CHAPTER- I

INTRODUCTION

1.1 Introduction

Education is a social process. Education is one of the main keys to economic development and improvement in human welfare. Since Education is closely linked to economic growth, it is one of the key determinants of one’s lifetime earnings. Countries therefore frequently see raising educational attainment as a way of tackling poverty and deprivation.

Education provides the skills for learning to know; learning to live together; learning to do and learning to be. Thus, education is the primary agent of transformation towards sustainable development and increasing people’s capacity to transform their vision for society into reality. Education not only provides scientific and technical skills, it also provides the motivation, justification, and social support for pursuing and applying them.

1.2 Genesis

From ancient period to modern times, higher education has always occupied a place of prominence in Indian history. In ancient times¹, Nalanda, Takshashila and Vikramasila Universities were renowned seats of higher learning, attracting students not only from India but also from other countries like Korea, China, Burma (now Myanmar), Ceylon (now Sri Lanka), Tibet and Nepal. Today, India manages the third largest higher education system in the world.

1.3 British Period

Lord Macaulay, in 1835, advocated the need to make natives of the country thoroughly good English scholars”. Sir Charles Wood's Dispatch of 1854, well known as the 'Magna Carta of English Education in India', recommended creating a properly articulated scheme of education from the primary school to the university. It sought to encourage indigenous education and planned the formulation of a coherent policy of education. Subsequently, the universities of Calcutta, Bombay (now Mumbai) and Madras were set up in 1857, followed by the University of Allahabad in 1887.

The Inter-University Board (later known as the Association of Indian Universities) was established in 1925 to promote university activities, by sharing information and cooperation in the field of education, culture, sports and allied areas. The first attempt to formulate a national system of education in India came in the year 1944, with the Report of the Central Advisory Board of Education on Post War Educational Development in India. Also known as the Sargeant Report, it recommended the formation of a University Grants Committee, which was formed in 1945 to oversee the work of the three Central Universities of Aligarh, Banaras and Delhi. In 1947, the Committee was entrusted with the responsibility of dealing with all the then existing Universities.

1.4 University Grants Commission

Soon after Independence, the University Education Commission was set up in 1948 under the Chairmanship of Dr. S Radhakrishnan "to report on Indian university education and suggest improvements and extensions that might be desirable to suit the present and future needs and aspirations of the country".

It recommended that the University Grants Committee be reconstituted on the general model of the University Grants Commission of the United Kingdom with a full-time Chairman and other members to be appointed from amongst educationists of repute.

In 1952, the Union Government decided that all cases pertaining to the allocation of grants-in-aid from public funds to the Central Universities might be referred to the University Grants Commission. Consequently, the University Grants Commission (UGC) was formally inaugurated on 28 December 1953. The UGC was formally established in November 1956 as a statutory body of the Government of India through an Act of Parliament.

The UGC has the unique distinction of being the only ‘grants’ in the country, which has been vested with two responsibilities: that of providing funds and that of coordination, determination and maintenance of standards in institutions of higher education in India.

The UGC's mandate includes, promoting and coordinating university education; determining and maintaining standards of teaching, examination and research in universities; framing regulations on minimum standards of education; monitoring developments in the field of collegiate and university education; disbursing grants to the universities and colleges; serving as a vital link between the Union and State Governments and institutions of higher learning; and advising the Central and State Governments on the measures necessary for improvement of university education.

1.5 Indian Higher Education- an overview

In the Indian context the age group of students from 18-24 usually corresponds to university/tertiary education. The courses may include Non-Professional (e.g. Humanities / Pure Sciences / Commerce) Degree Courses. Responsibility of the Central, States and Local Bodies for Education has been laid down in the
Constitution. From 1950, when the Constitution came into force, till 1976, Education was essentially a State subject, with the role of Central Government being limited to running Central Universities, Central institutions of training and research, and institutions of national importance, Coordination and determination of standards in institutions for higher, scientific and technical education and research. With the 42nd Amendment to the Constitution in 1976, Education in general is shifted from the “State List” to the “Concurrent List”, thus giving the responsibility of education both to the Central and State Governments.

1.6 Size of the Indian Higher Education System

Following are some of the indicators of the size of India's Education System (2003-04): a total enrolment in University Deptts. / University Colleges was 1426793 during the year 2005-2006. Number of Universities as on 31.03.06 was 355 [20 Central; 216 State; 101 Deemed Universities, 5 Institutions established under State Legislation, 13 Institutes of National Importance].

The most important achievements in the Indian education sector has been a remarkable increase in the literacy rate from 18.3% in 1950-51 to 64.8% in 2001-2003. The number of general and professional colleges in the country too increased from 578 in the year 1950-51 to 18,064 in 2003. There were only 27 Universities in the year 1950-51 and now there are 355 Universities as on 31.03.2006. The Government of India has taken up many steps to sort out these

3. http://indiacode.nic.in/coiweb/amend/amend42.htm
4. UGC Annual report 2005-2006
6. http://www.education.nic.in/cd50years/g/z/EV/oZEV0101.htm
problems faced by the country and to increase the public expenditure on education, which at present is a mere 3.76% of the total budget allocation as on 2003-2004. In spite of mammoth growth in the number of Universities, there are issues related to the access, participation, equity, quality, relevance, management and resources. Some of them are presented below:

\textit{Access}: While availability of elementary schools within a reasonable distance from habitations is now fairly universal, the same cannot be said in regard to Secondary Schools and Colleges. Pockets still exist in many remote parts of the country where the nearest Secondary School or College is much too far for everyone to be able to attend. Further, Dr Manmohan Singh, the Prime Minister of India observed that 340 districts in the country have extremely low college enrolments. “The Central Government would work with the states to support expansion of colleges to these 340 districts,” he said while addressing the 150th anniversary of University of Mumbai on June 22, 2007. Increasing access to higher education involved expansion of supply as well as improving financial resources of aspiring students, the prime minister said.

\textit{Participation & Equity}: Gross Enrolment Ratios for the elementary, secondary and tertiary stages of education in 2003-04 were 85%, 39% and 9%, respectively. These participation rates are undoubtedly low, and need to be raised very substantially, for India to become a knowledge society / economy. A linked challenge is one of equity. Participation rates in Education are poor largely because students from disadvantaged groups continue to find it difficult to pursue it. Even when they manage to participate, students suffering from disadvantages of gender, socio-economic status, physical disability, etc. tend to have access to education of considerably lower quality than the others, while the

education system needs to provide them access to the best possible education so that they are able to catch up with the rest.

Quality: The challenge of quality in Indian education has many dimensions, for example, providing adequate physical facilities and infrastructure; making available adequate teachers of requisite quality; effectiveness of teaching-learning processes; attainment levels of students, etc are to be addressed. Besides the need to improve quality of our educational institutions in general, it is also imperative that an increasing number of them attain world-class standards and are internationally recognized for their quality.

Relevance: Education in India needs to be more skill-oriented – both in terms of life-skills as well as livelihood skills. In sheer numerical terms, India has the manpower to substantially meet the needs of a world hungry for skilled workers, provided its education system can convert those numbers into a skilled workforce with the needed diversity of skills.

Management: Management of Indian education needs to build in greater decentralization, accountability, and professionalism, so that it is able to deliver good quality education to all, and ensure optimal utilization of available resources.

Resources: India’s stated national policy - ever since 1968 - has been to raise public expenditure on Education to the level of 6% of GDP. On the other hand, in 2004-05, outlay of Central and State Governments for Education amounted to about 3.5% of GDP. Thus, the gap in allocations for Education is still substantial, and needs to be urgently bridged.

1.7 Scenario of Higher Education

Higher Education in India has evolved in distinct and divergent streams with each stream monitored by an apex body, indirectly controlled by the Ministry of Human Resource Development. The respective state governments fund the
states universities. However, the Union Government funds Central Universities and Institutes of National Importance, so they have an edge over the State Universities with respect to the resources.

The engineering education and business schools are monitored and accredited by the All India Council for Technical Education (AICTE) while medical education is monitored by the Medical Council of India (MCI). Indian Council for Agriculture Research monitors education and research in Agriculture. Apart from these, National Council for Teacher Education (NCTE) controls the entire teacher training institutions in the Country. Apart from these, the Country has some ace engineering, management and medical education institutions, which are directly funded by the Ministry of Human Resource Development, Government of India. Admission to all professional education colleges is done through all-India common admission tests of which the IIT-JEE, AIEEE, CAT and CPMT are the most popular ones. Most of the institutions reserve a small percentage of seats for foreign students.

The institutions of higher learning in India fall into the following broad categories:

a) Universities: These are established by an Act of Parliament or State Legislature and are of unitary or affiliating type. They are called Central Universities and State Universities respectively.

b) Deemed to be Universities: These institutions are given deemed to be university status by the Central Government on the recommendation of the UGC in terms of Section 3 of the UGC Act. Some of these institutions offer advanced level courses in a particular field or specialization while others award general degrees.

c) Private Universities: These are established by various State Governments through their own legislation.
d) Institutes of National Importance: These Institutes are declared as such by the Government of India by an Act of Parliament and are empowered to award degrees. In some cases, such Institutes are also set up by the Government through an Act of State Legislation.

e) Premier Institutes of Management: These are the Institutes that have been set up by the Central Government and are outside the formal university system. They offer Post-Graduate Diploma Programmes, which are equivalent to Master’s Degree Programmes in the area of Management.

The Universities are of various kinds:
- Those with a single faculty or multi-faculties
- Teaching or affiliating or teaching-cum-affiliating universities
- One campus or multi-campus
- Language Universities
- Technological Universities
- Agricultural Universities
- Medical Universities
- Women’s Universities
- Special Institutes of Medicine, Science, Law, Engineering and Technology, Management and Social Sciences etc.,

1.8 Use of ICT in Education Sector

Computers began to appear in School and University classrooms in the more advanced countries around the early 1980s. Broadband connections to schools and Universities became commonplace in wealthier countries in the second half of the 1990s. In developing countries, experience is more limited. Initially, educators saw the use of ICT in the classroom mainly as a way to teach computer literacy. Now it delivers many kinds of learning at lower cost and with higher quality than traditional methods of teaching. In addition, Universities
increasingly use ICTs, as do other large organizations, to reduce the costs and improve the efficiency of administration.

Today computers are being used in every sphere of life, such as, Science, Medicine, Architecture, Communication, Technology, Social Sciences, Music, Printing, Management, Engineering, Automobile industry and score of others. Computers are also used for educational and managerial purposes. Computers are used in the higher educational institutes for their management, data collection and its retrieval. Software can be prepared to suit the needs of an institution which include admissions, admission tests, fee collection, management of students attendance, etc., mark sheet preparation and a score of other allied activities.

Many courses on computer applications, software applications are run by the Universities. Universities prepare human resources for the industry and many times the market forces would determine the University Educational System. Many educational institutions have responded to the new technological initiative and brought changes in the campus life. As an apex body for funding and maintaining the quality, some of the ICT enabling initiatives taken up by the UGC are:

1. UGC has adopted an innovative approach to reach out to the largest number of institutions, to enable and facilitate them to leverage technology in teaching - learning, research, and institutional governance. UGC is progressively providing free connectivity to all institutions. Many universities have the UGC info net programme.

2. Through consortium mode, UGC has provided access to electronic subscription of more than 2500 scholarly journals to 50 Universities in the country. Special thrust is being given to creation of multi-media web enabled content for enhancing quality of learning experience.
3. UGC has been working through its various Inter University Centers (IUCs), like, CEC for e-content development initiative and INFLIBNET Website for connectivity and e-Journals consortium initiative.

4. Recently the UGC is providing the EDUSAT facility to Universities to take it to the classrooms. Consortium for Educational Communication and the ‘Edusat Multi Media Research Centres’ are the nodal agencies to help leverage EDUSAT’s potential.

1.9 Government of India Initiatives

National Informatics Centre\(^{10}\) (NIC) of the Department of Information Technology is providing network backbone and e-governance support to Central Government, State Governments, UT Administrations, Districts and other Government bodies. It offers a wide range of Information and Communication Technology (ICT) services including Nationwide Communication Network for decentralized planning, improvement in Government services and wider transparency of national and local Governments. NIC assists in implementing Information Technology Projects, in close collaboration with Central and State Governments. NIC endeavours to ensure that the latest technology in all areas of IT is available to its users.

The developing countries need to accelerate their developmental processes in the use of Information and Communication Technology. ICT tool has been used as the most powerful in the growth and development of education system. The education sector forms the backbone to several industries and other service sector. Information and Communication Technology in Education has been identified as a tool to undertake several research activities. The present study is a humble and earnest attempt in this direction to know how ICT enables the university education for academic achievement and excellence.

\(^{10}\) http://home.nic.in/\#
1.10 **EDUCATIONAL SATELITE (EDUSAT)**

Indian Space Research Organisation\(^{11}\) (ISRO) launched a communication satellite called GSAT-3 for exclusive use of education sector. EDUSAT, the Indian Satellite in Education Programme launched in September 20 2004, is India’s ambitious programme to harness satellite technology to reach students in every corner of the country. It aims to provide connectivity to schools, colleges and institutions of higher learning and support non-formal education including developmental communication.

EDUSAT is the first Indian satellite built exclusively for serving the educational sector. It is mainly intended to meet the demand for an interactive satellite based distance education system for the country. EDUSAT is primarily meant for providing connectivity to school, college and higher levels of education and also to non-formal education including developmental communication. Two types of receive terminals can be used to receive the EDUSAT programmes. Firstly, Receive only Terminal (ROT). It is one-way video/ one-way audio, no interactivity. Any signal originating from the main hub can be received on the ROT. Second type is Satellite Interactive Terminal (SIT): It is one-way video/two-way audio. This terminal can receive the broadcast signal transmitted from the main hub and can interact with any other similar SITs configured under main network. It can also receive signal transmitted from the sub-hub. There is one National Beam on Ku-band with a capacity to support 6-8 national networks, which will cover the whole country except the Andaman & Nicobar Islands.

1.11 **UGC’s Initiatives for Excellence\(^{12}\)**

The Indian higher education system has, in recent times, become fully aware of the need for quality. Hence, institutions will have to adapt to modern methods

\(^{11}\) http://www.isro.gov.in/programmes.htm
\(^{12}\) http://www.ugc.ac.in/financialsupport/excellence_29.html
of teaching and learning, developing learner-friendly teaching materials, changing their evaluation methods and striving for excellence, to sustain themselves in this competitive world.

Quality and excellence do not happen by accident. Organized and focused efforts are needed to achieve global standards in post-graduate teaching and research programmes. Universities are also expected to have a strategy to ensure that the positive outcome of these innovations in teaching percolate to the undergraduate level.

The UGC Scheme of support to the universities with potential for excellence is meant to induce the university to do a critical analysis of the present strengths and devise strategies, working plans and mechanisms to achieve global standards of quality in the entire post-graduate teaching and research programmes. The university is also expected to have a strategy to percolate the positive outcome of its innovations in teaching at the post-graduate level. The university is expected to adopt modern teaching methods and technologies to enhance the quality of teaching at the under-graduate and post-graduate level through flexible credit based modular system and the whole range innovations currently accepted in the world of education. The university is also expected to organize its research activities in selected thrust areas so as to make university departments and centers a hub of quality research and development activities. Such innovations, in teaching and research, are expected to establish a foundation for new and improved approaches for internal governance as well to achieve excellence.

The monitoring committee has considered the universities in responding to the challenges for enhancing its entire academic, research and development as well as governance structure to converge their strengths and reduce weaknesses so as to become a better educational system in totality.
1.11.1 The points for awarding the
Potential for Excellence:
   a) A vision and policy framework to achieve it.
   b) Focused objectives.
   c) Operative mechanism and the success in bringing the operative
      mechanism in operation.
   d) Report on programmes undertaken both at teaching and research
      level.

1.11.2 Teaching learning
   (a) Introduction of new teaching programmes by combining the
       strengths of various university departments in emerging and
       frontier areas of studies.
   (b) Strengthening of existing departmental teaching and learning
       programmes.
   (c) Improvement of teaching and learning process and examination.
   (d) Strengthening of teaching learning process through multimedia,
       computer aided instruction, e-learning process and web test
       courseware.
   (e) Introduction of multi disciplinary teaching learning activities.
   (f) Innovations in academic structures through credit based modular
       structure and/or any other method.

1.11.3 Research and development

   (a) Initiation of research activities in the identified areas of major
       thrust.
   (b) Initiation of research activities through participation of various
       university departments and/or centres.
   (c) Strengthening of university departments for their existing research
       activities.

(d) Establishing linkages and interaction with national R&D laboratories, regional institutions and industries.

(e) Augmentation of research infrastructure facilities that would be of benefit to university as a whole.

**1.11.4 Governance and other related areas**

(a) Re-organisation of academic and administrative set up.

(b) Quantum boost to existing amenities, students' facilities and other support mechanism.

(c) Augmentation of the physical infrastructure.

(d) Efforts to improve and strengthen the academic, technical and administration human resource.

(e) Initiation of participatory academic governance.

(f) Reforms in administration and Finance management.

The UGC in the X Plan has tried to enhance the teaching learning process to a higher level of achievement in Universities, across the entire country. With the right integration of the information and communication technology the UGC has tried to sort out the concerns created by the disadvantages of geographical locations of the Universities. In addition to this, the UGC has also adopted a strategy to identify a few universities to achieve excellence in teaching and research activities.

The UGC initiated this approach in five universities identified as Universities with potential for excellence (Jawaharlal Nehru University, University of Hyderabad, Madras University, University of Pune and Jadavpur University) in the IX Plan period. These Universities would achieve better standards in teaching and would focus on research in selected thrust areas. During the second phase of the Tenth Plan, four more Universities viz. University of
Calcutta, University of Mumbai, North Eastern Hill University and Madurai Kamaraj University have been identified for according the status of “University with Potential for Excellence” (Annexure- V) with allocation of Rs.30.00 Crores to each of the four universities.

Thus UGC is promoting the excellence through funding the Universities. Till 2006, Nine (9) Universities were identified for “University with Potential for Excellence” and in its recent recommendations the ‘Knowledge Commission’ has suggested that India should have 50 National Universities and more than 1400 Universities in tune with the size of Indian population.

1.11.5 Centre of Excellence

Twelve Universities were identified for establishing “Centre of Excellence” in the identified areas with a grant of Rs. 5.00 Crores. 12 Universities were identified as “Centre of Excellence” status (Annexure – VI).

1.11.6 UGC-INFONET

*UGC-Infonet* is one of the programmes of University Grants Commission for building high speed Nation wide Communication Network for Indian Universities. ERNET/INFLIBNET (Inter University Centre for Library Network) is regularly organizing training programs for Computer professionals, system analysts from Universities to manage/ maintain the UGC-Infonet in their Universities. As on 31/03/2006, about 149 Universities across the country are connected under UGC-INFONET Project with VSAT/ SCPC/ Leased line in the bandwidth range of 256 Kbps/ 512Kbps/ 1Mbps/ 2Mbps. Now, all the Universities under the ambit of UGC are able to access UGC-Infonet E-journals over the UGC-Infonet successfully for the last two years. UGC-Infonet programme is managed by INFLIBNET for its execution and monitoring.

During the year 2005-06, the UGC has also released a total grant of Rs.7.50 Crores to the INFLIBNET under the scheme against the allocation of Rs.7.50 Crores. (UGC, Annual Report 2005-2006, p.89)

1.11.7 National Assessment and Accreditation Council\(^{15}\)

In pursuance of the National Policy on Education (NPE) and the Programme of Action (POA), 1986, the University Grants Commission (UGC), under section 12 CCC of the UGC Act of 1956, established the National Assessment and Accreditation Council (NAAC) on 16 September 1994 at Bangalore.

The prime agenda of NAAC is to Assess and Accredit institutions of higher learning with an objective of helping them to work continuously to improve the quality of education. Assessment is a performance evaluation of an institution and/or its units and is accomplished through a process based on self-study and peer review using defined criteria. Accreditation refers to the certification given by NAAC which is valid for a period of five years. At present the accreditation by NAAC is voluntary. NAAC is member of International Network for Quality Assurance and Accreditation of Higher Education (INQAAHE) and newly created Asia Pacific network for Quality Assurance (APQN). So far NAAC has Accredited 140 Universities (state, Central, Deemed to be Universities) and 3492 Colleges as on 31.03.2007.

The system of higher education in India has expanded rapidly during the last sixty years. There are built-in regulatory mechanisms that aim to ensure satisfactory levels of quality in the functioning of higher education institutions (HEIs). The NAAC, has been instilling a momentum of quality consciousness amongst Higher Education Institutions, aiming for continuous improvement.

\(^{15}\) http://naacindia.org/publications.
Institutions of higher learning across the country have realised the benefits of NAAC Assessment and Accreditation, in triggering a ‘Quality Culture’ amongst the various constituents of the higher education institution.

The NAAC has adopted New Methodology of Assessment and Accreditation from 1st April 2007. The new grading system, Cumulative Grade Point Average (CGPA) is expected to bring the rigour, reliability and validity. The institutional CGPA arrived at on a four-point scale, from with letter grade A (3.01-4.0) with performance descriptor Very Good (Accredited); B (2.01-3.00) with performance descriptor Good (Accredited); C (1.51- 2.00) with performance descriptor Satisfactory (Accredited); and D (≤ 1.50) with performance descriptor Unsatisfactory (Non-Accredited).

1.12 Quality in Higher Education

Higher education is a transformative process of increasing wisdom and expertise for the benefit of humanity. That is, universities are, basically, places where people and ideas are transformed: students gain expertise and knowledge; ideas are transformed into research and further understanding. To the extent that everyone agrees on this, all universities have similar goals. But, this doesn’t mean that all universities or higher education providers aim to achieve the same type or degree of transformation, as there are wide differences among universities. These differences are reflected in the outcomes they aim at, for, e.g. employability versus the broad perception of general education.

However, there is general agreement that all institutions should have to meet minimum criteria to be accepted as offering higher education or be allowed to be a ‘university’. There are several definitions of quality in higher education
(Green 1994): Excellence; Fitness for purpose; A threshold; Added value; Value for money; Satisfaction of the client.

Each of these definitions has merit. For example, many academic processes are based on the concept of quality as ‘excellence’ (e.g. student assessment; peer review of research). These definitions will have differing degrees of importance to different stakeholders. For example, threshold standards and value for money are important to governments. The challenge is to meet the ideas of varying stakeholders about what constitutes ‘quality’. A ‘fitness for purpose’ approach allows universities to define ‘quality’ by defining what they will offer to clients (students) and society. It also allows universities to set realistic goals.

We talk of ‘high quality teaching’, for example, when we mean ‘good Teaching’. Quality implies an evaluation of how good something is. Some time ago, the word ‘quality’ meant ‘excellent’. Gradually, the evaluative dimension took over, so we speak now of ‘poor quality’ and ‘high quality’. If every member of a category is excellent, we tend to take it for granted. It’s only when we can tell the difference that we start to talk about quality. We would like to think that quality is an absolute, because quality is associated with a judgment about being ‘excellent’ or ‘the best’ in respect of a particular characteristic.

Magazines are always putting out lists of the ‘best restaurants’, ‘best cars’ and so on, where experts make judgments for us. However, even in these cases, the particular characteristic is relevant. ‘Is the best car the fastest’, ‘the safest’, ‘the cheapest to run’, ‘the easiest to park’? That is, quality means different things to different people. So, quality has been defined in various ways, including ‘conformance to specifications’, ‘meeting customer requirements’, ‘value-for-money’.

Over a time, definitions of quality relevant to the production of goods and services have begun to coalesce around ‘fitness for purpose’ (FFP). The reason is that this definition includes most of the others, and therefore provides an ‘organising principle’ for approaches to the achievement and checking of quality. If you set out to do something excellent, then Q=FFP aligns quality with being excellent; if you set out to provide value for money, Q=FFP becomes quality as value for money. Thus, the definition of ‘quality’ can be calibrated to what the organization is trying to do to meet the needs of clients and other stakeholders. This ‘inclusive’ definition requires an organisation to first define its purposes. ‘Quality’ refers to the evaluation of whether or not the organisation has met those purposes.

UNESCO (2004) gave two principles that attempt to define quality in education: the first identifies learner’s cognitive development as the major explicit objective of all education systems. Accordingly, the success with which systems achieve this is one indicator of their quality. The second emphasizes education’s role in promoting values and attitudes of responsible citizenship and in nurturing creative and emotional development.

Quality education is a dynamic process; not a static or a finished product. It evolves as it adapts itself to the needs of human existence and the aspirations of the human spirit. It is equivalent to what is considered excellent or successful in the process of developing the human potential, of rearing the young to be a desirable member of a social group, according to its standards and expectations, to what the group considers ideal.

There is an essential link between quality of education and the quality life both individual and social. It is an expression of the human yearning for excellence.

Even before formal schooling began, societies aimed to transmit the best of their cultures, tangible and intangible, their patterns of behaviour, their beliefs and value-systems, their artifacts, products of their ingenuity and creativity, their social institutions—from generation to generation through the family and other small social groups. Thus, education was synonymous with socialization and enculturation towards the development of the young by the elders to become worthy and useful members of the society, as envisioned by that particular society.

UNESCO\textsuperscript{20} (2005) document on Global Monitoring Report states that it is equally vital that students were given an education of good quality. “Quality education” is difficult to define precisely, but three principles identified which underlies what quality education represents: education that is relevant, education, which is equitable in terms of access and outcome, and education, which observes individual rights.

Quality education can therefore generally be understood as being education that provides students with the locally-relevant abilities required for them to function successfully in their society; is appropriate in terms of the students’ lives, aspirations and interests, as well as those of their families; and is inclusive and rights-based.

\subsection*{1.13 ICT in Education}
Higher education sector over the last decade has seen the rise to a multiplicity of new organizational structures designed for meeting new challenges. All of them would like to exploit the developments in information and communication technology to design, manage and to deliver courses and training modules.

The need for open and flexible learning has exploded, so the technology to support new methods has been developing at an equally fast pace. The term information and communication technology (ICT) encompasses all the computerised teaching systems, such as CD-ROM, as well as all the telecommunication systems, such as web and video conferencing. This can support aspects of teaching and learning from courses' development, presentation, delivery and support to administration, registration, assignment handling and marking, even when the student community is widely dispersed and never meets face–to–face.

Green S. A. (1996), states that "the pursuit of the principle of quality means maintaining and applying academic and educational standards, both in the sense of specific expectations and requirements that should be complied with and in the sense of ideals of excellence that should be aimed at. The definition of these expectations and ideals can differ from context to context, partly depending on the specific purposes pursued. Applying the principle of quality entails evaluating services and products against set standards, with a view to improvement, renewal or progress".

UNESCO (1998) states that “The rapid breakthroughs in new information and communication technologies will further change the way knowledge is developed, acquired and delivered. It is also important to note that the new technologies offer opportunities to innovate on course content and teaching methods and to widen access to higher learning”.

According to Rosswall, Thomas (1999), ICT enhances Higher Education in a number of ways: It enables the effective storing/sorting of information, and can offer new fast ways of communication. It enables the reduction of information quantity towards a higher quality and better structure. It can be integrated into teaching and learning strategies and used to support relative learning theories; and ICT (computers, Inter and Intranet) can be used to create new types of
interactive learning media for improved quality, equity, and access in Higher Education. ICT enhances teaching and learning, and can be “integrated into teaching and learning strategies.

According to Haddad and Jurich Sonia (2002) improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment, motivating to learn. ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process. Interactive radio likewise makes use of sound effects, songs, dramatizations, comic skits, and other performance conventions to compel the students.

1.14 Traditional View of Academic Excellence
Astin Alexander W.\textsuperscript{21}, argues as to on what specific policies and practices in higher education do we justify on the grounds that they promote excellence? What really matters to us? Where do we direct our attention, and to what ends do we direct our energies? What do we pay attention to? What in other words are the values that govern our efforts to achieve excellence? Although answers are multifold in nature, in practice only two concepts of excellence govern much of what we do. One is ‘resources’ and the other is ‘reputation’.

What is especially important about these two views is that they are seldom

stated explicitly, yet they are implicit in our policies and practices. The problem here is that the pursuit of excellence in terms of resources and reputation is only tangentially related to our more fundamental societal purposes, and especially to our educational function.

The concept of resources is based on the notion that excellence depends primarily on having plenty of resources. In other words, quantum of resources in an institution is directly proportional to promoting excellence. The resources that induce excellence are of three different types: money, high quality faculty, and high-quality students. Money can be measured in terms of endowment, income from public and private sources, the amount we actually spend, and the things money can buy: libraries, laboratories, physical plant, faculty and students. Faculty can be of high-quality according to some laid down parameters, namely highest academic degrees they hold or reputation of the institutions where they received it, but the ‘highest-quality’ faculty (i.e. the ones who are most sought after and who command the highest salaries) are almost always the ones who are widely known for their research and writings, “high quality” students are those who earned high marks and who received high score in admissions tests.

The concept of that of reputaitonal view of excellence is based on the notion that the most institutions of excellence are the ones that enjoy the best academic reputation/image, the good research work done and research projects handled by the institution, the consultancy work undertaken, rating by the accrediting agency, pecking order (reputaitonal polls in which people are asked to rate the excellence or quality). Under this reputaitonal view the excellence of an institution is determined by its position in the society.
An important feature of these two traditional views of excellence is that they both produce very similar ranking of institutions. That is, the institutions that occupy the top positions in the reputational hierarchy tend to be the same ones that have the most resources of money, prestigious faculty, and high-performing students (Astin. A., 1985). On reflection, this close correspondence is really not so surprising. Having a great deal of resources can help to enhance reputation, and having an outstanding reputation can help to attract money, prestigious faculty and bright students. Reputation and resources, in short, tend to be mutually reinforcing.

1.15 Rationale

The Flinders University’s education principle for supporting academic excellence, is that those who teach its students must strive for excellence in their teaching. This encompasses a commitment on the part of teachers to learn, and to continue to learn, improving the teaching and learning process; to seek advice and feedback on all aspects of their teaching; to reflect upon their teaching and the impact it has on students; to develop an understanding of their own and others’ approaches to teaching; to draw on relevant aspects of their research to improve their teaching; and to be able to articulate their teaching philosophy and demonstrate how it is implemented in the range of teaching scenarios with which they are faced.

University actively encourages its teaching staff in these endeavours. It is committed to support them in their efforts to improve, develop and bring new ideas into the learning environment. Similarly, it is committed to provide incentives through tangible and demonstrable recognition of achievement and excellence in teaching. The University aims at making use of existing and

emerging information and communication technologies (ICT) to support academic staff in their efforts to achieve excellence as teachers, and thereby improve students' learning experience. It is also committed in providing support and resources for engaging staff in the scholarship of teaching.

University offers an induction program that provides opportunities for new academic staff. It also provides ongoing professional development opportunities for academic staff to improves their performance and efficiency. It recognizes the importance of innovation in teaching and learning and aims to provide appropriate means to support the development, adaptation or application of new or different approaches. Members of the academic staff are required to participate in an annual *Academic Staff Performance Review* program that is intended, among other things, to enable them, in a confidential and formative setting, to discuss their own and the University's expectations of their teaching, and the outcome of any student evaluations of teaching, peer reviews and other evidence of teaching effectiveness. University recognises the importance of teaching excellence, and aims to support it by offering high-level awards for excellence in teaching.

Some of the Universities that opt for the ICT usage in their Universities like Griffith aims at innovation in their work and are committed to multidisciplinary teaching and research and creation and communication of knowledge. In the pursuit of excellence in teaching and research, Griffith University is committed to innovation, bringing disciplines together, internationalization, equity and social justice, lifelong learning and for the enrichment of Queensland, Australia and the international community.

The Educational Excellence Committee would be looking into the Learning and Teaching strategies including – provide advice on policies that promote high quality and innovative teaching; provide advice on the development, evaluation, selection of the University's nominations for the Carrick Awards for Australian University Teaching; disseminate good practice in learning and teaching and promote the achievements of the University's staff and students both within and external to the University; foster the recognition of student excellence by providing advice on grant schemes; provide advice on and develop schemes to recognize and reward student excellence and foster the development of high achieving students; provide advice on the annual budget required to support recognition schemes and activities including recommendations to the Budget Authority on the annual value of scholarships, the value of awards, the number of awards which should be made each year and the allocation of funds to support the award.

Government of India has initiated the use of Information Technology as well as Information and Communication Technology in different organizations. The first National Conference of IT ministers held on 15th July 2000, set up a ‘Task Force on Human Resource Development (HRD)’ in Information Technology (IT) to maintain the global leadership position in the knowledge led business. Re-engineering of the technical education and training system of the country with specific focus on IT education was proposed. The recommendations came under ‘National Programme for Human Resource Development in IT (NP-HRDI)’

This relates to strategic interventions under definite plan of action. Several recommendations such as setting up of Institutes of Information Technology, Use of ICT for improving institutional performance for increasing efficiency and

productivity, promoting networking of Institutions through National Network of Institutions’, digitize libraries of original works, IT faculty Development Initiatives, early faculty induction programme, quality improvement programme, sequential PG programme in IT, PG programme in IT dual mode, adjunct faculty from IT industry and adopting modular, credit based approach in curriculum design at various levels for enhancing student mobility. The national recommendations also including setting up of National Qualification Framework for IT education, courseware development Initiative, web-based forum for facilitating curriculum, promotion of technology-mediated IT education using broadcast media, teleconferencing, web-based and other multimedia approach, promotion of post-graduate education and research programmes and facilitating collaborations between Universities and IT industry (IT manpower -MHRD -2000).

The apex bodies like, UGC, AICTE, have implemented some of the programmes and as a result the changes are seen in the campuses of higher education institutions. Now the IT Industry along with Universities has started ‘Resource Centres’ and ‘IT Finishing Schools’.

Recognising the potential of ubiquitous Broadband service in growth of GDP and enhancement in quality of life through societal applications including tele-education, tele-medicine, e-governance, entertainment as well as employment generation by way of high-speed access to information and web-based communication, Government have finalised a policy to accelerate the growth of Broadband services. Further, use of broadband-name being treated, as a part of the value shall be permitted in such commercial arrangements. (Broadband Policy\textsuperscript{25} GoI, 2004)

Information and Communication Technology in Education has been identified as a tool to undertake several research activities. The present study is a humble and earnest attempt in this direction to know how ICT enables the university education for academic achievement and also in the journey to achieve excellence. Part IV of the Indian Constitution dealing with Fundamental Duties\textsuperscript{26} declares that it shall be the duty of every citizen of India — ‘to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement’.

Most of the literature surveyed for the purpose of the present study focused on Higher education in general. Teaching and learning and library services; the administrative and managerial aspects of the use of ICT and its impact on research and evaluation of student performance are some of the areas which are yet to be explored. Use of ICT in distance education too is relatively an unexplored area. Moreover, one does not have adequate information / research on problems and advancements made in third world countries like India. That is to say we are yet to get a comprehensive picture of the use of ICT in the Indian Universities.

Secondly, lack of specific case studies becomes obvious when one maps the terrain. It is also important to inquire if the intervention made by quality assurance agencies, like, NAAC has any impact on the system of HE in general and on the use of ICT in HE in particular. Thus, it was thought necessary to conduct systematically a research to study in to the use of ICT in students’ admissions, staff recruitment, teaching and learning, examinations, library and information services, and administration and finance.

1.16 Statement of the Problem
The study was stated as:

‘Role of Information and Communication Technology in Pursuit of Academic Excellence: A Comparative Study of Indian Universities’

1.17 Operational Definition of Terms

1. Information and Communication Technology (ICT)

Information and communication technology encompasses all the computer-based teaching systems as well as all the telecommunication systems, such as computing, records and finance management, the web and the Online -systems, video and tele-conferencing. ICT can support aspects of teaching and learning like course development, presentation, delivery and support to admission, examination, assessment, library and information services, finance and administration.

2. Academic Excellence

Academic excellence of an educational institution depends on the teaching learning process and the relevant research activity undertaken to enable the institution to keep the highest order of benchmark in its institutional activities.

3. State Universities and Other Universities

State Universities are established by an Act of State Legislature and are of unitary or affiliating type, funded by the respective states.

The Other Universities are referred in the research work as Central and Deemed to be Universities.

i. Central Universities are established by an Act of Parliament and are of unitary or affiliating type, funded by the Central Government.

27. http://www.education.nic.in/cabe/AutonomyHEI.pdf
ii. The central Universities are funded by Central Government, MHRD and Deemed Universities are Under Section 3 of UGC Act, basically self-funded and some are funded by the UGC and MHRD.

iii. Deemed to be Universities are established on the recommendation of the UGC in terms of Section 3 of the UGC Act by the Central Government.

1.18 Objectives of the Study

The objectives of this study are:

- To compare the use of Information and Communication Technology in the admission of students for various courses admitted in State Universities and Other Universities.
- To compare the use of Information and Communication Technology in employment of staff in state Universities and Other Universities.
- To compare the use of Information and Communication Technology in Teaching and Learning Process at different levels in State Universities and Other Universities.
- To compare the use of Information and Communication Technology in Examinations at different levels in State Universities and Other Universities.
- To compare the use of Information and Communication Technology in Management of Library in State Universities and Other Universities.
- To compare the use of ICT in administration of University in state universities and Other Universities.
- To compare the mean scores of responses towards the use of Information and Communication Technology in Higher Education by teachers belonging to State Universities and Other Universities.
- To compare the mean scores of responses towards the use of Information and Communication Technology in Higher Education by administrators belonging to State Universities and Other Universities.
1.19 Hypotheses of the Study
The following hypotheses were stated:

1. There is no significant difference between mean scores of responses towards the use of Information and Communication Technology in Higher Education by teachers belonging to State Universities and Other Universities.

2. There is no significant difference between mean scores of responses towards the use of Information and Communication Technology in Higher Education by administrators belonging to State Universities and Other Universities.

1.20 Limitations of the Study
The following were the limitations of this study.

- The sample comprised only accredited Institutions and about 60% of them responded.
- The data in respect of Perception of Use of ICT were collected from University Teachers and Administrators.