
DIGITAL DEVELOPMENT IN ENGINEERING COLLEGE & ACADEMIC LIBRARIES

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ABSTRACT

Libraries are considered to be the heart of an education institute. They primarily exist to provide information to the learners. Due to rapid advancement in Information Communication Technology and the free availability of information on the internet, the traditional libraries face a keen competition from hybrid/electronic libraries. Now, a day's users try to get information through internet as it is very easy to search and get information, instead of spending hours together in the library looking for information in the books, journals and other reading materials. Currently, libraries are gradually being transformed into knowledge resource centers. They are no longer limited to collection of books and periodicals. Users now require access to numerous kinds of materials and expertise. The modern library acts as a networking "hub" that collects, manages and disseminates electronic information and knowledge beyond just providing access to a collection of printed books and other publications

Key words : Library, information, networking

INTRODUCTION

The Digital library is a field with an incredibly rich, and, as yet, poorly chronicled pre-history and early history. There is a stream of work and ideas that reaches back to at least the turn of the 20th century, and includes such thinkers as H.G. Wells and Paul Otlet; later contributors (Lynch, 2005) to the pre-history of visions of new, technologically-enabled means of knowledge organization. Ioannidis defined digital library (Ioannidis, 2005) as the meeting point of many disciplines and fields, including data management, information retrieval, library sciences, document management, information systems, the web, image processing, artificial intelligence, human-computer interaction, and digital curation. The technical and engineering basis for digital libraries also reaches back several decades, to the 1960s, and includes online research and commercial information services, library automation systems, document structuring and manipulation systems, human computer interface work and a wealth of other efforts.

The first libraries were only partly libraries, and stored most of the unpublished records, which are usually viewed as archives. The archeological as well as literary evidence (written by Chinese travelers in India) make it clear that writing and reading of manuscripts were regularly practiced in ancient period since the fourth century B. C. to the sixth century after Christ. This must have led to the growth and development of collection of manuscripts in important centers of learning. The important library of that period was that of Nalanda University of Bihar in the fourth century AD. The library was said to be in three grandest buildings, the area of which was called "Drama Ganja" meaning mast of religion. The other important academic library of that period was Vikramsila, Odantapuri, Somapuri, Jaggadal, Mithila, Vallabhai, Kanheri, etc. During that period there was a considerable activity in South India too, and there was a tradition about the libraries in that period known as sangam age.

The Buddhist of India laid special emphasis on the writing of manuscripts and maintaining their collection. The Jains and Hindus also made immense contribution in the field of learning. They patronized education and literary activities, established innumerable institution called Upasrayas and Temple College. Acharya Nagarjuna, the founder of Mahayana Buddhism is known to have maintained a library on the top floor of the university building. It was also said that Takshila has a rich library.

ANCIENT AND MEDIEVAL PERIOD

The medieval cycle may be roughly taken to have ended with the seventeenth century. It was during the ascending phase of this cycle that the giant intellectual and spiritual leaders such as Sankara, Ramanuja and Madheva flourished. In this period India had got before history of classify education. In the gurukul education system it is oldest one of on the earth but before that the guru shishya system was present in this system students were lived jointly trained orally and the data would be accepted from one age group to the next generation. In that time gurukuls were conventional educations in housing schools of wisdom typically the teacher's residence or a monastery that time knowledge education was without charge and it had frequently partial to the privileged class but students from wealthy families gave gurudakshina an unpaid payment afterward end of their studies. In the gurukuls the guru provide knowledge of religion, scriptures, philosophy, journalism, contest, statecraft, medicine astrology and "History". In this period students belonging to Brahmin families and Kshatriya communities only there educated in these gurukuls and also Buddhism and Jainism created basic revolution in way in to education with their self ruled nature. The large group of early Hindu period at Ujjain, Banaras, Navadipa and Karachi and of the recent date at Bikaner, Tanjare, and Kashmir bear testimony to the assiduous core with which the libraries were formed and preserved in the country.

In the higher education the few centuries previous it saw the prosperous of higher education at "Nalanda", "Takshashila", "Ujjain" and "Vikramshila" Universities. During the ancient, medieval and modern periods of history in India libraries in one form or other have existed since in pre historic days is any beyond any shadow of doubt. At that time gave the knowledge of various subjects that is "Art, Architecture, Painting, Logic, Grammar, Philosophy, Astronomy, Literature, Buddhism, Hinduism, Arthashastra (Economics and Politics), Law, and Medicine" were together with the subjects skilled and each university dedicated in a particular area of learning. Nalanda, being main centre hold all branches of information and housed up to 10,000 students at its peak. British records emphasis on education while Takshila specialized in the study of medicine also Ujjain laid highlights on astronomy was extensive in the 18th century with a school for every temple, mosque or village in most regions of the country. In those universities the subjects taught included reading, writing, and "Arithmetic, Law, Astronomy, Metaphysics, Ethics, Medical Science and Religion". All classes of students were reached by typical culture of all classes of society and conventional structures were not familiar by the British government and have been on the decline since. "Gandhiji was said, to have described the traditional educational system as a beautiful tree that was destroyed during the British rule but scholars have questioned the validity of such an argument". The rural community pathsalas were running regularly residence in untidy home and educated by sick-eligible teachers. Coaching was partial mostly to the 3 rupees and the resident mahajanil zamindari financial records. There were no permanent class routine, printed books, timetable, School calendar were not used and most writing was prepared on palm leaf, plantain leaf, or on sand. There were students being promoted whenever the guru was fulfilled of the learner ability no annual examination. In that time there were no desks benches, black boards or permanent place seating planning in almost certainly started mid-1700 to 1820 neither the town schools nor the tolls or Madras as were the very important midpoint of education. In 1823 Raja Ram Mohan Roy send a letter to the governor general, "Lord Amherst", requesting that not expend government funds on starting a Sanskrit college in Calcutta but relatively employment "European Gentlemen of talent and education to instruct the natives of India in Mathematics, Natural Philosophy, Chemistry, Anatomy and other useful sciences." The existing system of education in the twenty century with its western style and subject matter was present and setup by the British following recommendations by Macaulay.

PRINCELY RULER'S PERIOD

From the earliest times the kings and nobles of India patronized education and encouraged writing of

manuscripts and their preservation. Even the princes of small states maintained their manuscripts libraries. The tradition was continued till the nineteenth century. The emperors of Timuride dynasty were patrons of learning. With the exception of Aurangzeb all the early Mughal rulers extended their support to art, music and literature. The libraries also made remarkable progress during their times. Humayun converted a pleasure house in purana quila in Delhi into a library. Akbar maintained an “imperial library” he was also instrumental in introducing reforms in the classification and storage of books. Jahangir is said to have maintained a personnel library which moved with him wherever he went.

EDUCATION UNDER BRITISH RULE

After the emergence of East India Company and later the British rule in India initially they had a limited objective of commercial benefits and then establishment of British Empire. after fulfilling their prime purpose, then they had started planning to tighten their planning to grip over Indian education comes “British records” explain that original education was extensive in the 18th century in most regions of the country with a school for every village, temple or mosque. The schools were reached by students typical of all classes of society only scholars have questioned the authority of such reasons they say that supporter of original education be unsuccessful to distinguish the significance of the widespread use of printed books in the west since the sixteenth century which guide to a outstanding evolution of knowledge. In Indian schools printed books were not used till the 1820 or still afterward in that time “Gresham's college” in London that encouraged scientific learning there were a number of such academic and scientific societies in England. The complete maintain of education is basis on the opinion promoted by Dharampal which declare that there was an all-purpose reject in Indian society and financial system with the coming of British rule. In the process of education undergo it was different there were large generalization and the literal impact of British rule on various regions at different times has to be considered further watchfully before it conclude that the curve all over the place gradually spread. He claims that pre-British schools and colleges were keep by fund of income-free land. The “East India company” with its strategy of enlarge land profits blocked this and thus ravenous the Indian education system of its economic income. In that time once more we require more complete proof to show how far “Inam lands” were taken over by the government. Other regularly military officers, zamindar and talukdars were disadvantaged of revenue-free land rather than temples, mosques, madras as. In that regards latest research has exposed that inam lands constant to live properly into the nineteenth century much more than was previously assumed. The current system of education with its western style and content was introduced and funded by the British in the 19th century. The British established many colleges like St. Xavier's College, Sydenham College, Wilson College and Elphinstone College in India according to Prof. Emeritus M.G. Sahadevan F.R.C.P. in London the first medical college of Kerala was started at Calicut. In 1942 to 1943 during Second World War due to shortage of doctors to serve the military, the British Government decided to open a branch of Madras Medical College in Malabar which was under Madras presidency then after the war the medical school at Calicut was closed and the students continued their studies at Madras medical college.

AFTER INDEPENDENCE

The Indian economy after freedom was made to reform less than five year plans. It was acknowledged that libraries were necessary to education. It implies that as soon as freedom education turns into the duty of the states in country. The central government's simply compulsion was to bring together in technical and higher education and specifies standards of teaching values. This continued till 1976 when the education became a common duty of the state and the central government.

AFTER 1976

In this period later freedom from side to side a constitutional change. The center is corresponding to “MHRD” that is ministry of human resource development's department of education and together with the states; it is jointly responsible for the formulation of education policy and preparation. “NPE 1986 and rework POA 1992” saw that free and necessary education should be offer for all children up to fourteen years of age before the start of 21st century. Government of India complete a promise by 2000, 6% of the gross domestic product “GDP” will be spent on education out of which half would be spent on the primary education.

In Indian education fundamental rights for all children are that the 86th improvement of the Indian constitution makes education for all children aged 6-14 years and get into pre-school education for children less than six years of age was excluded from the provisions and the supporting legislation has not up till now been passed. In 1998 in the month of November, at the first time in “India’s Prime Minister Atal Bihari Vajpayee announced setting up of Vidya Vahini over network to link up universities, UGC and CSIR”.

ACADEMIC LIBRARIES DEVELOPMENT IN INDIA:

The first college to be started in this country is the Fort William College in 1800. Sir John Colville in 1857 introduced the bill to establish universities in India. In the same year Lord Dalhousie, then the Governor General of India gives immediate consent to this bill. As a result, the first three modern universities were started at Calcutta, Bombay and Madras in 1857 based on the patterns of London University.

Calcutta University Library:

Calcutta University was the first to be established on January 24, 1857. On February 24, 1869 Mr. Joy Kissen Mookherjee of Uttar paradesh donated Rs. 5,000.00 to the University for Purchasing Books for the library. The senate in the year 1872 succeeded in constructing a beautiful building at a cost of Rs. 4, 34,697.00. This is the first and oldest university library that was established in British India. In 1874, the library also started a collection of periodicals. In 1876-77, Calcutta University library had a good collection of books with printed catalogue service to the user. In 1934, a new library building was set up in the Calcutta University. In 1937, the Calcutta University Library appointed the professionally qualified librarian, Dr. Nihar Ranjan Roy. He, for the first time in India introduced the DDC and AACR rule for providing effective library services to the user.²

Madras University Library:-The Madras University Library was opened in 1907. The government of India gave a special grant of Rs. 1, 00,000.00 to the library to develop its book collection. In 1924, Dr. S. R. Ranganathan joined the Madras University Library as librarian. He was the first professionally qualified librarian in Indian history. Due to his active involvement he was able to receive Rs. 6,000.00 and Rs. 10, 00,000.00 in the year 1926. This was the first grant to be received from the government in the history of the university libraries in India. As a result of this grant, the University Library that was in-house at the Connemara Public Library since 1908 was shifted to the new location in 1936. Again five well-trained reference librarians were appointed to provide special reference service to the user this was done for the first time in the Indian history.

Bombay University Library:-

The Bombay University library was established very lately due to the lack of donation. It was the university authorities of Bombay that offered a donation of Rs. 20,000.00 for construction of library building. In 1931, a very special grant of Rs. 10,000 was given by Kikabhai and Meneklen the sons of late Premchand Roy. In 1939, the Central government provides a special grant of Rs. 50,000.00 to the University of Bombay library to strengthen its collection.

Banaras Hindu University Library:

Banaras Hindu University was established in 1916. In 1926-27 the construction of the library was made by the handsome donation of Rs. 2,00,000.00 by the late Sir Siyaji Rao, the Maharaja of Borada.

EDUCATION COMMISSION:

A brief history in India happening during British time and focus on engineering is introduced in the ministry human resource development of Rao committee it is called as Rao committee report in the education system. In this committee chairmanship held Dr. D.S. Kothari and fallows Chairman UGC began its task on 2 Oct. in 1964 it was total sixteen members and it was divided in to 11 Indians and 5 foreign experts. In this commission had explained figure of international resolutions in the teaching and learning field as well as scientific field. In 1974 the college of engineering, Guindy, Madras open as a survey school, in 1847 engineering college at Rookie, in 1854 at Pune started Poona civil engineering college, in 1856 Bengal engineering college at Shibpur, in 1916 Banaras Hindu University, in 1917 Visvesvaraya college of engineering at Nagpur and in 1920 Harcourt Butler Technological Institute at Kanpur”. In 1945 the Sarkar Committee was appointed for advanced technical education in India also it propose opening of higher technical institutes based on the Massachusetts institute of technology in the four regions of India. The five Indian institutes of technology resulted in the setting up of at Kharagpur in1950, in1958 at Mumbai, in 1959 at Kanpur, in 1960 at Madras and in1961 at Delhi it was new added on to the previous four. In 1945 the “All India Council for Technical Education” was setup to manage all technical education likes diploma, degree and post-graduate in the country. Figure 1.1 showing the creation of some of the most important Indian engineering institution in the country. There have been some official working group set up to study and revitalize engineering education in the country.

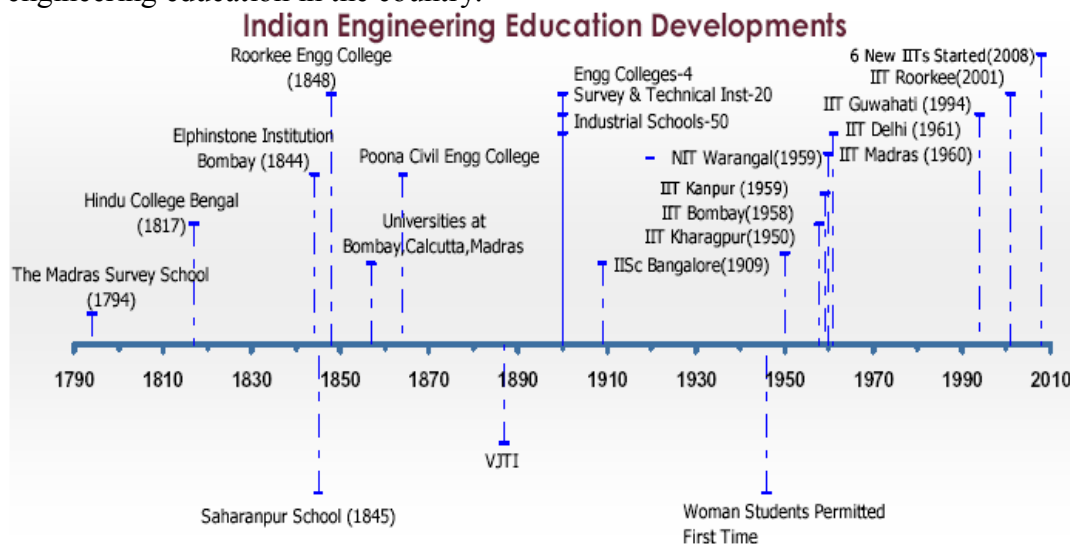


Figure 1.1: Time Line of Indian Engineering Education

RECENT DEVELOPMENT OF “ENGINEERING EDUCATION IN INDIA”:

In India, the Indian education system is usually ‘marks-based’ system in that way a few conduct test have been prepared to complete left with the “marks-based” scheme that’s why to find out which has follow to cases of despair and suicides among students. In that regards in 2005 the Kerala government bring in a “grades- based” scheme in the expectation that it will facilitate students to back off from the ruthless competition and rote learning and will be capable to concentration on productive features as well as personality development. Innovation education started by “Alumni of Harvard, XLRI” is an open up in this topic this association has previously developed model schools.

An essential subject for the opportunity victory of Indian industry is the progress of engineering education in India. Since independence, the first concentration of government policy was to give the

engineers required for the increasing financial market. India has the capability to be a wide-reaching technology controller. Indian industry is competing worldwide in software and even in areas such as automobiles, chemicals and engineering tools. Indian engineers have conventional their status for engineering and drawing skill. The settings up of the Indian Institutes of technology the regional engineering colleges and their successive conversion to the “National Institutes of Technology” were intention at complete this. Engineering in India is chosen option for brilliant students at the 10+2 level. This has resulted in engineering colleges mainly in the private sector. In spite of this industry leaders complain about the absence of quality engineers for their industry. This is escort by substantial unemployment rates together with graduating engineers.

It is seen that a regional inequality in engineering degrees with “Tamil Nadu, Andhra Pradesh and Karnataka” having the maximum number of engineering graduates per population. There is a lack of widely available records on India’s engineering education system. A contrast of a small number of select Indian institutions some institutes are given as Indian institute of technology, National institute of technology and private engineering college expose certain attractive effect with keep a record fad in the student intake, number of engineering graduates, post- graduates and PhDs. In sort out to get these we used statement of production and authorized strength percentage and their craze. India gave about 2.3 lack engineering degrees, 20000 engineering master’s degrees and about 1000 engineering PhDs in 2006. India’s doctorate degrees are below than 1% of graduate engineering degrees the percentages of doctorate degrees to engineering degrees is large amount of higher for majority of the other countries studied (9% Engineering Education in India USA, 10% UK, 8% Germany, 3% Korea).

In international level observation it is clear that most Indian institutions have not effectively progress from ‘under-graduate’ teaching institutions to teaching and research institutions. In this above discussion the largest advantages of the top engineering colleges in India is the high selectivity nearly 2% to 3% of the candidates are chosen. It is much lesser than reputed international universities. However the engineering education system has been not capable to fascinate the top engineering students on the way to post graduate studies. The Indian institute of technology and Indian institute of science give to below than 1% of the technology graduates in the country, 20% of the Master of technology and 40% of the PhDs. only about 1% or less of the graduating Bachelor of technology group of students of an IIT go for a Master of technology in India, while only 2% of the graduating Master of technology group chooses for PhD in India. About 75% of the engineering graduates are educated at the private engineering colleges.

The presented executive formation makeup of private colleges results in very small financial self rule with keeping up fees and payment accounting for 80% of the budget plan. There is above one thousand and hundred private engineering colleges however a position of the top fifty engineering colleges shows a small percentage of private colleges and in excess of 90% of the private engineering colleges are affiliated colleges those have little academic self government. A comparison of the Indian technology colleges with number of the most important institutions of the world illustrate that it is potential for institutions to have student to faculty ratio of 15:1 or more and up till now keep a considerable research output. The challenge for our technical engineering education system is to builds the changeover from mostly teaching institutions to teaching and research institutions. In the article examine reviewed journal publications per faculty and UG engineering degrees per faculty are worked as guide of the research and teaching output of institutions. The largest parts of Indian institutions are improving their research output but are below the norms attained by particular of the best international institutions. We developed a normative situation that increases the output of quality engineering graduates from rank 1 (IITs, IISc) and rank 2 National institutes of technology. It is include that the

open of a National PhD scheme strings of plan are necessary to attract our brightest students to follow research. It would necessitate association and assurance from industries, strength ending existing PhD programmed and research services and facilitating excellence jobs for the doctoral students. One of the biggest restrictions for the expansion of engineering education in the country is the deficiency of quality faculty. There needs to be a high level think that evaluation the higher engineering and technical education system in India and afford path for future growth. When less number of PhDs out comes it is linked to the issue of salaries and motivation for engineering educators. In that regards next steps to address this must think incentivizing presentation, better public and industry relation and a recurrent analysis procedure. In this study there is a need for the industry government and academic to create approach for engineering and technical skill education in India. We have also needed of system to recognize imperative areas and regulation that should expand and develop strategy and institutions that assist. It is important to appreciate the real tendency in numbers of placements, salaries, employability and research output and evaluate standard performance with new other institutions. Today in the world of science it is really must for awareness of the realism should form the origin of rule conversions that guarantee to the engineering education system assembles the varying requirements of the industry and civilization.

CONCLUSIONS

Under study Development of engineering college libraries and their academic Movement in India with discuss about the ancient, medieval period, princely Ruler's period, up to the 17th century, education under British Rule, after Independence 1976. Academic libraries development in India that is Calcutta University Library, Madras University Library, Bombay University Library, Punjab University Library, Banaras Hindu University Library. Education Commissions Review of past reports and recent developments in engineering Education in India, Maharashtra State, Vidarbha Region and Western Vidarbha Region. Digital libraries offer a relatively mature set of tools, engineering approaches, and technologies that are now ready to be harnessed in the service of many organizations and many purposes. The brief discussions of selected digital libraries show that different types of digital libraries have been developed over the past few years. Many organisations need to go ahead with new digital projects despite financial constraints and diminishing institutional budgets.

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