going to help the private sector which can be seen from the draft of the 12th FYP where the enrolment capacity is likely to increase from 12.7 million at present to 18.5 million at the end of the 12th FYP (Sharma, 2013).

1.3 Education Policy in India

Government of India, Ministry of Human Resource and Development enlists various Documents and Reports, Policy Initiatives, Statistics, Acts and Rules on Indian Education on its website. According to the information on its website, National Policy on Education, 1968, Government of India promotes the development of education in our country in accordance with one of its principles of Free and Compulsory Education which states:

“Strenuous efforts should be made for the early fulfillment of the Directive principle under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14.”

Apart from the several other objectives laid by The National Policy on Education of 1986 (with modifications in 1992) the ones for Elementary education, Secondary education and Higher Education are as follows. Elementary education’s aim is (i) universal access and
enrolment, (ii) universal retention of children up to 14 years of age; and (iii) a substantial improvement in the quality of education to enable all children to achieve essential levels of learning. Secondary education, along with science, social sciences, humanities, history is aimed to provide computer literacy in as many secondary level institutions as possible so that the children are equipped with necessary computer skills to be effective in the emerging technological world. According to the N.P.E 1986 with modifications in 1992, there was a need felt for an all round improvement in the institutions and hence it was proposed that, in the near future, the main emphasis of Higher Education was on the strengthening and expansion of facilities in, the existing institutions. State level planning and co-ordination of higher education would be done through Councils of Higher Education. The UGC and these Councils would develop coordinative methods to keep a watch on standards. Also, major effort would be directed towards the transformation of teaching methods. Audiovisual aids and electronic equipment shall be introduced. Delinking degrees from job was one of the basic objectives of N.P.E 1986. Adult education, education of mentally and physically challenged persons, open universities, rural university, non formal education, early childhood care and distance learning education were the areas to be focused by the N.P.E.

1.4 Higher Education in India

The higher education system in India has quantitatively grown to become one of the largest systems of its kind in the world. Higher Education is essential for the socio-economic development and social change in any nation. As cited by Bordoloi, 2013, Amartya Sen, the Nobel Laureates in Economics, has remarked that education is “essentially a capacity building and it widens the choice of the people and empower the nation”. Particularly, its role in imparting knowledge, development of personality and professional skill, and increasing awareness is notable. In such context, when the position of Higher Education in India is viewed, it is found that India has second largest higher educational structure comprised of 677 universities and university-level institutions in India including 43 Central Universities, 295 State Universities, 130 Deemed Universities, 50 institutions of national importance and five institutions established under State Act. Apart from these, there are around 35,539 colleges including 2,565 women colleges imparting higher education in India. Table 1 shows the number of institutions/enrolment in the year 2010-11 and 2011-12. This number has increased
to 702 universities and 36,000 colleges in 2013 with over 14 million students enrolled therein (Arora, 2013). At present, the Gross Enrolment Ratio in higher education is just 17% which is very lower compared to that of the USA (86%), France (55%), UK (35%) and even China (24%). Out of total students enrolled in higher education 80% are enrolled in conventional faculties and traditional courses of Arts (42%), Science (20%) and Commerce (18%) as against only 20 per cent enrolled in professional courses such as Engineering (3%) and Law (2%) and others (2%). Similarly, as against six percent of GDP to be spent on higher education by government, (Kothari Commission) government expenditure on it is as low as 3.7% of GDP (Trivedi, 2013).

Table 1: No. Of Institutions/ Enrolment in the year 2010-11 and 2011-12

<table>
<thead>
<tr>
<th>No. of Institutions/ Enrolment</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>523</td>
<td>574</td>
</tr>
<tr>
<td>Colleges</td>
<td>33023</td>
<td>35539</td>
</tr>
<tr>
<td>AICTE approved Technical Institutions</td>
<td>11809</td>
<td>13507</td>
</tr>
<tr>
<td>Distance Teaching Universities/Institutions</td>
<td>200*</td>
<td>200*</td>
</tr>
<tr>
<td>Enrolment in the Universities and Colleges (in lakh)</td>
<td>169.75</td>
<td>203.27</td>
</tr>
<tr>
<td>Enrolment in Open Distance Learning (ODL) System(in lakh)</td>
<td>37.45**</td>
<td>38.56**</td>
</tr>
<tr>
<td>Enrolment in Post School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma/PG Diploma (in lakh)</td>
<td>18.56**</td>
<td>23.02**</td>
</tr>
<tr>
<td>Intake in AICTE approved Technical Programmes (in lakh)</td>
<td>26.15</td>
<td>30.14</td>
</tr>
</tbody>
</table>

Source: UGC Annual Report, 2011-12/AICTE Annual Report, 2011-12/Statistics of Higher and Technical Education 2009-10(Provisional)/#Repeated at the level of 2009-10as per Prof. N.R. Madhave Menon Report of Committee to suggest measures to regulate the standards of education being imparted through Distance Mode//**Estimated

1.5 Governance of Higher Education

Under the department of Higher Education there are nine apex level bodies. These bodies can be divided into two (i) Regulatory bodies (ii) Research Councils.
One of the regulatory bodies, The University Grants Commission (UGC), is a statutory organization established by an Act of Parliament in 1956. It takes charge of formulation, coordination and maintenance of the standards of university education. It sets up the minimum standards for the educational institutes and the qualification required by the faculty. It helps in disbursing grants to universities and colleges. It also advises the Central and State Governments on the measures necessary for development of higher education.

Technical education is now considered as a developmental function contributing to the economic development of the nation, as compared to its earlier status as a mere scholarly function. This implies that every one dealing with technical education should be conversant with the various economic policies, development plans and implementation strategies of the country (Chopane, 2013). All India Council for Technical Education is another regulatory body set up in 1945 and later on in 1987 given the statutory status by an Act of Parliament.

The various functions of AICTE are listed below

- It is responsible for proper planning and coordinated development of the technical education and management education system in India.
- It accredits technical institutions/programmes to ensure the quality.
- It grants approval for starting new technical institutions and for introduction of new courses.

Table 2 shows the growth of AICTE approved technical institutions and Table 3 shows the growth of intake in AICTE approved technical institute. AICTE is assisted by ten Statutory Boards of Studies, namely, Undergraduate Studies in Engineering & Technology, Post Graduate and Research in Engineering and Technology, Management Studies, Vocational Education, Technical Education, Pharmaceutical Education, Architecture, Hotel Management and Catering Technology, Information Technology, Town and Country Planning.
Table 2: Growth of AICTE approved Technical institutions

<table>
<thead>
<tr>
<th>Year</th>
<th>Engg</th>
<th>Management</th>
<th>MCA</th>
<th>Pharmacy</th>
<th>Architecture</th>
<th>HMCT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>1511</td>
<td>1132</td>
<td>1003</td>
<td>665</td>
<td>116</td>
<td>64</td>
<td>4491</td>
</tr>
<tr>
<td>2007-08</td>
<td>1668</td>
<td>1149</td>
<td>1017</td>
<td>854</td>
<td>116</td>
<td>81</td>
<td>4885</td>
</tr>
<tr>
<td>2008-09</td>
<td>2388</td>
<td>1523</td>
<td>1095</td>
<td>1021</td>
<td>116</td>
<td>87</td>
<td>6230</td>
</tr>
<tr>
<td>2009-10</td>
<td>2972</td>
<td>1940</td>
<td>1169</td>
<td>1081</td>
<td>106</td>
<td>93</td>
<td>7361</td>
</tr>
<tr>
<td>2010-11</td>
<td>3222</td>
<td>2262</td>
<td>1198</td>
<td>1114</td>
<td>108</td>
<td>100</td>
<td>8004</td>
</tr>
<tr>
<td>2011-12</td>
<td>3393</td>
<td>2385</td>
<td>1228</td>
<td>1137</td>
<td>116</td>
<td>102</td>
<td>8361</td>
</tr>
<tr>
<td>2012–13</td>
<td>3495</td>
<td>2450</td>
<td>1241</td>
<td>1145</td>
<td>126</td>
<td>105</td>
<td>8562</td>
</tr>
</tbody>
</table>

Source: AICTE approval process handbook 2013-14

Table 3: Growth of intake in AICTE approved Technical Institutions

<table>
<thead>
<tr>
<th>Year</th>
<th>Engg</th>
<th>Mgmt</th>
<th>MCA</th>
<th>Pharmacy</th>
<th>Arch</th>
<th>HMCT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005–06</td>
<td>499697</td>
<td>–</td>
<td>–</td>
<td>32708</td>
<td>4379</td>
<td>4435</td>
<td>–</td>
</tr>
<tr>
<td>2006–07</td>
<td>550986</td>
<td>94704</td>
<td>56805</td>
<td>39517</td>
<td>4543</td>
<td>4242</td>
<td>750797</td>
</tr>
<tr>
<td>2007–08</td>
<td>653290</td>
<td>121867</td>
<td>70513</td>
<td>52334</td>
<td>4543</td>
<td>5275</td>
<td>907822</td>
</tr>
<tr>
<td>2008–09</td>
<td>841018</td>
<td>149555</td>
<td>73995</td>
<td>64211</td>
<td>4543</td>
<td>5794</td>
<td>1139116</td>
</tr>
<tr>
<td>2009–10</td>
<td>1071896</td>
<td>179561</td>
<td>78293</td>
<td>68537</td>
<td>4133</td>
<td>6387</td>
<td>1408807</td>
</tr>
<tr>
<td>2010–11</td>
<td>1314594</td>
<td>277811</td>
<td>87216</td>
<td>98746</td>
<td>4991</td>
<td>7393</td>
<td>1790751</td>
</tr>
<tr>
<td>2011–12</td>
<td>1485894</td>
<td>352571</td>
<td>92216</td>
<td>102746</td>
<td>5491</td>
<td>7693</td>
<td>2046611</td>
</tr>
<tr>
<td>2012–13</td>
<td>1761976</td>
<td>385008</td>
<td>100700</td>
<td>121652</td>
<td>5996</td>
<td>8401</td>
<td>2236743</td>
</tr>
</tbody>
</table>

Source: AICTE approval process handbook 2013-14

Apart from the UGC and AICTE there are other professional councils responsible for recognition of courses, promotion of professional institutions and providing grants to undergraduate programmes and various awards. These are:

- Medical Council of India (MCI)
The information of the following councils is obtained from their respective website or from the website of UGC (http://www.ugc.ac.in/page/professional-councils.aspx).

**Medical Council of India (MCI)**

The Medical Council of India (MCI) was set up by the Indian Medical Council Act, 1956, amended in 1993. It is a statutory body with the responsibility of establishing and maintaining high standards of medical education and recognition of medical qualifications in India. The council is empowered to make regulations relating to:

- To give guidelines regarding minimum criteria required for medical students to achieve the medical qualification.
- To make regulations regarding the standard of staff, equipment, accommodation, training and other facilities for medical education; and
- To make regulations regarding the conduction of professional examinations, qualifications of examiners, and the conditions of admissions to such examinations.
The Council is also responsible to give its recommendations to the Central Government for establishing new medical colleges, opening of new or higher courses of study and increase in admission capacity in any courses of study or training.

**Indian Council for Agricultural Research (ICAR)**

There are various research centres established by ICAR in order to meet the agriculture research and education needs of the country. Also, numerous agricultural universities have been set up in the entire country to study human resource development in the field of agricultural sciences. It funds Thirty State Agricultural Universities, one Central University and several Deemed Universities. These universities employ about 26,000 scientists for teaching, research and extension education out of which 6000 scientists are employed in the ICAR supported coordinated projects (Indian Council for Agricultural Research, 2014).

**National Council for Teacher Education (NCTE)**

The National Council for Teacher Education is a statutory body set up under the National Council for Teacher Education Act, 1993. Its purpose is to facilitate planned and coordinated development of the teacher education system in the country and for regulation and proper maintenance of norms and standards in the teacher education system. According to the mandate given by NCTE the teacher education program includes research and training of persons to equip them to teach at pre-primary, primary, secondary and senior secondary stages in schools, and non-formal education, part-time education, adult education and distance (correspondence) education courses. To examine and review periodically the implementation of the norms, guidelines and standards laid down by the Council for Teacher Education. The Council, under section 12 is responsible for the following:

- It lays guidelines about minimum qualifications for a person to be employed as a teacher for any specified category of courses or trainings in teacher education; for compliance by recognised institutions for starting new courses or training
- To lay down standards in respect of examinations, leading to teacher education qualifications.

The Council is empowered to grant recognition of institutions offering courses or training in teacher education (National Council for Teacher Education, 2014).
Dental Council of India (DCI)
Dental Council of India is a Statutory Body incorporated under an Act of Parliament viz. The Dentists Act, 1948 (XVI of 1948) to regulate the Dental Education and the profession of Dentistry throughout India and it is financed by the Govt. of India in the Ministry of Health & Family Welfare (Department of Health) through Grant-in-aid. The Council is responsible for recognition of dental degree awarded by various universities and also for maintaining uniform standards of dental education in India. It helps in curriculum development and the schema for exams; it ensures certain minimum requirements with respect to staff and infrastructure (Dental Council of India, 2014).

Pharmacy Council of India (PCI)
The Pharmacy Council of India (PCI), also known as Central council, was constituted under section 3 of the Pharmacy Act, 1948. PCI is responsible for the pharmacy education and profession in India up to graduate level. It lays down the minimum standard of education for qualification as pharmacist. Among the various regulations laid by the council some of them are to ensure equipment and facilities to students; the type and duration of practical training student should undertake before admission to an examination; minimum standards to be attained in the examination and the subject of examination (Pharmacy Council of India, 2014).

Indian Nursing Council (INC)
The Indian Nursing Council is a statutory body constituted under the Indian Nursing Council Act, 1947. It is responsible for regulation and maintenance of a uniform standard of training for, Auxiliary Nurse - Midwives, Midwives, Nurses and Health Visitors. The Council is also empowered to make regulations for the following:

- To recommend minimum standards of education and training in various nursing programmes and prescribe the syllabus & regulations for Nursing programmes.
- To promote research in Nursing and improve the quality of nursing education
- To maintain Indian Nurses Register for registration of Nursing Personnel.
- To supervise the training policies and programmes in the field of Nursing.
- To recognize institutions imparting degrees/diplomas/certificate courses in Nursing education (Indian Nursing Council, 2014).

**Bar Council of India (BCI)**

The Bar Council of India is empowered to make rules to discharge its functions under the Advocates Act 1961. It lays down guidelines for the standards of professional conduct and etiquette to be observed by advocates and may prescribe for a class or category of person entitled to be registered as advocate. The Bar Council of India can also identify clearly the conditions subject to which an advocate must have the right to practise and the circumstances under which a person must be deemed to practise as an advocate in a court (Bar Council of India, 2014).

**Central Council of Homeopathy (CCH)**

The Central Council of Homeopathy was established under the Homeopathy Central Council Act, 1973. It prescribes and recognizes all homeopathic medicine qualifications. Any grant to a university or medical institutions in homeopathy is required to apply to the Council. It is responsible for constitution and maintenance of a Central Register of Homeopathy and for matters connected pertaining to it. All universities and Board of medical institutions in India are required to furnish all information regarding courses of study and examination. Appointment of inspectors at examination and visitors to examine facilities is done by the Council (Central Council of Homeopathy, 2014).

**Central Council of Indian Medicine (CCIM)**

The Central Council of Indian Medicine is the statutory body constituted under the Indian Medicine Central Council Act, 1970. This Council recommends minimum standards of education in Indian Systems of Medicine viz. Siddha, Unani Tibb, Ayurved. The Council is responsible to maintain a Central Register on Indian Medicine and recommends Standards of Professional Conduct, Code of Ethics and Etiquette to be observed by the practitioners. Also, the council is empowered to appoint medical inspectors to observe the conduct of examinations, and visitors to inspect facilities in hospitals, colleges and other institutes imparting instruction in Indian medicine. The Council frames regulations with respect to:
i. Curriculum and duration of study, the practical training to be undertaken, the subjects of examinations and the standards of proficiency to be obtained in any board, university or medical institution for grant of recognized medical qualification.

ii. Standards to be maintained of the staff, equipment, accommodation, training and other facilities for education in Indian medicine; and

iii. conduct of professional examinations (Central Council of Indian Medicine, 2014).

Council of Architecture (COA)

The Council of Architecture (COA) was constituted under the provisions of the Architects Act, 1972, enacted by the Parliament of India. The Act allows for registration of Architects, recognized qualifications, standards of education, and standards of practice complied by the practicing architects. The Council is responsible to regulate the education and practice of profession throughout India besides maintaining the register of architects. It takes care of the overall curriculum development, staff, equipments, examinations and eligibility of examinations, standard of education imparted to the institutions etc. (Council of Architecture, 2014).

Distance Education Council (DEC)

Distance Education Council was constituted under statute 28 arising from Section 25 of the Indira Gandhi National Open University Act, 1985. The Council responsible for the promotion and coordination of the open university and distance education system. It also determines the standards. The Council provides academic guidelines to promote excellence, enable sharing of resources and collaboration, and encourage use of new technologies, for access to sustainable education and training to all.

Rehabilitation Council (RC)

The Rehabilitation Council of India (RCI) was set up as a registered society in 1986; however, it became a Statutory Body on 22nd June 1993. The Act was amended by the Parliament in 2000 to work it more broad based. The Act prescribes that any one delivering services to people with disability and does not possess qualifications recognised by RCI,
could be prosecuted. Hence the Council has the twin responsibility of standardizing and regulating the training of personnel and professional in the field of Rehabilitation and Special Education (Rehabilitation Council, 2014).

**National Council for Rural Institutes (NCRI)**

National Council of Rural Institutes is an independent society fully funded by the Ministry of Human Resource Development, Govt. of India registered on 19th October, 1995. It was established with a main objective of promoting Rural Higher Education. The other objectives of the council was to include teachers training, their extension and research by networking with policy making bodies such as AICTE, UGC and research organizations like AICTE, CSIR etc (National Council for Rural Institutes, 2014).

**State Councils of Higher Education (SCHE)**

The State Councils of Higher Education have been established with the help of respective state governments in alignment with the National Policy on Education. The function of these councils is to prepare coordinated programmes of development of higher education each state. This helps in consolidating the efforts and investments of institutions of higher education in their respective state (State Council of Higher Education, 2014).

**National Accreditation and Assessment Council (NAAC)**

The National Assessment and Accreditation Council (NAAC) is an independent body established by the University Grants Commission (UGC) of India, established in 1994. It is an outcome of the recommendations of the National Policy in Education (1986) and Plan of Action (POA–1992) which laid special emphasis on upholding the quality of higher education in India. It assesses and accredits institutions of higher education in the country (National Accreditation and Assessment Council, 2014).

**National Board of Accreditation (NBA)**

The National Board of Accreditation was established by AICTE under section 10(u) of AICTE act, in the year 1994; however it came into existence as an independent body with effect from 7th January 2010. It helps to meet the objectives of Assurance of Quality and Relevance of Education, majorly in professional and technical disciplines, i.e., Engineering and Technology, Management, Pharmacy, Hospitality and Architecture by accrediting the programs offered by technical institutes. It continuously introduces new process, parameters
and criteria for accreditation. These are in accordance with the best international practices and oriented to assess the outcomes of the programme (National Board of Accreditation, 2014).

1.5.1 Other Important Institutes of Higher Education

The Central Government is responsible for major policy formulation for coordination and determination of standards in higher education. Hence, to maintain uniformity in Higher Education and to take care of areas which are untouched many centrally funded Institution have been set up. Some of these institutes take care of area/sector specific requirements. The Centrally funded Institutions are (i) Central Universities; (ii) Deemed to be Universities; (iii) Technical Institutions; (iv) Management Institutions; (v) Information Technology Institutions; (vi) Science & Research Councils; (vii) Planning & Architecture Institutions; (viii) Training Institutions (ix) Planning & Consultancy Institutions; (x) Region/Sector Specific Institutions. These Institutes have been set up by/under (i) Parliament of India (ii) Section 3 of UGC Act, 1956 and (iii) Societies Registration Act, 1860. It is stated that these Institutions have Under Graduate, Post Graduate, Doctorate and Research courses of various branches of higher education i.e. general/technical/management/languages/humanity/architecture/Information Technology/training etc.

i) Central Universities

Central Universities are independent bodies established with a view to create and disseminate knowledge by providing research and instructional facilities. This is achieved by promoting inter disciplinary studies, and innovation in teaching – learning process. It is hoped that these Universities would exhibit themselves as centers of excellence and play a instrumental role in the all round development of the society in general and the academic institutions around it. The Central Universities are governed by their respective Act and Statutes and Ordinances framed there under. There are at present 40 Central Universities fully funded by MHRD, 39 of them are funded through the UGC, while IGNOU is funded directly by the Ministry.

ii) Institutions Deemed to be Universities

Some institutions of Higher Education working with very high standard in a chosen area of study can be declared by the Central Government on consultation with UGC as on Institutions Deemed to be University. These Institutions deemed to be universities enjoy the academic
status and privilege of universities. Some of them are funded by UGC and some are privately managed.

iii) **Technical Institutions**
The well-known Indian Institute of Technology (IITs), National Institute of Technology (NITs, formerly known as Regional Engineering College, RECs) and Polytechnics which offer diploma courses are the three types of Institutions to cater to the needs of technical education.

(iv) **Management Institutions**
Indian Institute of Management (IIMs) has been set up to provide management education and also to assist the industry through its research and consulting services. IIMs offer Post Graduate Diploma (PGDM) programme, fellowship programme in Management and other short term courses.

(v) **Information Technology Institutions**
Due to the demand of high skilled professional in IT Sector, Indian Institute of Information Technology (IIITs) has been set up in Gwalior (1998), Allahabad (1999), Jabalpur (2005) and Kancheepuram (2007). These institutes are centrally funded. To set up Technical Institutes at various levels on Public Private Partnership (PPP) mode various steps are being taken. The proposal of seven States, Assam, Himachal Pradesh, Kerala, Madhya Pradesh, Tamil Nadu, Tripura and Rajasthan for setting of IIIT in the PPP mode have been approved by the Ministry. The State Government of Karnataka and Gujarat are in the process of finalizing the proposed industry partners.

(vi) **Science & Research Councils**
Institutes like Indian Institutes of Science Education and Research (IISER) and Indian Institute of Science (IISc) have been set up to promote education and research in sciences. At present, there are five IISERs and one IISc.

(vii) **Planning & Architecture Institutions**
Schools of Planning & Architecture have been set up to take care of the Planning and Architecture in India.
(viii) **Training Institutions**

To focus on Polytechnic Education, the National Institute of Technical Teachers’ Training Institutes (NITTTR) have been set up. These Institutions primarily offer long term training to develop teacher for Polytechnics through Diploma in Technical Teaching programme.

**Planning & Consultancy Institutions**

To take care of planning and consultancy services, there are two Organizations under MHRD.

1) The National University of Educational Planning and Administration (NUEPA).

2) Educational Consultations of India Limited (EdCIL).

**Area/Sector specific Institutions:** - For human resource development, the area/sector specific Institutions have been set up. Presently, there are following such institutions in the area of higher education:-

- Indian School of Mines (ISM), Dhanbad
- Sant Longowal Institute of Engineering and Technology, (SLIET)
- North Eastern Regional Institute of Science and Technology (NERIST)
- National Institute of Foundry & Forge Technology (NIFFT), Ranchi
- Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda, West Bengal
- Assistance to Asian Institute of Technology (AIT), Bangkok
- Assistance to Colombo Plan Staff College for Technician Education (CPSC), Manila

**1.6 National Policy on Education, 1986**

The following principles of the National Policy on Education, 1986, as revised in 1992 resolves to promote the development of education in the country:

- For Fulfillment of the Directive principle under Article 45 of the Constitution, efforts should be made for the Free and Compulsory education for all children up to the age of 14. Development of suitable programmes to reduce the current wastage and stagnation in schools and to ensure that every child who is enrolled in schools successfully completes the prescribed course.
• Teacher’s emoluments and other service conditions should be adequate and satisfactory having regard to their qualifications and responsibilities. Freedom to pursue and publish independent studies and researches, to speak and write about significant national and international issues should be protected. In-service teacher education should be encouraged.

• Encouraging the development of languages: Regional languages, Hindi, English and Sanskrit.

• Every possible effort should be made to equalize educational opportunity. This can be done by providing good educational facilities in rural and backward areas. A prescribed proportion of free-studentships should be provided to prevent segregation of social classes. In order to achieve social transformation in the society education of girls should be given importance. This will also ensure social justice to girls. Educating the backward classes and tribal people, educational facilities for physically and mentally handicap children should be expanded and progammes for enabling handicapped children to study in regular schools should be developed.

• In order to achieve excellence it is important that talent should be identified in an early age and every possible chance should be given for its full development.

• There should be an interaction between the school and the community. Activities like community service should be instilled on the basis of self help, character formation and Social commitment.

• Special attention should be given to science, mathematics and research as it helps in the growth of national economy. It should be included in the curriculum till the end of school years.

• Education of Agriculture and industry should get equal importance as any other field. For example, there should be at least one agricultural university in each State, it may have affiliated colleges if potential exists. Importance of technical training should be realized and should be in co-ordination with industry. Hence balance should be maintained between the needs of the industry and the output of the agricultural universities.
• Quality of books should be improved keeping in mind that the prices remain approachable within the students to buy them. Special attention should be given to books for children and University books.

• Examinations conducted should maintain their reliability and validity. Assessing students should be a continuous process rather a pre designated time.

• It has been realized that education at all level is necessary for social change in the society. Hence, facilities should be provided as and when required for Secondary education. Technical and vocational education should receive equal importance. There should be a linkage between the technical and vocational education imparted and the requirements of the developing economy and employment opportunities.

• With reference to university education, the number of full-time students to be admitted to a college/university should be according to the laboratory, library and strength of the staff. New Universities should be started only when adequate funds have been allocated and proper standards are maintained. Post Graduate courses should receive special attention, while improving its standards and research. Centers for advanced study should be made stronger and research and training institutes providing best possible standards should be encouraged. The need of the hour is to give emphasis to research. Research institutes should function with the Universities or have a strong association with them.

• Part –time Education and Correspondence courses should receive the same status as full-time as it allows individual to continue education even if he/she is working. This will not only promote education but also provide opportunity to individuals who want to work and pursue education at the same time. Part-time Education and Correspondence should be developed on large scale at university stage.

• There is a need to set up programmes, campaigns, perform social and national service to ensure removal illiteracy and Adult Education. Importance should be given to the education of young practicing farmers and encouraging self-employment.

• Development of Games and Sports should be stressed upon as it helps in improving the physical fitness and sportsmanship of an average student along with the ones who excel. Playgrounds, sports facilities should be provided on priority basis.
• As issued in the statement by the Conference of the Chief Ministers of States and Central Ministers held in August, 1961, every effort shall be made to protect the rights of minorities and to promote their educational interests.

• The Educational Structure will be almost the same throughout the country. It will follow a 10+2+3 pattern. The higher secondary of two years will be in schools, colleges or according to the local conditions.

Government of India realizes that reconstruction of education is tedious task due to scarcity of resources and increasing demands. It is will undertake programmes in the Central sector and help the State Governments for development of programmes of national importance where both State and Center participate. The Government of India will review, every five years; the progress made and recommends guidelines for future development.

1.7 Professional Education in India

As Management education is a professional course the meaning of the word ‘professional’ must be defined. According to Oxford Dictionary it means:

professional (adjective)
- Engaged in a specified activity as one’s main paid occupation rather than as an amateur
- Relating to or belonging to a profession professional (noun)
- A person engaged in a specified activity, especially a sport, as a main paid occupation rather than as a pastime
- A person competent or skilled in a particular activity
- A person engaged or qualified in a profession

1.7.1 Classification of Professional Education in India

The professional education can be classified as follows:

1. Certificate or Diploma Course

Many vocational and technical institutes offer these courses. They are also known as education based on occupation or employment. These courses are non-degree courses. Courses in tourism, retail, cosmetics, Office Administration fall in this category.
2. Bachelor’s Degree

The various Bachelor’s Degree offered are; Bachelor of Arts (B.A), Bachelor of Commerce (B.Com), Bachelor of Science (B.Sc). Other degrees include Bachelor of Engineering (B.E) and Bachelor of Technology (B.Tech). The Bachelor’s course is around 3-5 yrs duration.

3. Master’s Degree

Admission to a Master’s Degree course is after an individual completes his/her Bachelor’s Degree. It is usually of two year duration and includes dissertation work. Master in Business Administration is one of the most sought after course in India. The other courses are Master in Science, Master in Arts, Master in Commerce, Master of Technology (M.Tech) and Master in Engineering (M.E).

4. Doctorate Degree

Doctorate level degrees are offered by the universities or institutions of national level importance deemed to be universities. Master’s degree is a must for getting admission into Doctorate level, however some undergraduate professional courses in engineering, law, medicine are considered for admission. There is an entrance exam, followed by the foundation phase and then the research phase. The most commonly awarded doctoral level degree is Doctor of Philosophy (PhD). Other doctoral level degrees such as DBA (Doctorate of Business Administration), Pharm. D degree (Doctorate of Pharmacy), Doctor of Education (Ed.D) etc.

As the study is based on Masters in Business Administration course, the following section will explain about the options in Masters Degree in Business Administration.

1.8 Higher Education in Management

Master in Business Administration (MBA) and Post Graduate Diploma in Management (PGDM) are the two options available to get a degree in Management. These courses are recognised by the AICTE. The difference between the two programs is as under:

MBA is conferred only by Universities and Colleges affiliated to Universities under the UGC act, 1956. The Act (Right to confer degree) states the following (Chapter IV, Section 22):
The right of conferring or granting degrees shall be exercised only by a University established or incorporated by or under a Central Act, a Provincial Act or a State Act or an institution deemed to be a University under section 3 or an institution specially empowered by an Act of Parliament to confer or grant degrees.

Institutions which are not affiliated to any University or any course which has not been registered by the University can award only PGDM degree with the approval of AICTE.

1.9 Challenges in Higher Education

According to Ernst and Young the Eleventh Plan saw a nine fold increase in the public spending on higher education which fueled significant inclusive expansion in the public higher education sector. The demand for quality skilled workforce and an environment for impending policy and regulatory change encouraged greater private sector participation. However, there has been no significant improvement in terms of quality of higher education delivery. The issues of skill gaps, skill shortages and unemployable graduates still persisted. During the Eleventh Plan period (2007–2012), India achieved a Gross Enrolment Ratio (GER) of 17.9%, up from 12.3% at the beginning of the Plan period. The Government intends to achieve enrollment of 35.9 million students in higher education institutions, with a GER of 25.2%, by the end of Twelfth Five Year Plan (2012-2017) and 30% by 2020 (MHRD report, 2012-13). Merit based student financing, Internationalization of education, Enabling a research environment, High quality faculty, improved technology for education delivery, and employability will be the focus areas to achieve this GER.

Mathew, 2010, has emphasized that the whole management sector has to be reengineered to up skill the future business managers. Out of the many skills he enlisted one of them was technical skill. These skills included that the students should have the knowledge of technology trends, tools and techniques, equipment, computer literacy and web literacy. Venkataih (1996) suggests that educational technology aids to improve the process of human learning. As cited by him “ Educational technology is a complex integrated process involving people, procedures, ideas, devising, implementing, evaluating and managing solutions to those problems involved in all aspects of human learning” (AECT task force, 1977). The following paragraph answers how IT/ICT adoption can act as an enabler to help the growth of
Higher Education in Colleges and Universities. Initially we shall review the National Policy on Education, 1986, and modified in 1992 for IT/ICT.

1.10 Definition of IT and ICT in Education

ICTs stand for information and communication technologies and are defined, for the purposes of this primer, as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.” These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony. As cited by Huda, Tabassum, Ahmed, 2009, ICT is a term used to describe a range of equipment (hardware: personal computers, scanners and digital cameras) and computer programs (software: database programs and multimedia programs), and the telecommunications infrastructures (phones, faxes, modems, video conferencing equipment and web cameras) that allow us to access, retrieve, store, organize, manipulate, present, send material and communicate locally, nationally and globally through digital media (Dunmill & Arslanagic 2006).

1.11 National Policy of Education on IT/ICT

The draft National policy on Education framed in 1986, and modified in 1992 stressed upon employing Educational Technology to improve the quality of education. The Vision, Mission and the Policy goals as laid in the policy are:

Vision

The IT/ICT policy in Education aims at preparing youth to participate actively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and enhanced global competitiveness

Mission

Device, catalyze, support and sustain IT/ICT and enabled activities and processes in order to improve Access, Equity and Quality.

Policy Goals

To achieve the above, the IT/ICT policy in Education will work towards,

- Creating an environment in the states to develop IT/ICT knowledgeable community
• Creating an IT/ICT literate community who can deploy, utilize, benefit from IT/ICT and contribute to nation building.

• Create an environment of Collaboration, Cooperation and Sharing, conducive to the creation of demand for an optimal utilization of and optimum returns on the potentials of IT/ICT in school/higher education.

• Promote universal, equitable, open and free access to state-of-the-art IT/ICT enabled tools and resources to all students and teachers.

• Promote development of localized quality content and enable students and teachers to partner in the development and critical use of shared digital resources

• Promote development of professional networks of teachers, continuing education of teachers; guidance, counseling and academic support to students

• Promote research, evaluation and experimentation in IT/ICT tools and enabled practices in order to inform, guide and critically utilize the potentials of IT/ICT in education

• Motivate and enable wider participation of all sections of society in strengthening education through appropriate utilization of IT/ICT.

1.11.1 IT/ICT adoption in Higher Education

Some examples where IT/ICT has been successfully deployed are:

• The National Mission on Education through Information and Communication Technology (NMEICT) is a centrally sponsored scheme to leverage the potential of IT/ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions in any-time any-where mode.

• National Programme on Technology Enhanced Learning (NPTEL) is a joint initiative of the IITs and IISc provides E-learning.

• Under the N-List program of INFLIBNET, being run under NMEICT is an online library.

• The launch of EDUSAT brought satellite connectivity to large parts of rural India.

• Private sector participation like HP’s Technology for Teaching Grant has transformed the ICT infrastructure in institutes like Anna University and Jadavpur University.
The National Knowledge Network (NKN) and Connected Digital has launched an initiative to cover 1,000 institutions besides providing digital campuses, video-conference classrooms, wireless hotspots, laptops/desktops to all students of professional/ science courses and Wi-Fi connectivity in hostels. A major development during the year has been the launch of Aakash – the low cost computing tablet on 5th October, 2011.

As the study is conducted on adoption of IT/ICT in Classroom teaching and learning the following section we’ll be discussing about the use of IT/ICT in classroom teaching.

### 1.12 Computer in the Classroom Teaching and Learning

Potchelve, 2010, in her paper insists that teachers and learners need to become co-leaners and technology needs to play a major role in this shift. Computer in the classroom is an asset to any teacher. With a computer in the classroom, teachers are able to demonstrate a new lesson, present new material, illustrate how to use new programs, and show new websites. (http://en.wikipedia.org/wiki/Education_Technology). At the same time, use of ICT in classroom is very important for providing opportunities for students to learn to operate in an information age (Bingimlas, 2009). Wong et al. 2006 opines that technology can play a part in face-to-face teaching and learning in the classroom. Also, many researchers emphasize that the use of computers can help the students to become knowledgeable, reduce the amount of direct instruction given to them, facilitate knowledge to students and give teachers an opportunity to help those students with particular needs (Idings, Crosby & Speitel, 2002; Shamatha, Peressini, & Meymaris, 2004; Romeo, 2006, Husain, 2010). Various studies in diverse settings have been conducted to study the ICT/IT adoption and to know about the enablers and barriers in schools, senior secondary schools and Universities internationally (Dawam, et al. 2009, Price and Oliver, 2007, Ya’acob, Nor & Azman, 2005, Oye, Iahad & Rabin, 2011, Adria & Rose, 2004, Peak, 2009, Ahadiat, 2005, Burnip, 2006, Cartwright & Hammond, 2007, Ming et al, 2010, Zhou & Xu, 2007, Baek, Jung & Kim, 2008; Norton, McRobbie & Cooper, 2000, Redmann & Kotrlik, 2008, Vaidya, 2011, Siddiqui, Abraham & Khan, 2009). As education is a service sector these challenges cannot be ignored. A brief discussion on Education as service sector.
1.13 Indian Higher Education; A Service Sector

1.13.1 Definition of Service
Some definitions of Services before an overview of service sector. Zeithaml and Binter, 1996, defined services, including educational services as “deeds, processes and performances”. According to Grönroos 1990, as cited by Koni, Zainal, Ibrahim (2013) in their paper cite the definition of Services as follows:

Activities or a series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems.

1.13.2 Service Sector
The term “Service Sector” is used synonymous with the “tertiary” or “other” sector, i.e. the residuum of occupations after excluding the “primary” industries (mining, forestry, fishing and agriculture) and the “secondary” industries (manufacturing, construction, etc). The term “services” includes whole diverse activities for which statistics may be available in varying degrees of precision in different countries. According to the organization for economic cooperation and development, 1978, among the occupations usually falling within the tertiary group are:

- Wholesale and retail trade, distribution
- Banking, finance, insurance, real estate and business services
- Central and local Government services (including defence) and administration
- Transport and communications
- Repair and maintenance
- Education, health and social services
- Scientific research
- Hotels, restaurants and tourist services
- Others (e.g. printing, equipment hire)

A list of this kind is, however, industries falling within the broad category of services. Since the sector is heterogeneous, the response to changing conditions must vary considerably according to the particular group or sub-sector involved.
1.13.3 India’s Growth in Education Service Sector

As a tertiary sector, service sector has its own importance to play in the GDP of a country. The main reason for development of service sector is the growth associated with it which has the ability to transform a developing country to a developed one. During the last two decades India has emerged as an IT superpower thanks to the service industry (Tiwari, 2011). According to the website of indiabuget.nic, India ranked 10th in terms of overall GDP and 12th in terms of services GDP.

The report of India Brand Equity Foundation, 2014, (Source: Ministry of Finance, Press Information Bureau (PIB), Media Report, Ministry of Education, Department of Industrial Policy & Promotion (DIPP) it is expected that the Indian education sector’s market size will increase to Rs 602,410 crore (US$ 100.23 billion) by FY 15 from Rs 341,180 crore (US$ 56.77 billion) in FY 12, due to the expected strong demand for quality education. The present Indian higher education system comprises of about 700 universities and over 35,500 colleges. To increase the percentage of students going for higher education to 30 per cent by 2020, India will need 800 more universities and another 35,000 colleges, according to the Ministry of Human Resource Development (HRD).

1.14 Conclusion

Pandit and Lahorkar, 2012, have enlisted in their paper that technology can enable the development of higher-order thinking skills in students, critical thinking skills in students and facilitate assessment of student’s higher-order thinking skills and depth of content area knowledge with its capacity to automate scoring and provide timely feedback. From teaching perspective the role of information and communication technology (ICT) in teaching thinking skills are as a tutor or teaching machine, as mind tools or as a support for learning conversation. Due to the heavy investments in the IT/ICT infrastructure in colleges, it is justifiable to gain knowledge behind the intention of faculty and students in adoption of technology. This will help us to eliminate the potential barriers in adoption of technology in teaching and learning. With the fast changing pace of technologies, studies should be carried out from time to time to make informed decisions about the various technologies deployed in teaching and learning. Studying the obstacle to the use of ICT in education may assist teachers to overcome these barriers and become successful technology adopters in the future.
(Bingimlas, 2009; Becta, 2004). Hence there is a need felt to study the intention behind the adoption of technology in teaching and learning in India. The next chapter will present review of literature on the various theories developed and used in technology acceptance/rejection.