Module1

Roles and Responsibilities of a Faculty / Academics in Higher Education

Faculty Development Centre

(Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching)

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Contents

Evolution of Higher Education System in India

Introduction:

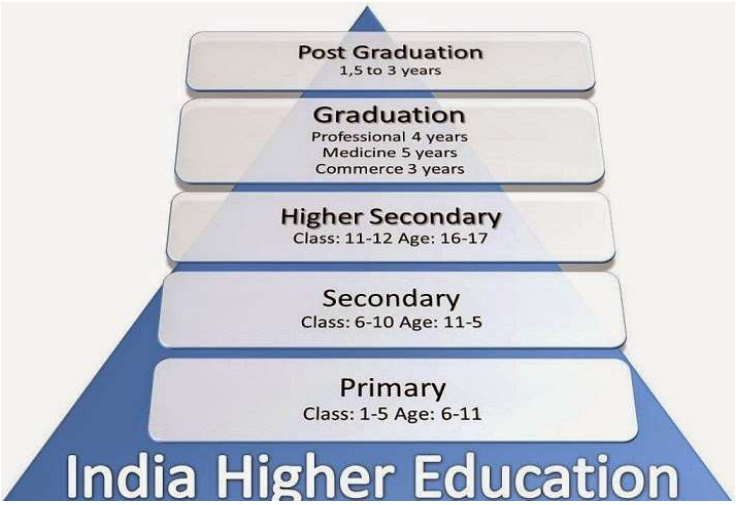
- The term “Higher Education”, in India, refers to the post-secondary (post-plus two) level or tertiary level of education. Institutions of Higher Education impart education leading to a university degree or an equivalent.
- Higher Education system in India is the third largest in the World, next to United States and China. University Grants Commission (UGC) is the main governing body at the tertiary level, it enforces its standards, advises the Government and co-ordinates between the Centre and State Government.
- In the tertiary level of education emphasis is mainly on science and technology.Distance learning and Open education is also a part of Indian Higher Education system, looked after by the Distance Education Council . Indira Gandhi National Open University is the largest open university in the world with approximately 3.5 million students around the globe.
- Higher Education system in India has expanded at a fast pace by adding nearly 20,000 colleges and about 8 million students in a decade from 2000-2001 to 2010-2011. By 2016 India had 799 universities, with 44 central universities, 540 state universities, 122 deemed universities, 75 institutes of National Importance which include AIIMS ,IITs ,NIT and IIEST among others. Other educational institutions include 39,071 colleges as Government Degree colleges and Private Degree colleges,1800 colleges exclusively for women functioning under these universities as reported by UGC in 2016.
- The IIT,IIEST,NIT,IISER,DI,IIM, University of Delhi, University of Mumbai, University of Calcutta have been globally acclaimed for their standard of education.
- Colleges may be autonomous means they are empowered to examine their own degrees or non-autonomous means their examinations are under the supervision of the university to which they are affiliated; in either case students are awarded degrees in the name of the university rather than the college.
- Higher education in India is a gigantic enterprise, employing a large number of personnel, incurring an annual expenditure of millions of rupees and teaching a large body of students.Indian higher education system though enormous caters to only about 70 % of the population in the age group of 18-23 years. The management of such a big system presents a major challenge to education administrators. The majority of pattern and style of management are determined by the structure and organization of higher education in India.
- In any society, individuals with higher education would get better opportunities compared to their counterparts and hence investments in higher educations would give returns in an accelerated pace.
- It is not just the economic development that higher education drives but it also promotes cultural diversity, trade and political democracy. Higher education provides ample opportunities for teachers as well as students to get involved in exchange programmes globally and thereby enhancing international co-operation.
- Higher Education in India is in need of major reforms. Strong emphasis should be on enforcing higher standards of transparency, firming up of vocational and doctoral education pipeline and professionalization of the education sector through stronger institutional

responsibility. Combined and collaborative efforts are needed to broaden student choices through liberal arts education.

Check your understanding.

It is not just the economic development that higher education drives but it also promotes cultural diversity, trade and political democracy- discuss

- The expansion of the Higher education system normally refers to one, or a combination, of the following: (i) an increase in the number of educational institutions (ii) a growth in the number of students enrolling (iii) an increase in the number of teaching and non-teaching staff members (iv) the diversified structure in terms of courses, institutional structures and management styles (v) an enhancement of expenditure laid on the operation and development of the higher education system. A well developed and standardized higher education is key for a knowledge-based emerging economy. There is no denying that higher education contributes significantly to economic development.



Reference:http://highereducation-world.blogspot.com/2015/03/types-of-higher-education-institutions_42.html

History of Higher Education:

Indian Education has its root deep in the early civilization when teaching-learning process was a concept of Gurukul System; where students were taught in a residential context under the tutorship of a teacher in different areas of studies like religion, philosophy and science. Modern concept of University style of education was established around 6 BC at Nalanda and Takshila. This concept of Gurukul System where centralized learning would take place with multiple streams of subjects continued till the arrival of Europeans to the Indian subcontinent. These higher learning centres were the main centres of different kingdoms which ruled across India for thousands of years and created the required human capital for construction, irrigation and warfare.

In the mid of 1200 AD the religion based higher learning hubs were established throughout the country. These learning hubs attracted learners from Central Asia, China, Middle East, South East Asia, and Rome focusing on Literature, Philosophy, Astronomy, and Architecture, whose impact can be seen across the world in terms of construction and irrigation systems.

After 1200 AD, the Islamic religion influenced the traditional learning hubs and brought in the disciplines of Geography, Law, Administration, Arabic, and Mathematics to our country

Considering; the reign of the Guptas' who encouraged higher learning by supporting centers of higher education at Nalanda, Takshila, Ujjain, Vikramshila and Vallabhi. Each university is specialized in a particular field of study. Takshila was famous in the study of medicine, while Ujjain was famous for astronomy. Nalanda, since it was the biggest learning centre; and due to its location, had advantage in handling all the branches of knowledge.

During the Gupta period, India became a renowned centre for higher education by attracting scholars from all parts of India and from several foreign countries. These universities became even popular in the seventh and eighth centuries A.D. After the inception of Buddhism, people flocked to the Sarnath University to study Buddhist religion and to Ajanta to specialize in art, architecture and painting. These educational institutions were mainly financed by grants of land and liberal donations. Such grants and donations came from kings as well as from other affluent people existing in thethen society. In fact, historical data figures out a well-established system of higher education which functioned in India as early as 1000 B.C. accordingly; in that system, the construction of knowledge, the beliefs on which knowledge was based, basic concepts and the organization of learning were very different from the European tradition. The Indian system of education was confirmed by the fact that it sustained Indian Civilization for centuries. Learning during those days did not mean to separate the learner from his own cultural identity but the learner confirmed it as his own learning process. Thus inculcation of social and cultural identity was one of most important elements of ancient learning. The components of this learning therefore included various skills for survival like handicrafts and art work and a variety of knowledge systems which exposed the learner to the knowledge of his choice.

Check your understanding

Thus inculcation of social and cultural identity was one of most important elements of ancient learning- discuss.

During the Mughal period rule Madrasas were set up in order to promote higher education in India. Although the Muslim rulers promoted Muslim culture through such education, Hindu thought of school also dominated the higher education system in the country. During pre

british rule certain important developments took place in the field of higher education. In 1817, Hindu College was established in Calcutta.

The Elphinstone Institution was set up in 1834 in Bombay which marked the beginning of new developments in the field of higher education. Therefore, higher education framework in ancient India was quite established in terms of quality of service as well as infrastructure. The objective of such a system was to promote Indian culture and heritage besides development of ancient Indian economy.

Higher Education system under British rule

- European rulers bought major changes in the traditional style of higher education starting from 1600 AD. Their main focus was on the development of European language speaking administrators and clerks for enriching European establishment. By 1800 AD British were successful in controlling much of the Indian sub-continent under the rule East India Company.
- The formal system of higher education was established by British which continues till date. Lord Macauly made English as the language of instruction across the Education system in India. In the year 1857,the British style university was established in Calcutta, Mumbai and Chennaiwhich became the foundation for the modern higher education system in India. These universities focused on literature,languages, history and philosophy.
- The University on the lines of British Education System were established in Calcutta, Mumbai and Chennai in the year 1857 based on the model of University of London which has been the foundation of the modern higher education system in India. Universities focused on languages, literature, history, and philosophy. These learning hubs were focused on generating English speaking working class for the British administrative services, army and trade.
- Modern Science and Engineering education was flourished in Europe and America during the late 1800 weren't the main focus under the British rule. By 1903 the Indian Institute of Science was established by Tata with an aim on research in science and engineering which was the first higher technical learning system in modern India.
- From the beginning of British Raj in the year 1858, we observe that the British had promoted English Education as well as higher education in our society through setting up of English Schools. The British government had established them with two limited objectives: (i) To introduce the Indian elite to European culture, and (ii) to colonize the country culturally; which in turn helped to sustain the British rule in India. Thus the population was made to practice the professions of law, medicine and teaching, as required by the British. This created a pool of effective manpower serving the needs of the society. Therefore an elitist view on education and culture had developed which separated the general masses from achieving a higher education degree. This was mainly because higher education's under the impact of British rulers were expensive and English was the medium of instruction. As a result, this idea ended up in splitting Indian population into two different worlds. One consisting of elite India in which the urban elites got themselves entrenched and enjoyed all the privileges of modern state and the other, that is Bharat, consisted largely of rural population, was kept away from any benefits that are associated with higher education in

India. In spite of these negative aspects, higher education since the British rule has made steady advances in the country.

What are the two limited objectives of British for establishing English medium schools

- The higher education sector was marked with the growth of 226 universities and thousands of colleges affiliated to them, 428 Engineering colleges and technological institutes, more than a 100 medical colleges, scores of agricultural institutes and many other specialized centres of learning and research. Thus during the British Rule India could claim its position as one of the leading countries providing quality higher education to its people as well as to students and scholars coming from countries all over the world. Continuing to this effect, development of higher education had been an important item on the agenda of both the developed as well as the developing countries just after the World War II. Since India was influenced by the developments of British and Western Economies, just after the British Rule had ended, in the later part of 1940's we find significant investments being made by our Government in the higher education sector.
- The British learning centres main focus was to generate English speaking working class for the British administrative services, army and trade. The British University system continued to expand across India leading to growing number of learning centres by 1947.
- In 1903 Tata established anIndian institute of Science with focus on research in science and engineering technology, it isthe first higher technical learning system in modern India.

Student Assessment Questions

1. **What does the term Higher Education refer to?**
2. **What changes were made in the establishment of universities?**

Higher Education ScenarioPost Independence:

- The public expenditure on education in India has been about 2.55% of GDP since Independence. In the beginning of the 50's which marked a good beginning of investment in education, higher education experienced another major transformation. The effect continued till the 1960s when India witnessed fastest growth in the area of Education especially to mention higher education. As a result, of these investments there was growing awareness on education, starting right from the primary level and people started taking interest in educating their children.
- Public expenditures were on the rise since independence was marked by rapid economic growth policies and education was identified as one of the core sectors. The steps taken to improve the intellectual capital were quite obvious through an increase the number of colleges and seats in technical and professional colleges rather than in general streams of

education like arts and humanities. The objective was to ensure proper manpower planning by the society which is essential, so that the problems of job scarcity in one field and a lack of manpower in another do not occur.

- In the beginning of 1970's higher education formed one of the priority sectors as investments were started to be made with the expectation of overall economic development. With the concept of a knowledge based economy growing, all developing countries tried to find suitable strategies and special ways to keep up with the growing competition in the rapidly evolving global economy and India was no exception. Expenditure on higher education as the percentage of Gross National Product was fixed up to 0.98% of total GNP in the beginning of 1980s, which marked the initial growth of government funding and support in the field of higher education.

What was the scenario of higher education in Post- independence- Discuss

- With the commencement of the first Five Year Plan, the focus on qualitative education was more emphasized. The Sixth Plan on the other hand started to address many of the complex problems in the field of education. This required a proper blend of professional skill and political will and it was understood that such an environment needs to be evolved at all levels through co-operation amongst all relevant agencies and organizations. This is the time when implementation of quality techniques inside classroom practices was also being thought of as a prime aspect in developing the overall quality of education service delivery systems. Obviously the training for teachers became very important as because without their co operation qualitative classroom practices could not be thought of. The speed of teaching and relevant time orientation of a course curriculum was also found to be significant.
- Higher Education sector after the 90's The 1990s was sharply marked by improvement in economic reforms and education started to enhance the status quo image of an individual. This is because higher education was started to be linked to employability which lends economic independence and is directly related to an increase in per capital income. An overall economic growth was emphasized intertwined especially under the influence of knowledge –based society where creation of human capital was a core activity.
- In order to sustain the growth quantifiability was also taken into consideration together with quality as because without quantification higher education would never be a productive sector. Therefore spread of both primary, secondary and higher education was the primary responsibility of the government.
- The spread of knowledge was highly influenced through the LPG policy framework when free trade was encouraged in all the areas of the service sector and education was no exception. The effect was also sharp on the women population which constituted almost 50% of the total Indian Population and we had seen that awareness and interest of higher education had risen sharply among middle class women some of whom were much inclined to take up independent careers on their own. Therefore growth of women education was a direct cause for increase in student enrolments throughout India.

- The effect was an increase in the level and quality of services as the higher education sector was no longer confined within a specific target segment. This marked the beginning of commoditisation and a wave of consumerism which largely affected the traditional concept of higher education. This growth in students' population throughout encouraged the government to look for better alternatives as government controlled higher education system did not have the right kind of infrastructure to support such huge number of enrolments. This was primarily because at this juncture, the expenditure on higher education had fallen to 0.35% of GNP and this was marked as the first step towards extensive private higher education framework that exists currently. Although privatization was important, India was not ready culturally to accept the metamorphosis, especially in the field of education. Therefore Government regulated apex bodies were thought of in order to regulate the service quality in a privatized framework.
- With the creation of All India Council for Technical Education (AICTE) in 1993, significant developments have been taking place in planning and reviewing of course content and training methods in this field. Council has also passed regulations for opening of new institutions/new courses. So far the Council has approved 585 new institutes for MBA, 221 for MCA, 1128 polytechnics and 552 Engineering Institutes. But in order to make higher education sector self-sustaining, a new funding pattern for the IITs, Indian Institute of Managements, and Indian Institute of Science at Bangalore was introduced in the 8th Five Year Plan period, whereby the institutes were encouraged to attain self-reliance by generating their own finances by providing consultancy services to the industries.
- Indian universities and institutes of higher education and research today have made a significant contribution to transmission of knowledge and enquiry into frontiers of science and technology.
- In such traditional subjects as in arts and humanities as well as in pure sciences, applied physics and chemistry, mathematics and in areas of technology, the universities and higher institutes have been playing a leading role to transform the country into a modern industrialized, technologically advanced state.
- In the present day globalized world India and China are two countries which are redefining the world equation in-terms of population, political power, economy and volume of consumption of natural resources. Development and progress of the citizens of the two countries are defined by the Knowledge society and skilled manpower.
- Education is the key factor in shaping the budding superpowers. Higher education in these two countries has centuries old history which is trying to re-invent with the changing times withrespect to technology.

  The consistent growth rate of India in last two decades has been attributed to the higher education system which has been able to generate skilled manpower for the rapid industrialization and knowledge based economy. India has become the hub of Information Technology (IT) & IT enabled services industry and manufacturing industry. Though education system has been able to support service industry Research & Development (R &D) at Universities and industries have not kept pace with developed countries which has created huge divide within the society.

- The progress which has been made in last two decades has not reached all sections of the society. The present crisis in environment, energy, poverty, security concerns within India has been mainly due to lack of indigenous cost effective technology to address these issues. This directly correlates to quality of higher of education in India especially quantity and quality of R & D in higher education systems.

  Universities and colleges have become training centres for the service based industry of the country with short term economic development of the society rather than focusing on long term development of a society which is reliable, stable and prosperous. Many factors have contributed to the degradation of higher education system since independence in 1947 which can be broadly grouped into the following factors but not limited.

  Financingof higher education
  Quality of human resources in higher education
  Quality of the research infrastructure
  Mismanagement of the system and lack of accountability
  Society and ethics
  Lack of industry academia collaborations in research
  Lack of importance for natural and social sciences
- Therefore higher education policies and programmes should be aligned with the social purposes which we aim to serve; The universities and higher education institutes should therefore aim to educate people on the right lines to create value, culture, knowledge and above all employment. This is because employment is the basic factor to sustain development and without generation of employment the purpose of higher education will not serve.

Objectives of the Higher Education system development in India

- There should be a unified purpose in diversity to produce an ethical community of values within human beings; this in turn enriches the society as a whole.
- Educational institutions may vary in forms with time and circumstances, but should aim to disperse a steadfast loyalty to the abiding elements of respect for human beings, freedom of belief and expression which is applicable to all citizens, and a deep obligation to promote human well-being, through faith in reason and humanity.
- Simple vocational and technical education, although very important for growth of knowledge, do not necessarily serve the spirit. The intertwining of knowledge based value system should be the core focus of development. Here we refer to knowledge as acquired as well as knowledge as applied. Without intertwining the both, higher education can never be linked to employability.

Higher Education system is encouraged to deliver the following benefits:

- To provide the right kind of leadership in all spheres of life by helping the individuals develop their potential to the expected and desired level

- To provide the Indian society with competent manpower trained in varied professions who, as cultivated individuals, are inclined with a sense of social purpose which aims towards overall wellbeing
- To strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education and beliefs to enrich the society as a whole
- To
- To knowledge and ab

For what benefits higher education system was encouraged?

What was the position of employability?

Following the above, the higher education system in India has witnessed two major revolutions:

- The first is the advent of "technology oriented education which has largely influenced the Indian teaching process. The second is the commercialization aspect that has slowly creeped into the Indian higher education sector. These two major developments have made the Higher education sector competitive and price driven. As a result higher education started to add up to the total GNP and gradually started to transform itself from a traditional sector to a commercial sector driven by performance, profit, productivity together with social accountability.
- In order to sustain credibility in the changed market scenario the higher education framework in India will have to redefine the objectives, processes and structures in the context of increasing competition, both private and public. This will in turn help to establish an identity of its own.
- The establishment of identity is more so significant because higher education is not an end in itself. It has to serve some economic purpose for the one getting educated as well as the state. This can only be possible through implementation of quality techniques in teaching, setting up an accountability structure through governance of an effective feedback system together with linking higher education with effective employment guided by the expectations of the students. This in turn can increase chances of earning a sustainable livelihood, and supply skills that the society needs in the long run.

Higher Education and University system in India

India with second largest population is home to the third largest higher education system in the world by volume of students enrolled. All the policies related to higher education are shaped by the Government of India through Ministry of Human Resource development (MHRD) under the Department of Higher Education. The University Grants Commission (UGC) a statutory body co-ordinates, evaluates and maintains standards of higher education in India. UGC was established in the year 1956 through Parliament enacted law modelled on the UGC of United kingdom

All the Central Universities across India and Deemed to be Universities which are run by privately funded trusts and Universities established by the 28 Federal State governments across India are recognized by UGC.UGC is granted funds by MHRD.UGC has established statutory Councils to promote, provide grants, set standards and establish professional education in different areas.

- **Councils which come under University Grants Commission (UGC) are**
  - All India Council of Technical Education (AICTE)
  - Medical Council of India (MCI)
  - Indian Council for Agricultural Research (ICAR)
  - National Council for Teacher Education (NCTE)
  - Dental Council of India (DCI)
  - Pharmacy Council of India (PCI)
  - Indian Nursing Council (INC)
  - Bar Council of India (BCI)
  - Central Council of Homeopathy (CCH)
  - Central Council for Indian Medicine (CCIM)
  - Council of Architecture (COA)
  - Distance Education Council (DEC)
  - Rehabilitation Council
  - State Councils of Higher Education

The UGC recognizes the Universities and awards degrees through affiliation process.This affiliation process allows colleges to run the recognized courses of the Universities in Arts, Science, Commerce, Crafts, Law, Pharmacy and other specific areas. The colleges are affiliated to respective Universities as per their geographical proximity across the 28 Federal states.

Write a document on university grants commission- Group activity Make the class into groups and assign the activity.

In 1986 through National Policy on Education (NPE) and Plan of Action in 1992 a policy framework was established which in expanding higher education in India to all across sections of the society and locations.Through this framework of affiliation funding of higher education at Masters and Bachelors level education were distributed between private investors, state governments and the central government. Through the NPE in 1986 to take higher education to the masses Distance Education Council was formalized which led to huge surge in the number of students pursuing higher education through distance mode through establishment of Indira Gandhi National Open University ,New Delhi which standardizes, approves and affiliates open education system.

After 1992 India has seen tremendous increase in the number of Universities and colleges across India when the University affiliation systems was opened to private investors with less bureaucracy .

Structure of the Higher Educational Framework in India:

Academic Qualification Framework - Degree Structure The academic qualification framework in India in the higher education segment is guided by three principle levels of qualification. These are: Bachelor / Undergraduate level Master's / Post-graduate level / Pre Doctoral level Doctoral/ Post-doctoral level Diploma courses are also offered at the undergraduate and postgraduate level.

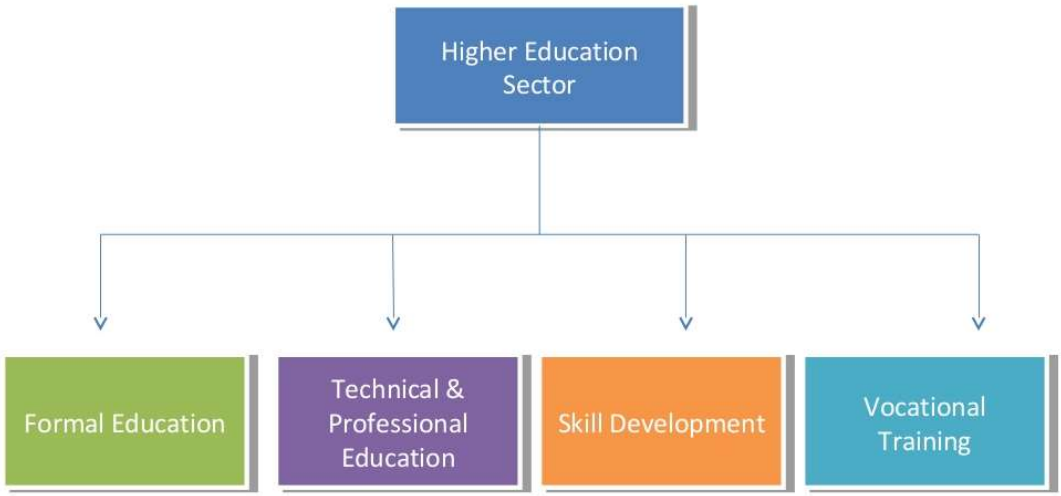
At the undergraduate level, it varies between one to three years in length, and postgraduate diplomas are normally awarded after one year of study. Bachelor's degree in arts, commerce and science is of three years duration (after 12 years of school education). In some places there are honours and special courses available. Such duration indicate greater depth of study.

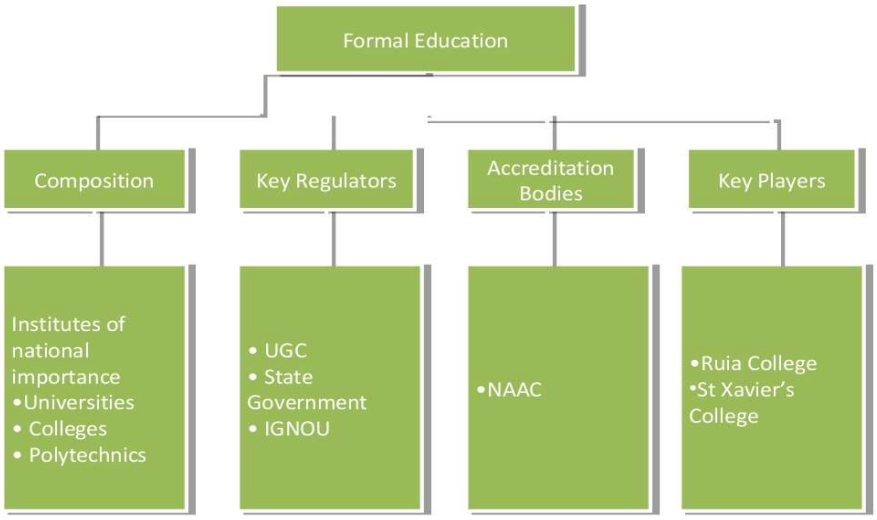
Bachelor degree in professional field of study in agriculture, dentistry, engineering, pharmacy, technology and veterinary medicine generally take four years, while architecture and medicine, take five and five and a half years respectively. There are other bachelor degrees being offered in education, journalism and librarian-ship which are regarded as secondary degrees. Bachelor's degree in law can either be taken as an integrated degree lasting for five years or lasting for three years depending on the depth and purview of studies. .

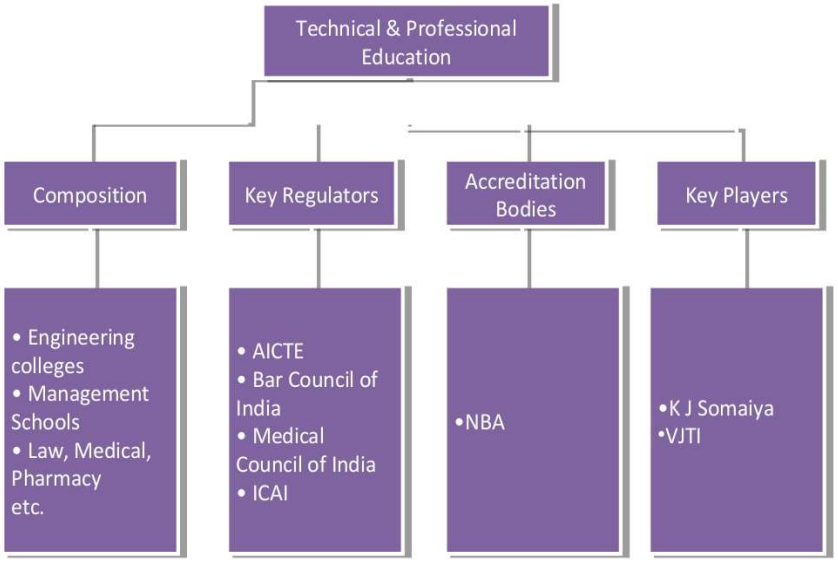
Check your understanding on higher education fram work

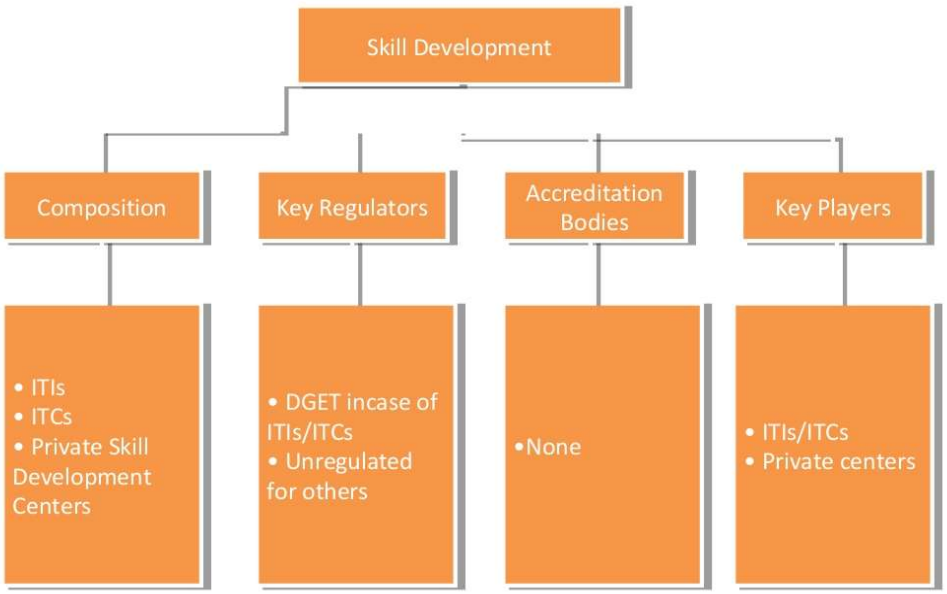
Discuss on higher educational sectors.

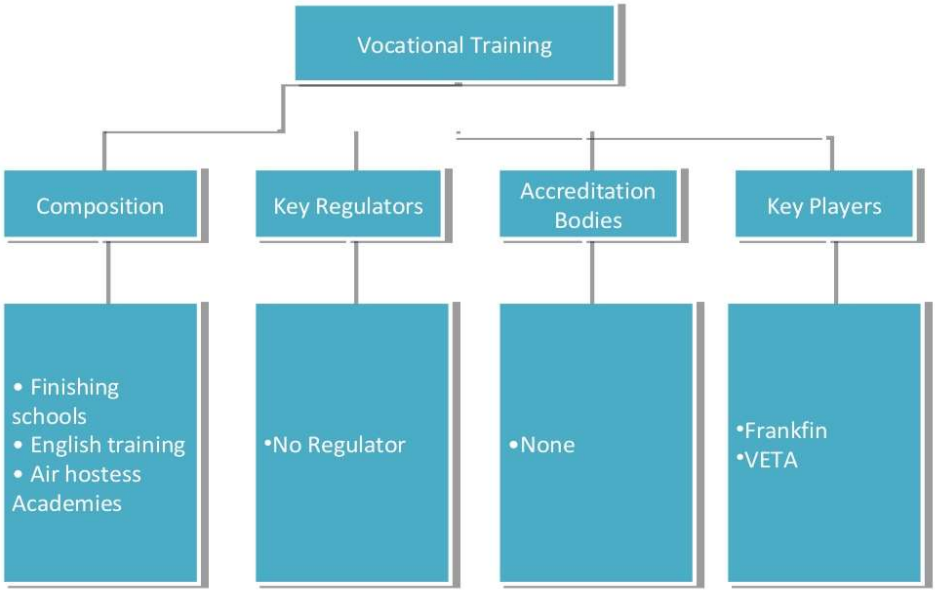
Master's degree is normally of two-years duration. It could be coursework based without thesis or research alone. Admission to postgraduate programmes in engineering and technology is done on the basis of Graduate Aptitude Test in Engineering or Combined Medical Test respectively. A pre-doctoral programme - Master of Philosophy (M.Phil.) is offered after completion of the Master's Degree. This can either be completely research based or can include course work as well. Ph.D. is awarded two year after the M.Phil. or three years after the Master's degree. Students are expected to write a substantial thesis based on original research which may sometime take longer than three years time.


Higher Education Sector
Formal Education
Technical & Professional Education
Skill Development
Vocational Training


Formal Education
Composition
Key Regulators
Accreditation Bodies
Key Players
Institutes of national importance
•Universities
• Colleges
• Polytechnics
• UGC
• State Government
• IGNOU
•NAAC
•Ruia College
•St Xavier's College


Technical & Professional Education
Composition
Key Regulators
Accreditation Bodies
Key Players
• Engineering colleges
• Management Schools
• Law, Medical, Pharmacy etc.
• AICTE
• Bar Council of India
• Medical Council of India
• ICAI
•NBA
•K J Somaiya
•VJTI





Reference: https://www.slideshare.net/pranav1990/indian-higher-education-sector-26770507

Higher Education system in India is principally a public funded activity. The structure and organization of higher education is complex and varied. The operations of Higher Education are carried by different agencies and departments. The prime agencies are the Ministries and the

Federal and State level educational organizations, autonomous organizations set up by the Ministries and the private organizations or trusts. There are also Ministries other than those, which are involved in the development of higher education in India. Simply put the Indian higher education system is both vast and complex.

Higher Education Commissions in India:

During 1948–49 Indian Education Commission under the chairmanship of Dr.Radhakrishnan was set up who recommended expansion and improvement of University and professional education. This is exactly when issues governing improvement of higher and technical education were related with quality, finances and relevance. The process continued till the initiative taken on the part of the Indian Government was to set up University Grants Commission (1956) and All India Council for Technical Education (1945) which was appointed as apex bodies to ensure standards in Higher and Technical education.

The Radhakrishnan Commission on University Education defined the vital tasks of higher education. The aims of university should be to produce able citizens who can take up national responsibilities successfully in various fields. The university has to produce able administrators and suitable workers in various occupations and industries. It has to provide leadership in various walks of life in the best interest of the nation.

The Commission recommended that the standard of admission to University courses should correspond to that of the present intermediate examination, i.e., after 12 years of study at school and intermediate college. It remarked that "our secondary education remains the weakest link in our educational machinery and needs urgent reforms."

The Commission stated that the function of school education is to provide good general education, it further spelt out the elements of good education "which will not only prepare pupil for university work, but at the same time prepare him for practical work to earn his living if he did not proceed to a university.

The Commission suggested that the functions of a school and a university should be different. The function of a school should be to provide suitable education to those who join higher education and also to those who do not have the intention of proceeding further. Education of both sets could be combined together, whereas some schools could train students for work in agriculture industry and commerce. The University Education Commission laid great stress on the introduction of general education throughout school. The Commission clearly wanted that school should diversify its outcomes in such a way that many could effectively participate in real life by taking up jobs or self-employment and only very few would continue study beyond school.

What are the functions of schools and higher education.

Secondary Education Commission (1952-53)

- The concerns of education articulated during the freedom struggle were revisited by the National Commissions – the Secondary Education Commission (1952- 53), and the Education Commission (1964-66). Both Commissions elaborated on the themes emerging out of Mahatma Gandhi's educational philosophy in the changed socio-political context with a focus on national developments (NCF, 2005).

- A separate education commission was appointed under the chairmanship of Dr.LakshamanaswamiMudaliyar in 1952 to address the issues related to school education. The Commission Report (1952) had envisaged schools to play a crucial role in developing democratic citizenship, emphasizing that democracy is based on faith and in the dignity and worth of every single "individual".
- The Secondary Education Commission presented its report in 1953 which had recommendations on almost all aspects of secondary education. The major improvement in methods of teaching, text books and system of examination; emphasis on education and vocational guidance; three language formula; diversified courses; installation of higher secondary system; and improvement in building and equipment. The Commission introduced the policy of developing a three-year national system of secondary education (after eight years of elementary education).
- The Education Commission (1964-66) Drawing on Nehru's Mission and articulating most of his key themes, the Kothari Commission (1964-66) was set up under the Chairmanship of Dr. D. S. Kothari to formulate a coherent education policy for India. The Commission was most comprehensive in nature; it reviewed almost all aspects of the education system without limiting itself to any one particular aspect, unlike the Commissions that came before and after it.
- Two of the unique features of the Report are: its comprehensive approach to educational reconstruction; and its attempt to project a blueprint of a national system of education for India. According to the Commission, education was intended to increase productivity, develop social and national unity, consolidate democracy, modernise the country and develop social, moral and spiritual values.
- The crucial role of education in national development appears in all its vividness throughout in the report, appropriately titled "Education and National Development". The Commission identified the three important facets that would bring about the internal transformation so as to relate it to the life needs and aspirations.
- The educational resolution includes qualitative improvement so that the standards achieved are adequate andthe nation; become internationally comparable; and expansion of educational facilities broadly on the basis of manpower needs with emphasis on equalisation of education opportunities. It suggested the restructuring of education into a uniform pattern of 10+2+3. It adopted a "manpower approach" to the enrolment issue and declared that the principal purpose of higher education was to cater to the needs of industrial and other sectors, even as it acknowledged its role in promoting social transformation.
- The Commission sought to reorient educational system to the masses to help people come into their own. It sought to end the dichotomy between work and education to make the products good workers as well as educated individuals. It recommended a minimum of 10 years of common curriculum for building citizenship in a democracy and for linking the "work of knowledge" with the "world of work". In this concept, diversified courses would be introduced only at the +2 stage. Major recommendations of the Commission included emphasis on Science and Mathematics, introduction of work experience as an integral part of school curriculum, introduction of common school system, educational structure with 12 years of schooling, free text-books at primary stage, provision of mid-day-meals, promotion of education of handicapped and special measures for ensuring equality of educational

opportunities (regional, tribal and gender imbalances to be addressed), establishment of school complexes, neighbourhood school, three language formula etc.

- The Commission emphasized the need of alternative channels of education to eradicate illiteracy and provide adult education. By laying more focus on Mathematics and Science rather than Social Science or Arts, the Commission reinforced the notion that India's development needs are better met by scientists than social scientists. For improving the quality of education, the Commission focused on institutional planning for improving standards nationwide, promotion of new work ethic, improved teaching and learning materials and methods of teaching and evaluation, and selective development of schools.
- With respect to Teacher Status;the Commission emphasized that the most urgent need was to upgrade the remuneration of teachers substantially, particularly at the school stages. It recommended that the government should lay down minimum scales of pay for teachers and assist States and Union territories to adopt equivalent or higher scales. Teacher Education The Commission urged that professional preparation of teachers was the key for introduction of new courses for headmasters/teacher educators and qualitative improvement in teacher education programmes; and educational administrators; and expansion of teacher education institutions and recommendations of the training facilities.

Universities and University level Institutions in India

- ***Central Universities (or) Conventional University institutions*** *are tertiary-level institutions are established under the Act of Parliament or State Legislatures. They are managed and funded by the Indian Government. The universities which are established by Acts of Parliament are supported by the Central Government funds and are commonly referred to as Central Universities.Curriculum is common across the country in all such institutions. Examples of Central universities in India are Aligarh Muslim University, Aligarh; Banaras Hindu University, Varanasi; University of Delhi, Delhi and Jawaharlal Nehru University, Delhi.*
- ***State Universities****are public universities are funded and managed by thestate government of each of the states and territories of India and are established by a local legislative assembly act.. Curriculum and exam pattern will vary with every state.*University of Madras (established in 1857) is one of the oldest state universities in India, the others being University of Mumbai and the University of Calcutta.
- ***Deemed Universities*** *are educational institutions that are deemed–to–be-universities for the purposes of the University Grants Commission Act, 1956. The Deemed University status is conferred by the Central Government, on the advice of the University Grants Commission for work of high quality in specialized academic fields.* The deemed university status grants full autonomy to set both the curriculum and admission requirements.Programs and requirements will vary between institutions.*Examples of Deemed universities are the Manipal Academy of Higher Education, Manipal and Tata Institute of Social Sciences, Mumbai, Sri SathyaSai University, Puttaparthy.*
- ***Institutions of National Importance*** *are institutions established, by the Acts of Parliament that undertake teaching and research activity in areas that are critical to national development.* Private institutions which have gained national importance with their

impeccable curriculum and academic standards fall under this category. They are highly reputable, most competitive and internationally recognized.*Examples are SreeChitraTirunal Institute for Medical Sciences and Technology, Trivandrum,the Seven Indian Institutes of Technology*

- ***Higher Education Colleges**: Colleges undertake the majority of undergraduate teaching.* Colleges can be affiliated to either Central or State Universities. Private colleges are usually affiliated to state universities. Colleges have to follow the entry, operation, and exit requirements as defined by the respective university and also they have to be recognised by one of the 15 professional councils regulating the courses. In 2013, The Supreme Court ruled that AICTE has only directory or recommendatory control over MBA and MCA (Master of Business Administration and Master of Computer Application) courses run by colleges; it cannot superimpose regulations over the university (Association of Management of Private Colleges . All India Council for Technical Education 2013, 271).
- ***Constituent Colleges** are also known as Conducted Colleges. These colleges are those that are established and managed by the University.*
- **Autonomous Colleges:** Autonomous colleges are overseen by universities, but operate under a different protocol and can set their own curriculum and admission requirements. They award provisional certificates with the name of the college printed on the transcripts
- ***Affiliated Colleges** are set-up and managed, outside the university campus, either by the government or by the educational trusts.* The vast majority of colleges in India are Affiliated Colleges which follow their affiliated university's curriculum, examination structure, and grading protocol. Transcripts and degrees are awarded by the university.

To Do Activity

Write about the types of universities in India and their functions

Ministry of Higher Education (MHRD)

- *The Department of Secondary and Higher Education of the Union Ministry of Human Resource Development (MHRD) is the chief agency which is concerned with higher education. The Ministry operates normally through the Union Grants Commission which is a quasi-independent body set up to discharge the responsibility of coordinating and maintaining standards in the fields of higher education.*
- Ministry of Higher Education (MHRD), provides the basic infrastructure for the Higher Education sector and is responsible for its overall development,both in terms of policy and planning. The department looks after the qualitative improvement and the expansion of access of Higher Education by using a planned development process. The vision of MHRD is to realize the human resource potential to its fullest in the Higher Education sector in rural part of India.
- The Department provides equity to all the eligible persons in order to ease the access to Higher Education and also to provide greater opportunities. The objective of MHRD is to

expand the institutional base of Higher Education (which includes technical, professional and vocational education) by establishing new institutions, supporting existing institutions,supporting State Government and Non-Government Organizations ,civil society to increment public efforts in removing regional and other imbalances that exist in the present situation.

- MHRD initiates policies and programmes to strengthen and promote autonomy, research and innovation activities and encourages public and private institutions who are engaged in stretching the boundaries of knowledge. The quality of Higher Education is promoted by improving governance ,investing in the infrastructure, staff, academic reforms and institutional restructuring.
- The Department provides Higher Education opportunities to the socially-deprived communities, women, minorities and differently-abled persons. Regional imbalances are removed by setting up institutions in unnerved and underserved areas.
- MHRD undertakes institutional restructuring by improving efficiency, relevance and creativity in Higher Education, supports development of infrastructure and faculty development to encourage talented people in the career of teaching and research.
- It promotes collaboration with the International community,foreign governments, universitiesand institutions and also regional institutions for the progression of universal knowledge and intellectual property rights.
- The main functionality of MHRD is the enhancement of Gross Enrolment Ratio by expanding the access through all modes and promoting the participation of sections of the society whose GER is lower than the national average.
- The Department focuses on the use of technology in Higher Education and the development of Indian languages, Vocational Education and Skill Development

To do activity: take the students to library and ask them to write about MHRD

Department of Agriculture and Research (DARE):

- DARE comes under the Ministry of Agriculture and was established in the year 1973 .Its main purpose is to co-ordinate and promote Agricultural Research and Education in the country. Under its administrative control there are four autonomous bodies:
    - Indian Council of Agricultural Research (ICAR)
    - Rani LaxmiBai Central Agricultural University, Jhansi, UP
    - Central Agricultural University (CAU), Imphal
    - Dr Rajendra Prasad Central Agricultural University, Pusa, Bihar
- All the necessary government linkages to these four autonomous bodies is provided by DARE and are wholly financed by the Government of India. DARE is the nodal agency for International Cooperation in the area of agricultural research and education in India. The Department co-ordinates with the foreign governments, UN, CGIAR and other multilateral agencies for cooperation in various areas of agricultural research. DARE also manages admissions of foreign students into various Indian agriculture universities/ ICAR Institutes.

- DARE is concerned with all aspects of the agricultural research and education (including horticulture, fisheries, animal science, natural resources management, agriculture engineering, agricultural extension, economic statistics and marketing) involving coordination between the central and state agencies.
- The Department looks after all the matters relating to Indian Council of Agricultural Research(ICAR).
- New technologies are developed in agriculture, horticulture, natural resources management, plant and animal introduction, soil and land survey, agriculture engineering, agricultural extension, animal science, fisheries, economic statistics and planning and marketing.
- Co-operation is maintained with International organizations in the field of agricultural research and education and also with educational institutions and organizations. They also participate in international conferences, associations and other bodies dealing with agricultural research and education and follow-up decisions at such international conferences etc.
- Fundamental, applied and operational research is done in agriculture in the fields of agro forestry, animal husbandry, dairying, fisheries, agricultural statistics, economics and marketing and higher education is provided in all .
- **Specialised agencies for promotion of research:**

A number of bodies have been set up outside the framework of the university system to guide and support research activity. The Council of Scientific and Industrial Research (CSIR), under the Department of Science and Technology, is a planning and coordinating body, it operates through a chain of national laboratories and institutions. The CSIR undertakes and supports pure and applied research, provides junior and senior fellowships, funds research projects and maintains a record of scientific and technical personnel. Similar functions are implemented by Indian Council of Social Science Research (ICSSR) in the field of Social Science; Indian Council of Historical Research (ICHR) in the field of historical studies; Indian Space Research Organisation (ISRO) in the area of space research, etc.

1.4 Financing Higher Education in India

The financial support to a university is provided through different sources and channels.

1. **Sources of Funding:** More than three-fourths of the total income of the state and central universities comes from the governmental sources. The income of a university in India, is derived from the following sources: (i) Grants from the Central Government; (ii) Grants from the State Governments; (iii) Contributions from students' fees; (iv) Endowments, donations, etc; (v) Financial support from different specialized agencies

ss2. **Channels of funding:** The development of university education in India is the joint responsibility of the Central Government and the State Governments. The central universities, deemed-to-be universities are largely funded by the federal government and the funds are channelled through the UGC. The responsibility for maintenance of State universities lies with the State governments. However, they get grants from the Central government channelled through

specialized bodies like the UGC in the area of general higher education, The ICAR in the area of agricultural education, the ICMR in the area of medical education, and so on.

University Grants Commission (UGC)

University Grants Commission (UGC) was established in November 1956 ,as a statutory body of the Government of India via 'University Grants Commission Act, 1956' of the Parliament. The vision was to supervise the coordination, determination, and maintenance of standards of university education in our country.

The main aim & role of UGC in Higher Education is to provide funds to universities and co-ordinate, determine & maintain the ethics in institutions of Higher Education. The commission acts as an interpreter between the universities, government and the community. Some standards are being set by UGC to universities to make them as UGC Approved. With the growth of higher education in India, many top, medium, and small universities are being established across many states in India.

To Do Activity:
Discuss with your Group 1 on the Sources of funding.
Discuss with Group 2 on UGC sponsored on Major and Minor research projects- MRPs

Functions of the University Grants Commission

The union government attempts to fulfil its constitutional obligation for Higher Education mainly through the University Grants Commission (UGC). The UGC takes care of the general higher education in Arts, Science, Commerce and professional education provided in the faculties of the universities. Its functions in general, are confined to promotion, coordination, determination and maintenance of the standards of higher education.

The main activities of UGC is to promote and co-ordinate university education. UGC frames rules on the minimum standards to be followed in the university. It sets standards for exams like ICAR NET, CBSE UGC NET, and CSIR UGC NET. It is the linking body between the union and state governments and institutions of Higher Education. UGC suggests mandatory proceures to Central and State governments to make positive changes in University Education.

The functions of the commission can be stated briefly as follows: ISSN No. 2349-6908 Indian Journal of Educational Studies :

An Interdisciplinary Journal 28 (i) to assess the financial needs of the universities; (ii) to allocate various forms of funds through grants; (iii) to advise any authority on the establishment of a new university or the expansion of existing one. However, it may be noted in this context that there are instances where the Commission is not consulted while establishing the universities at the State level. A new Act has been framed in this regard. In such a case the UGC is prevented from providing assistance to the university for a specified period; (iv) to collect and distribute information on all matters pertaining to university education in India; (v) to decide on standards and recommend measures necessary to improve university education in India.

Quality Assuranceof Higher Education

The responsibility of quality assurance in Higher Education lies with the University Grants Commission(UGC) and Statutory Councils like the All India Council for Technical Education (AICTE). The UGC established National Assessment and Accreditation Council (NAAC) in 1994,it undertakes institutional evaluation of universities and colleges. The Distance Education Council, Indira Gandhi National Open University (DEC-IGNOU) has the responsibility of monitoring quality in distance education programme.

Administration of Higher Education at the State Level

1. **Administrative structure at the State Level**: There is no identical pattern of administration of Higher Education at the State level in India. The administrative structure also varies among States. Usually there are three different structures dealing with educational administration at the State level. They are: (i) The Secretariat; (ii) The Directorate; (iii) The Inspectorate

2. **Administrative structure at the university level**: In India universities are autonomous institutions. They have their own administrative structures and management styles. The president of India is the Visitor of all Central Universities, except the VishwaBharati, where the Prime Minister is the Visitor. In case of State universities, the Governor of the respective State is the Chancellor. Both the Visitor and the chancellor, normally do not have any administrative role in the day-to-day functioning of the University. The Vice-Chancellor is the most important functionary who is the chief executive and academic authority of a university

The UGC takes care of the general higher education in Arts, Science, Commerce and professional education provided in the faculties of the universities. Its functions in general, are promotion, coordination, determination and maintenance of the standards of higher education. Add

1.5 Higher Technical Education

The Government of India established special Higher Technical Education sector under the Department of higher education which oversees Central and State government funded Institutes of higher learning. Its main-focus is Science, Engineering, Technology, Management, Architecture, Pharmacy, Applied arts and Crafts and Catering Technology.

As early as 1826 the Europeans and Americas British Rulers started special technical training centres to create Engineering and Technical manpower for the construction of civil infrastructure like roads ,dams, railways and building and also military training centerswere established to manufacture weapons .The first engineering college was established in 1847 in Roorkee ,its main focus was imparting engineering education which was implemented in building barracks across Ganges.

Around 10 engineering colleges were established by 1947,they offered degrees in electrical, civil and mechanical disciplines across India. There was heavy industrialization across India after the independence as per the socialist policy. Later during the five-year plans which were modelled on the USSR socialist policies, many institutes of higher technical learning were established to cater to the growing demand of engineering professionals.

In 1980s seeing the growing demand for Computers and Information and Technology,the Government of India expanded the engineering education to private sectors. UGC established All India council for Technical Education (AICTE) an autonomous statutory body in 1987,to standardize theprocess and quality of these affiliated engineering colleges

The AICTE is the organization responsible for taking Engineering and Technology education to all the sections of society across India. It also enables Information Technology service sector which has taken India's GDP to consistent 9 percent in last 15 years.

Technical education covers a major portion in the overall education system and plays an important role in the social and economic development of India. Technical education is instructed at various levels such as: craftsmanship, diploma, and degree, post-graduate and research in specialized areas, catering to various features of technological development and economic progress.

Besides, in this age of unemployment, only technical education can assure one of a job and a comfortable living in this . Those who are still in the conventional institutions, passing examination that have little relevance in the modern systems, find no opportunities of employment. And, quite naturally, they end up becoming the victims of frustration and find themselves alienated from the mainstream of modern world. With their stereo-typed general education without any specialization and professional skill they acquire nothing to contribute to the progress and prosperity of the human society. They are quite aware of this and this awareness leaves them demoralized.

It was not just an end, it was the dream of modern India, and technical education was given the due importance with a view to realizing that dream.

Prospects and Initiatives

India is renowned for producing graduates of the highest caliber, but only a very few compared with its population receive high quality technical education. India has over the years significantly bolstered the quality and availability of technical education, doubling the employment rate of graduates who are now better suited to the needs of Indian Industry.

So, there is a dire need of backing up conventional study and teaching technical education, as it will not only help in the development of the country, but also the person possessing those skills. Technical education is a part of education that is directly related to the gaining of information and skills needed in manufacturing and service industries.

For acquiring technical education, there are two structural streams in India – formal and informal. Polytechnics, Industrial Training Institutes, Industrial Training Centers, centrally sponsored scheme of Vocationalisation of Secondary Education by the Ministry of Human Resource Development are few of the formal sources of technical education in India. Whereas self-learning and small private institutes providing short term technical course are covered under informal one

New industrial and labour trends in India have clearly specified the need of technical education. But, the base of technical education must be made strong at secondary level of education and a clear-cut path for the students to move ahead in this field must be made. More technical degrees of high quality along with technical universities must be established.

Issues related with Technical Education:

Technical Education imparts knowledge of specific trade, craft or profession. Technical education, that is, education in some art or craft is the immediate need of the hour. We are living in the times when old concepts of education have undergone a change and we need to update the educational system. We are not in need of liberal education, education that implies training in fine arts, humanities, cultural patterns and behavior, and aims at developing a man's personality as it was in the pre-independence days. We need workers who are skilled in technology and information. Our industries are yet in infancy. We need engineers/skilled persons to man them. All this is only possible if we give a technical turn to our educational system and if skilled labour is made available.

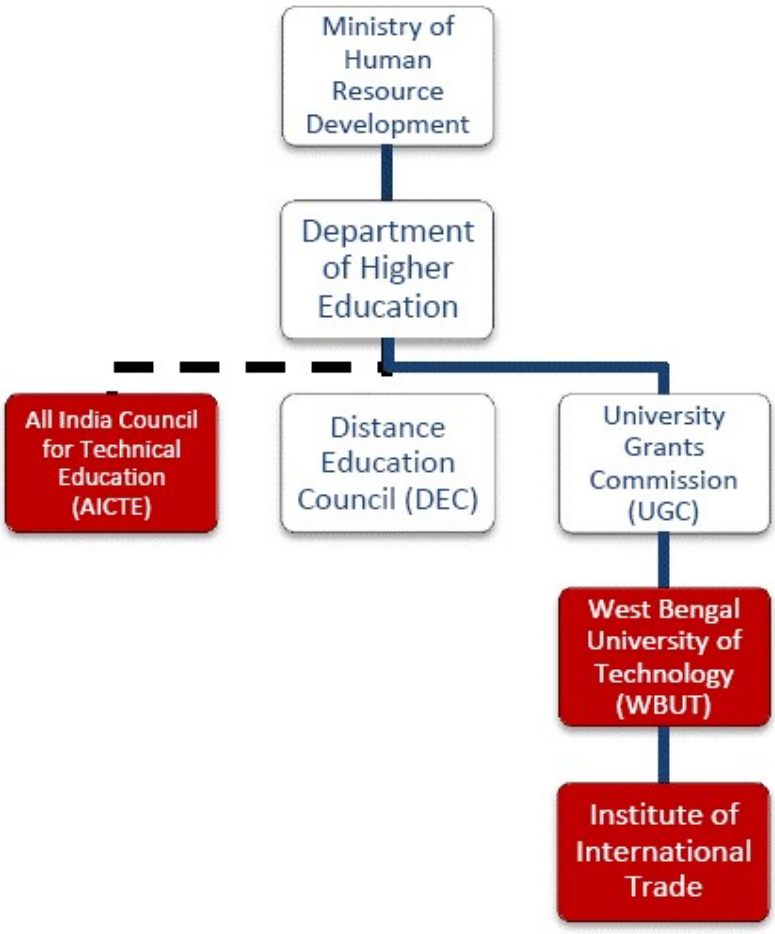
Centrally Funded Institutes

- Indian institute of Technology (IIT)
- Indian Institute of Management(IIM)
- Indian Institute of Science (IIS)
- Indian Institute of Science Education and Research (IISER)
- National Institute of Technology (NIT)
- Indian Institute of Information Technology (IIIT)
- Others are (NITTRs, SPA, ISMU, NERIST, SLIET, NITIE & NIFFT, CIT)

Higher Technical Education in India

The **All India Council for Technical Education** (**AICTE**) is the statutory body and a national-level council for technical education,it comes under the Department of Higher Education, and Ministry of Human Resource Development. AICTE was established in 1945 November as an advisory body and later given statutory status in 1987 by an Act of Parliament. AICTE is mandated to plan and develop the technical and management education system in India. The AICTE accredits postgraduate and graduate programs under specific categories at Indian institutions as per its charter.

It is assisted by 10 Statutory Boards of Studies, namely, UG Studies in Engineering& Technology, PG 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.



Quality of Technical Education in India:

Over the last two decades AICTE through its university affiliation model made 100 % growth in private educational setup in India. Only Bachelors and Master's level degree programsare allowed to run colleges privatelyin Engineering and Technology.

Types of Degrees offered in Engineering Colleges:

Undergraduate (UG) Degree Programs

- Bachelors of Technology (B. Tech) 4 years of Duration (7 semester theory + 1 semester project)
- Bachelors of Engineering (B.E) 4 years of Duration (7 semester theory + 1 semester project)
- Post-graduate(PG)DegreePrograms
  Master of Engineering (M.E) 2 years of Duration (3 semester theory + 1 semester project)
- Master of Technology (M.Tech) 2 years of Duration (3 semester theory + 1 semester project)

Entry Level Qualification for the Degrees:

- UG- 10 + 2 School leaving qualification
- PG- B.E/B.Tech

The colleges which run professional disciplines like Engineering,Technology and Management were affiliated to new type of Universities called Technical Universities. Technical Universities in each State are responsible for administration and maintenance of the quality of the technical education institutions. The consistent growth rate of India in last two decades has been attributed to the Higher Education system which has been able to generate skilled manpower for the rapid industrialization and knowledge based economy.

Government – Academia- Industry: have a discussion and share

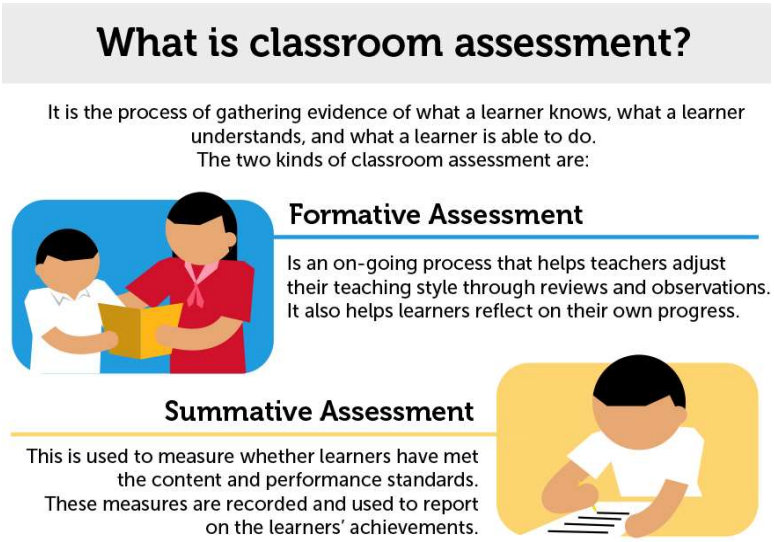
2.1 Challenges in Dynamic Learning Environment

Quality of education maintained in a classroom is a key driver of improved learning. The classroom data gives the evidence of strengths and gaps in student learning and enables educators to adapt the classroom encounter "where instruction, curriculum and student actions intersect". Addressing challenges of practice is complex work as educators examine, analyse and make sense of the connections between student learning needs and their instructional practices. Assessment in a classroom is not the only way of measurement, a student can be assessed in many different ways.

KEY COMPONENTS FOR QUALITY CLASSROOM ASSESSMENT

- A deep knowledge of curriculum is obtained through good understanding of individual expectations, its big ideas and intent. This deep knowledge of curriculum helps in determining where to spend the learning time and how to respond flexibly to unique ways of thinking and learning

- Grouping students strategically, is best used in ways that are flexible and responsive to the shifting learning needs in the classroom. A particular grouping of students that works today may not be as effective in a different subject. Adapting practice to context plays an important role in supporting students and the implementation and adaptive use of a strategy or framework is influenced by a student's current learning needs and by an educator's fluency with curriculum and working knowledge of a particular strategy.
- In an inquiry-based learning approach, a student's ideas, observations and questions are taken into consideration. Working with frameworks, processes or models is also a critical element in the inquiry process. In the context of student inquiry-based learning approach, an understanding of gradual release of responsibility helps educators in how and when to frame explicit teaching,
- Quality assessment and quality learning are both interdependent on each other. When it comes to quality assessment and quality learning, "the real accountability system is in the tasks that students are asked to do," or, what Elmore suggests, students will know as a result of "the doing"
- When we are able to identify what students think and what they are able to do, we can provide a catalyst not only for their further learning and practice, but also for ours as well. The deeper the understanding, the more they can move beyond the superficial to highlight the finer attributes of student learning. We can refer to criteria as "success criteria" when students understand and use them in self-assessing their learning and define their future steps. It is important to provide a student-friendly environment and give opportunity to co-construct criteria.



- Meaningful involvement of learners in assessing their own work (and the work of peers) extends beyond the classroom into life. Being able to adapt and to adjust the quality of their work, taking increased responsibility for learning and refining their capacity for reflection and critical thinking are all benefits of student self-assessment (Cooper, 2006; Cyboran, 2006).
- When students develop self-assessment skills, they become directly involved in the learning process, acting as the "critical connector" between the assessment and their own

improvement .Providing timely and effective feedback to parents may also enrich student learning. Linking a parent's observations with patterns of learning observed in the classroom can lead to more effective classroom strategies.

- A collective focus on student thinking and learning can bring about more informed decisions within individual classrooms and set in motion more coherent approaches across classrooms and schools.
- Students need time, guidance, and encouragement to be successful with new ways of learning, and also need support to become more comfortable and competent with new ways of teaching and to become adept.
- Over the last three decades many school improvement initiatives have been introduced and many schools have found ways to keep pace with the rate of change in society. The schools are preparing students for a world that demands high and arguably, different levels of knowledge and skills than ever before.

Check your understanding on Formative and Summative Assessment

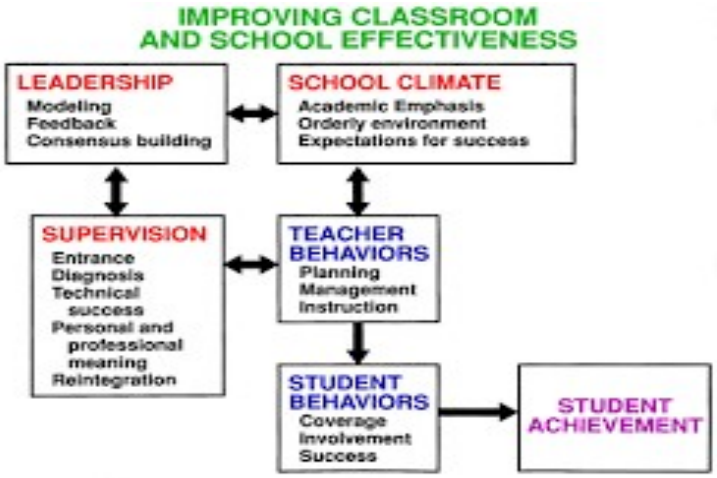
Five central tenets outline what these schools and districts are doing differently from their counterparts to improve the student performance across the nation:

1. **Address today's challenging issues within the context of emerging trends**: While dealing with the wide array of issues that challenge school leaders daily, exemplary leaders keep a careful eye on emerging and "disruptively transformative" trends that may impact their schools, teachers, and students in the next one to three years.
2. **Culture trumps strategy**: Schools which are successful are creating a culture that supports improvement before they attempt to implement change.
3. **Take control or be controlled**: School leaders are not allowing themselves to get distracted by external pressures. Within their system-wide strategic approach, they put in place short-term—typically a 20-day—action plan for administrators and teachers. These action plans concentrate on getting specific and measurable outcomes related to the improvement in student performance.
4. **Revise and Update plans:** School staff continually act upon, monitor, and revise these plans to introduce the next short-term action plan cycles. Actions at the organizational leadership, instructional leadership, and teaching levels are co-ordinated, communicated and aligned to support instruction and earning. Improving student performance to agreed-upon levels is important and is non-negotiable in every classroom.
5. **Use data to make decisions**: High-performance schools and districts are using data to define expectations and to constantly monitor progress, and to diagnose the effectiveness of instructional practices in real time.

These five tenets are powerful and are strongly connected. All the efficient schools are building their transformative work around these five tenets of learning.

To do Activity:
1.Browse for UGC planning and latest plan and what are items were considered into.

2.Write about 2f and 12b and their benefits



2.2 CHALLENGING ISSUES WITHIN THE CONTEXT OF EMERGING TRENDS

Today's school and district leaders face a lot of issues most of which are controversial that demand immediate attention. The most significant issues are:

1. The issue of transitioning to higher standards
2. Aligning of new assessments with the new standards
3. Implementing teacher evaluation systems
4. Managing budgets and spending the money with unprecedented restrictions.

Five disruptive emerging trends which arise as they address today's issues are:

1) Impact of digital learning on education
2) Heightened demand for career readiness
3) Increased emphasis on application-based learning
4) Using of data analytics to implement growth models
5) Developing a student's personal skills

3.1Digital Learning

Digital learning is a catalyst for college and career readiness of students. We have to embrace the power of information technology and internet to make learning relevant for all students and adults. Using technology effectively in everyday learning can help students to strengthen their learning experiences and build their intuitive technology skill and thoughtful usage of technology for instructional purposes will allow us to stretch students thinking in ways that will lead to success in today's increasingly global economy and rapidly evolving digital environment. Outside of schools, people access required information and communicate through smartphones, laptops, and tablets on a regular basis.With an increase in students going mobile, social media provides the context for digital learners to connect through social media tools.

Digital learning not only provides students with a laptop but also digital content and technology. It includes learning technologies that are embedded in a digital text box .In the present children entering schools are fully fledged digital natives, having the equal understanding of information technology as of a 45 years old. Even before that have started primary school they are able to handle iPad.te even before they have started primary school and we all have heard about the techno babies who can handle an iPad before they have learnt how to speak properly.There are various educational applications available on the Google play store.

Digital learning is making further improvements in digital learning technologies with customized pathways and richer assessments to make teaching and learning more effective.To enhance digital learning and digitization.

Information and Communication Technology (ICT)

In this Digital era, it is a challenging issue to improve the quality of Higher education. Acquisition of ICT skills in the teaching- learning process increases learners' motivation and leads to acquisition of quality education. ICT skills are transformational skills and provides learner- centred environment.

The system will be learner centred rather than teacher centred in an ICT integrated digital learning. Teacher training programs help them to learn modern technology and to operate data in an information age. Teacher is ought to gain appropriate knowledge in key criteria which is used to evaluate web and software resources. They can contribute for the professional development of other educators and learners. ICT enabled teacher important guide lines for learners' learning through ICT.

Significance of ICT enabled teaching	
What is ICT based teaching ?	Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimise the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning and better

	teaching methods.
What is the role of a teacher in ICT?	ICT plays an important role in student evaluation. ICT is store house of educational institution because all educational information can safely store through ICT. It helps Teacher to communicate properly with their students. ICT helps Teacher to design educational environment.
Can ICT replace teachers?	ICT cannot replace a teacher. It will facilitate the teacher in virtual classroom. By integrating ICT in teaching learning process lot of extra inputs can be given to the learner. For teacher it is a learnig experience. ICT will enhance the learners learning
What is the key benefit of ICT based education?	ICT-based Education is about using computers and technology as tools to enrich learning in various subjects such as English, Science and Mathematics. Key Benefits of ICT-based Education: Promotes Learning by doing approach. Enables self-paced learning
How does ICT helps in education.	ICTs can enhance the quality of education by increasing learner motivation by facilitating the acquisition of basic skills by enhancing teacher training. ICTs are transformational tools which, when used appropriately can change the learning Creates a learner-centred environment.
Why ICT skills for teacher?	ICT skills for graduate teachers: self-directed learning. The effective integration of ICT in the school and classroom can both transform pedagogy and empower students. It is important that teachers are able to successfully weave technology into learning projects.

Teachers Knowledge in ICT: Rural Education

- The teacher is integral to the use of technology in the classroom because it is the responsibility of his/her to infuse ICT-enabled practices in schools.
- The attitude and Psychology of rural students is different from Urban students, because of the environment where they are being grown.
- Teacher's knowledge about rural condition is essential.
- The rural students' knowledge is widened about the social and technological development of world.
- This kind of ICT related educational programme will provide employment opportunity.
- Success to rural ICT education program depends on dedicated TEACHER.

- The vision of integrating ICT in rural education will provide access to information on new technological developments from local to global level.
- Teachers' should aim for digital awareness and competency of the rural school students.
- Teacher's basic skills in reading, writing and navigating through a digital landscape can guide the student.
- Teacher as a Monitor should see that the rural student should participate fully in the economic, social and cultural life around them.
- Teacher is the guide and Mentor for children from low-income and socially excluded communities, who tend to have poor access to ICTs at home.

The National Policy on Information and Communication Technology (ICT) In School Education (2012, notified in 2014) emphasises the capacity-building of teachers through induction and refresher courses. CT@School scheme was introduced to ensure ICT education in all government and government-aided secondary and higher secondary schools in the country. It's aim is to concentrate on educationally backward blocks and areas with Scheduled Castes, Scheduled Tribes and weaker sections. Day (1994: 300) asserts that "professional development must extend beyond classroom practice, such that support for the personal and long-term professional needs of the teacher as artist, connoisseur, craftsperson and technician are legitimated."

In Rural schools implementing ICT enable education has raised the curtains for future development. It was started with small activities like games but it aims at long-term programme is to enhance their e4ducational quality and bringing up the generation on to the different platform. The tribal kids in some are with less BMI and their learning ability is less because of their malnutrition. The gap between urban rural students is decreasing in learning point of view.

E- learning in the rural areas is replicable and innovative. ICT in Schools is a component of RashtriyaMadhyamikShikshaAbhiyan (RMSA). The Information and Communication Technology (ICT) in Schools were established to provide opportunities to students to build their capacity on ICT skills and make them learn through computer aided learning process. The benefits will be more for the teacher as well as the student. It helps in the promotion of collaborative learning. ICT will enhance learning experience which helps them to think and communicate creatively. It will prepare the students for successful lives and careers in the increasing technological world. The aim is to bridge the digital divide amongst students of various socio economic and other geographical barriers. Involving the rural students in ICT skills in this digital era can surely become success and can grow the nation as an organic structure.

Micro credentialing and digital badging have been of much interest over the past few years. Digital badges, or credentials, images or symbols representing the acquisition of specific knowledge, skills or competencies are earned when established performance criteria is met.
Digital badging is one way to recognize proficiency of a learner and generate motivation, there is an increase in percentage of learners earning badges for professional growth, as well as online web resources developed for students. The game-based learning in higher education cites the ability of digital games to teach and reinforce professional skills such as problem –solving, collaboration, and communication.
Gaming companies have mastered the ability and come up with new ideas to engage people with highly individualized, user controlled and growth-model-based games. These games provide immediate feedback, and can be used anytime, anywhere. They will be more engaging and less expensive than our traditional system of learning.

Heightened Demand for Career Readiness

There is a growing realization that preparing a young person for career success requires a higher and different set of academic and teaching skills and knowledge than to those needed for success in higher education. Preparing our teachers to deliver the rigorous and relevant academic experiences that will prepare students to be ready for their career development.It will require a focused and sustained professional teaching, as well as the number of shifts in how we organize the instructional programs in our schools for the students

To Do activity:
Have a discussion on ICT enabled teaching and traditional teaching

Increased Emphasis on Application-Based Learning

The India's most rapidly improving schools have found that students need to apply according to their personal areas of interest. The Rigor/Relevance Framework is used as the organizing framework in many schools the organizing framework for implementing new state standards, including the Common Core State Standards. Subject knowledge, i.e., information about a particular

subject, facts and data, no longer needs to be acquired from an all-knowing authoritative source such as a textbook, an encyclopedia or a teacher.

The challenges in providing Rigor/Relevance Framework instructional program include:

- Teachers who have not been trained properly to teach in an application modality
- Our traditional mass delivery system of teaching. What is relevant to one child may not be relevant to another child.

Our present education system always focused on tests that measure a student's degree of mastery of a set of knowledge and/or skills at a point in time. It has not typically focused on the ongoing growth in learning of a student has over a period of time. Now it is about to change the way of assessing students. Most of the upcoming schools have changed their focus to a continuous improvement model for every student. The teacher can introduce tests at the appropriate level of difficulty in order to develop the literacy skills of students gradually over time.

Use of Data Analytics to Implement Growth Models

We have huge volumes of data but, unlike our counterparts in medicine, we have not learned how to monitor, track and introduce effective interventions based upon the data we have. As we develop new and sophisticated assessments and use information technology in more robust ways, we can see an explosion in the use of data for both formative assessment and summative assessment. More efficient use of data will enable us to accelerate the movement toward implementing growth and to develop continuous improvement models.

Developing Personal Skills

The responsibility of teaching today's students how to manage their digital identity and footprint comes to teachers and not just parents. Social media is forever documenting their experiences, pictures, posts and "likes." As educators we need to teach students the skills they need to make the right decisions online, and get them to think deeply about the consequences associated with social media interactions and how they will impact their long-term goals of their career. Schools need a systematic plan to communicate to all of their stakeholders that the social and economic consequences of not improving a student's performance and career readiness are far worse than the challenges and pain of bringing about needed change in educational system.

To accomplish a sustainable growth and improvement in schools, the three factors are most important to consider:

- WHY educational institutions need improvement
- WHAT new/emerging teaching skills and knowledge requirements are needed
- HOW to bring about improvement by learning from successful practices that have worked previously.

Why Educational Institutionsneed improvement

In communication with staff, parents, students, community members, and media, educational institutions need to address a few critical realities:

- College and Career readiness: ACT's national studies of remediation required for college freshmen show that 19.9% of those entering four-year programs and 51.7% in two-year

programs need remediation. The national average graduation rates in our four-year colleges after five years is 36.6%. In our two-year colleges, we graduate 29.1% after three years. In short, far too many of the graduate students are exiting high school without being neither college ready nor career ready.

- Technology: Advances in technology skills will continue to impact the workplace, home, and society. There is a growing demand for immediate 24/7 information, service, and feedback in all facets of life, including learning.
- Globalization: Many other developing countries, such as Vietnam, Argentina, Brazil, Indonesia, and even Panama, are emerging as major players in the global economy as each of these nations have education standards. With each of these nations having higher education standards, U.S. graduates will find it increasingly difficult to compete. Looking at it another way, if our education system was competing in the Olympics, we would not win any medals at all. In our global economy, this failure—yes, failure—to improve what and how we teach does not bode well for a nation that aspires to preserve the highest standard of living in the world, with an ever growing population, significant demographic and economic changes and increasing challenges to education funding.

To Do Activity: browse the internet and write on 21 century Skills.

WHAT NEEDS TO BE DONE TO MAKE OUR STUDENTS COLLEGE AND CAREER READY

The definitions of proficiency in reading and maths have to be raised. Our existing expectations especially in reading informational text and problem solving skills are too low. The entry-level job reading requirements exceed the reading requirements of all but the most technical college coursework. We have to ensure that students are able to apply the skills and knowledge they have acquired. Solving complex problems defies traditional Carnegie-unit "boundaries," because the "real world" doesn't come packaged in separate, water-tight containers. Instead of instructional programs that focus on accessing and using knowledge in one discipline at a time, young people need more opportunities to learn and to think across subjects.

The cultures, practices, and communities associated with successful educational institutions are each unique, but the ones which make positive, transformational change all share the five central tenets. Strong schools address today's challenges in the context of emerging trends, approach leadership in a way that involves taking control rather than being controlled, and build a strong culture and shared vision of success before trying to implement new initiatives. These schools also approach educational change in a systemic way—focusing on impacting student learning, rather than changing components or practices in isolation of the larger context. Finally, effective schools use data holistically, looking at the student growth over time and analysing this data in relation to instructional initiatives and systemic innovations.

University Programmes and Schedule

Academic year: In India the academic year usually begins in June or July and ends in March or April. Institutions located in mountainous areas (about one or two per cent of the total) follow a different schedule, beginning in March and going on to December. In most universities, which follow an annual examination pattern, the academic year is divided into three terms. 2. Medium of instruction: In case of the professional courses, and subjects in Science, the medium of instruction is almost

exclusively English. In the Arts, Humanities, Social Sciences and Commerce faculties it is both English and the regional language. At the postgraduate level instructions are usually in English and the regional language. Dr. Naveen Ranjan Ravi Structure and Organisation of Higher Education in India : A Macro-Perspective 27 3. Educational programmes: The educational programmes generally involve study of a fixed number of course with little flexibility, at least at Bachelor's level. In the case of liberal education a student usually takes four subjects in the first year, three in the second, and one (Honours degree) or three (General or pass degree) in the third. Within the Science programme it is usually not permissible to take Mathematics and physics with Botany or Zoology. The professional courses (except Medicine) follow the semester pattern. 4. Admission: For securing admission to undergraduate programmes in universities a student needs to have passed a senior secondary school examination taken after twelve years of schooling. Adult learners who have not passed these examinations can obtain admission to programmes of open universities after passing an entrance examination. Admission to nonprofessional colleges is usually not difficult, except in the case of some selected colleges in metropolitan towns where there is strong competition. At the postgraduate level, admission is restricted and only the above-average students can hope to get admission. Admission to M. Phil. Courses, which were started in the 70s, as pre-Ph. D programme, is competitive. Students are admitted to Ph. D. courses on satisfying their supervisors as regards to their competence and genuine interest in research.

3.2 University Act 1904

- The first provision of the University Act 1904 was reconstitution of the governing bodies of the Universities and the size of the Senates to be reduced. The number in the senate was decided as the minimum to be 50 and maximum as 100 and each of them would hold the office for 6 years.
- For the Universities of Mumbai, Kolkata and Chennai, the elected persons were to be 50 and for rest of the Universities, the number was fixed as 15. The University act 1904 allowed the government to appoint a majority of the academic persons in a university.
- The recommendation of Indian Universities Commission appeared after slight amendments in the shape of Indian Universities Act, which came into force on March, 1904.

The following important changes were introduced for the upliftment of University Education:

- Universities were empowered with the authority of appointing their own staff including the teaching staff
- The number of fellows of a University was limited within 50 to 100 and their tenure of office was reduced to five years
- The number of elected academic persons was fixed at 20 for the Mumbai, Chennai and Kolkata Universities and 15 for others Universities
- Syndicate was accorded legal sanction with proper representation of University teachers on it
- Rules pertaining to affiliation of Colleges to a University were made more strict.
- Government was empowered to modify the rules framed by the Senate
- Governor-General in Council was authorized to define the territorial jurisdiction of the Universities.
- After the implementation of the provisions of University Act, though the number of colleges declined, yet the number of students increased considerably. Between 1902 to 1907 the number of Colleges decreased from 192 to 174.

- With regard to University Act, Nurullah and Naik, in their book 'History of Education in India' ventilated their feelings; "It did nothing to overhaul the system of University education and to put in on a proper basis ; it did not create new Universities though these were hardly needed; and finally, it gave so much control to government in the administration of the University that the Calcutta University Commission described the Indian Universities as the most completely Governmental Universities in the world".

- However, Lord Curzon's educational scheme created a new awakening and inspiration in educational field. In-spite of his good motive, he could not win the confidence and faith of the Indians. The rising-tide of' Swadeshi Movement' in the country generated a feeling of nationalism in the masses.
- The University Act brought about changes in the administration of University education. Owing to the scarcity of Technical Colleges there was no scope of vocational education and most of the students sought admission to arts and science colleges.
- The Act directed the Universities to undertake teaching function. As a result Post-Graduate teaching was introduced in Calcutta University and Bombay University introduced honours course in different subjects. Special provision was made for research work in Science, Economics and Experimental Psychology. The Government Resolution on Educational Policy dated 21th February 1913, with regard to University education could not be implemented because of the outbreak of great World War.
- As a result of the state control over secondary education the efficiency of the institutions improved considerably, though quantity suffered. Besides the Department of Education the concerned University also gave recognition for appearing the students at the Matriculation examination. This system of administration impeded the progress of secondary education. Students reading in un-recognized schools were not allowed to be transferred to recognized ones. By this the un-recognized institutions received a check.
- The recognized schools were entitled to grant-in-aid. But the Secondary Schools multiplied in number abnormally due to the adoption of the educational policy of 1913. By the year, 1917, the number of state schools was 237 for boys and 20 for girls.
- After the Educational Policy of Lord Curzon, there was marked improvement in the field of Primary Education. A good number of upper primary and lower primary schools sprang up. The grant-in-aid to the primary schools also increased from rupees 40 lakhs in 1905 to 75 lakhs by 1912. The curriculum and methods of teaching at the primary level improved to a great extent.
- Due to the political awakening the people began to realize that they could not progress without raising the percentage of literacy and education. Not entrusting the local bodies entirely for the spread of primary education Lord Curzon fixed the state responsibility. The grant-in-aid system was made effective. The 'Payment by Results' was stopped. All these factors contributed for the growth of primary education and the number of schools increased from 112930 to 123578 between 1907 to 1912.
- It may not be out of place to mention here that before 1904, the primary education had passed three well defined stages. In one sense, before 1854, it was in a state of infancy. From 1854 to 1882 it was in a state of slow expansion. Between 1882 to 1904, though there was a halt in the process of expansion, yet it was a time of consolidation. In 1904, the nature of consolidation became 'quality oriented'.
- The period from 1904 to 1912, was though a time of attention, yet results were in no way impressive and spectacular. Even then it was a period of activity in the field of elementary education. The political agitation during this period influenced the education in general and primary education in particular.

History of One's Own University:

To Do Activities:

1.Visit any one University and understand the Organizational structure with respect to its Mission, Vision, and Aims and write a report on the same.

2. Critically analyze the development of any one university with respect to Physical Resources, Human Resources, Technological Resources and Financial Resources.

3. Prepare a portfolio of any one University.

Origin and History of Osmania University:

Figure 1: Picture of Nawab Osman Ali Khan

Osmania University is named after its founder, Nawab Osman Ali Khan, the seventh Nizam of Hyderabad who rather through a farman or Royal Charter, brought the University into existence in 1918. It is the seventh oldest in the Country and third oldest in South India. Though the need for the University for the Hyderabad State was felt, both by the intelligentia and the people for a long time, the initiative came from a civil servant, Sir Akbar Hydari, who was then the Home Secretary to the State Government. Sir Hydari, in a memorandum to the Education Minister in Early 1917, emphasized the need to establish a University of Hyderabad with 'Urdu' as the medium of instruction "as it is the language of the widest currency in India, official language of the State, and it is a language which is understood by a vast majority of the population of the State." He believed that higher education must have its foundations deep in national consciousness.

The propitious moment, however, came a few months later on 26th April, 1917 when a Firman was issued for the establishment of the University. The Firman also detailed the 'Mission' and 'Objectives' of the University to be that:the ancient and modern, the oriental and occidental arts and sciences are synthesized in such a manner that the defects of the present system of education are rectifiedthe ancient as well as modern methods of physical, intellectual and spiritual education are

to be fully utilized along with an effort for the propagation of knowledge, the moral improvement of the students is regulated on the one hand, and research work of a high order in all branches of knowledge is conducted on the other.Though the medium of instruction of the University was 'Urdu', an Aryan language, that has direct kinship with other languages of the country, instruction of English, as a language, was made compulsory for each student.

One of the basic ideals of Osmania University is to achieve an intellectual synthesis of oriental and occidental learning of the best that has been thought of and said, both in the East and in the West. Further it aims at a cultural synthesis (as reflected in its architectural variety), the development of a national ethos and the creation of an academic and social environment in which 'National Integration' is not a nebulous idea but a tangible reality.

The birth of Osmania University almost coincided with the birth of a new order arising from the ashes of the First World War. Its origin was basically patriotic. It was a revolt against the supremacy of the foreign language in India. On the revolutionary experiment of using a regional language as a medium of higher education the Nobel Laureate poet, Rabindranth

Tagore, observed:

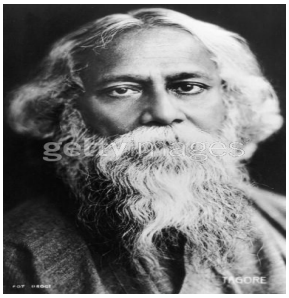


Figure 2: Picture of Rabindranth Tagore

I have long been waiting for the day when, freed from the shackles of a foreign language, our education becomes naturally accessible to all our people. It is a problem for the solution of which we look to our Native States, and it gives me great joy to know that your State proposes to found a University in which instructions are to be given through the medium of Urdu. It is needless to say that your scheme has my fullest appreciation....."

Similarly, complimenting the ruler of the State, Sir Michael Sadler wrote:

"The proposal to make the experiment of recognizing the vernaculars as the medium of instruction in the Osmania University, requiring in addition a command over the English Language, is most opportune, and upon the successful issue much will depend..."

The establishment of Osmania University symbolizes a renaissance in the Indian educational system. Throughout its existence, of over nine decades and in spite of several vicissitudes, it has shown a remarkable resilience and has grown into one of the major universities of India. It has a vast sprawling campus set in picturesque and idyllic surroundings. Buildings of great architectural elegance and variety enhance its beauty. Availability of the latest facilities make it a very modern University. Alumni of the University have distinguished themselves in several walks of life; they include outstanding figures in public life, like one of the former Prime Ministers, Chief Ministers, Ministers, Parliamentarians, Legislators, eminent scholars, educationists, diplomats, administrators, lawyers, doctors, engineers, scientists, writers, sportsmen and men of arts and culture. While quite a

few of them have won international acclaim for their excellent work, and have contributed to the fair name of the country abroad, as a matter of great satisfaction, quite a few of them, who had their higher education and training abroad later, saw that their mission was here and have contributed significantly to the national effort.

The development of the University may be divided into four phases, viz.	
1st Phase	1918 to 1947
2nd Phase	1948 to 1968
3rd phase	1969 to 1993
4th Phase	1994 onwards

Table 1: Four Phases of Development of Osmania University

First Phase:

The first phase was characterised by Urdu as the medium of instruction in all branches of higher education, including Medicine and Engineering. During this time, efforts were made to establish a number of teaching departments as well as to structure academic programmes. The Departments of Chemistry, Civil Engineering, English, History, Mathematics, Physics, were all started at this time. The first 30 years saw the initiation of several new disciplines, like Sociology (1937-38), Geography (1942), Zoology (1924), Botany (1930), Geology (1936), Education and Law (1923), Engineering (1929), Medicine (1926-27) and Agriculture and Veterinary Science (1948).

Figure 3: The Nizamiah Observatory

The University appointed eminent scholars as Faculty in these disciplines. It made concerted efforts to attract the best talent, not only from within the Country but also from outside. This phase also saw the introduction of Under-Graduate Programmes (1925), Post-Graduate Programmes (1925) and Ph.D. Programmes (1938) in several of the faculties. Further, some of the premier institutions that were earlier established in the State (namely, the Nizamiah Observatory, the Nizam College, Medical College, Teachers Training College, and the Law School) were transferred to the University at that time.

As the University was established without much infrastructure, the University Departments and Offices were initially located at different places in the city. It was only in 1934 that the University was shifted to the present campus. The inauguration of the new Campus, along with the inauguration of the Arts College in 1938, is one of the historic events in the annals of the University.

Second Phase:

The Second phase of the University spans the period 1948-1968, when in 1968 the University celebrated its 'Golden Jubilee'. The year 1948 was historic for two reasons. In the first place, the princely State of Hyderabad became a part of new Independent India. Synchronizing with this event, the University cast a lingering backward glance, took the best of the traditions on which it was founded, and turned towards the future. As part of this process Urdu was replaced by English as the medium of instruction. The University witnessed unprecedented increase, both in the number of disciplines and the number of students. The new Departments created during this phase, include Hindi (1948-49), Political Science (1947-48), Electrical Engineering, Mechanical Engineering (1949), Journalism (1954), Chemical Engineering (1951), Public Administration (1956), Library Science (1959), Electronics and Communication Engineering (1959), Statistics (1966), Genetics (1966), and Geophysics (1967). In order to give an impetus to the learning of foreign languages, the University started Diploma programmes in French and German (1954-55) and Italian (1957-58). As the number of Social Science Departments increased, the Faculty of Social Sciences was carved out from the Faculty of Arts in 1964-65, in order to give them a better identity..

Figure 4: Osmania University Arts College

This phase also witnessed considerable growth in the research activity in the University. In order to give it the required thrust, Ph.D. programmes were also started in those Departments and Faculties where they did not exist earlier. Also new courses were designed to meet the emerging needs of an

Independent India. M.Sc. courses in Astronomy, Biochemistry and Geophysics were introduced in the Faculty of Science; M.A. courses in Psychology, Public Administration, Linguistics and Tamil were introduced in the Faculty of Arts; Bachelors Degree Courses in Home Science, Nursing and Music were also started. Diploma programmes in Library Science, Journalism, Physical Education and Child Health were introduced; Graduate programmes in Education and Post-graduate Diploma in Business Management were the other additions. In the Faculty of Medicine, the programmes were either restructured or new courses started. The University thus responded to the new imperatives of higher education by giving thrust to research, creating new departments, and designing new courses in the existing departments. The new courses provided new skills that enabled the students to enter the job market better prepared.

Infrastructure development also got a high priority during the Second phase. The University Main Library, with a floor area of 62,000 sq.ft. was commissioned in 1963. The Law College, Department of Geophysics, the Administrative Building and other buildings to house colleges, hostels and various University Services were constructed manifesting University's growth. Women's education also got an impetus when the Women's College, which was earlier operating from temporary buildings, moved to its present location in 1948.

To meet the ever-increasing demands of higher education of the region, the University permitted a number of affiliated colleges to be started under private management. Consequently, the number of students as well as the colleges increased substantially during this period. By 1967, there were about 45,000 students, including 7, 500 women students studying in 48 different constituent and affiliated colleges.

Third Phase:

The period between the Golden Jubilee (968) and the Platinum Jubilee (1993) can be considered to be the Third Phase. During this phase, the University also witnessed considerable growth in research and development activity. With financial support from National and International agencies several inter-disciplinary Research Centres were established. The Regional Centre for Urban and Environmental Studies (1970), Institute of Genetics (1978), Research and Training Unit for Navigational Electronics (1982), Centre for Area Studies (1983), Audio-Visual Research Centre (1983) and English Language Teaching Centre (1988) are a few examples. New Departments to be created during the period include the Department of Biochemistry (1972), Microbiology (1974) and Applied Geochemistry (1991). To strengthen its infrastructure, the University established the University Computer Centre (1975).

In order to make higher education accessible to the deprived and disadvantaged, the Centre for Distance Education was established in 1977. It now offers Under Graduate and Post-Graduate courses in Arts, Social Sciences, Commerce, Management and Sciences, apart from job oriented programmes. The Academic Staff College was started in 1987 with the support of the University Grants Commission (UGC), to train and orient college and university teachers both in pedagogy and in areas of specialization

Keeping in view the imperatives of rural development, particularly human resources development and rural industrialization, the University embarked upon the strategy of decentralization of higher education, by establishing Post-Graduate Centres in the districts. One such Centre, the Post-Graduate Centre at Warangal, subsequently became a separate University. These Post-Graduate Centres were established in different disciplines and specialised areas, like Agro-Chemicals (Bhiknoor), Instrumentation Technology (Godavari Khani), and Mining (Kothagudem). Establishment, expansion and strengthening of these Post-Graduate Centres has been engaging the special

attention of the University, because it takes education to the doorsteps of some of the backward rural areas of the region of the State.

In order to bring about a qualitative improvement in the academic standards at various levels, the University introduced several reforms. One such reform was the introduction of an Entrance Test for admission to Post-Graduate courses in 1973. This was considered to be a major step in furthering academic excellence.

The University also witnessed the sanction of several research and development projects by the UGC, for strengthening the departments as well as to enable them to pursue research. Twenty five departments in the Faculties of Social Sciences, Sciences, Education and Arts, are the recipients of the Special Assistance Programmes (SAP) and Committee on Strengthening of Infrastructure in Science and Technology (COSIST) programme of the UGC. This has enabled them to make contributions to their fields of pursuit. Some of these departments are going through the second and third phases of their development. Based on their performance, four departments have been given the status of Advanced Centres.

This phase also saw efforts at consolidation of the gains in different disciplines..

Development of infrastructure, mobilization of resources and strengthening of disciplines contributed towards making the University one of the premier universities in the Country. The University also focused on greater interaction with the Government, business and industry, as well as the community, in order to make the fruits of research available to the socio-economic development of the region. Several departments in the University gained national and international reputation during this time..

Fourth Phase:

The Fourth Phase of the University can be said to have begun in 1993, when the University celebrated its Platinum Jubilee, marking the completion of 75 years of its eventful existence. The Platinum Jubilee provided yet another opportunity to the University (to Faculties and Departments) to not only rededicates them to the cause of higher education and become premier centres in the country, but to also review their priorities and programmes..

Further, the national economic policies are finding their echo in the universities. Keeping these in view, as also the national and international priorities, the University has initiated the process of reviewing its academic programmes as well as the contents of the course curricula. It has proposed to introduce several community-relevant courses as part of its development plan for the year 1996-2001 in areas of Environmental Sciences, Biotechnology, Genetic Engineering, Tourism and Hotel Management, Computer Applications, Rural Engineering and Health Technology, etc., It has decided to strengthen its infrastructural facilities, both in terms of physical development of the campus as well as the support systems. In tune with the New National Education Policy, the University took the momentous decision to grant autonomy to campus colleges, so as to enable them to be receptive to innovations in their respective fields and to community demands.

In tune with the New National Education Policy, the University took the momentous decision to grant autonomy to campus colleges, so as to enable them to be receptive to innovations in their respective fields and to community demands.

Since then it is continuously involved in serving the cause of Higher Education and fulfilling the aspirations of millions of students in pursuit of academic excellence.

Notable persons conferred with Honorary Doctorate was Dr. B.R. Ambedkar (1953) the Father of Indian Constitution and Dr. Man Mohan Singh (1994) the Father of Economic Reforms in India and Prime Minister of India.

Osmania University Profile:

Osmania University, established in 1918, is the seventh oldest in India, the third oldest in south India and the first to be established in the erstwhile princely state of Hyderabad. Throughout its existence of over eight decades, it has shown remarkable progress and sustained an integrated development of all faculties. It has significantly contributed to the academic and economic development of not only the region but also of the Country. Its alumni have distinguished themselves nationally and internationally in various spheres of life and are spread far and wide around the world.

The University has a vision of developing, enhancing, and improving the quality of human resources to meet the challenges of regional, national and global socio-economic changes. Its mission is to achieve excellence in teaching and research and to create opportunities for the students to contribute to the national and regional development.

Osmania University is re-accredited by the National Assessment and Accreditation Council (an Autonomous Institution of the University Grants Commission) as 'A' Grade University.

The University with:

12	**Faculties**
53	**Departments**
560	**Teaching staff**
1695	**Non-Teaching staff**
446	**Teaching staff (Contract Basis)**

Table 2: Academic Sections of Osmania University

The University offers:

27	**UG Programmes**
68	**PG courses**
24	**PG Diplomas**
2	**Research Programmes at M.Phil. and Ph.D. levels**
15	**Certificate Programmes**

Table 3: Academic Programmes of Osmania University

The University spread over in 1300 Acres with:

8	**Campus colleges**
5	**Constituent Colleges**
5	**District PG Colleges (Siddipet, Jogipet, Mirzapur, Narsapur&Vikarabad)**
16	**Research Centres**
9	**Academic Centres, and a knowledge hub i.e., Library with 5.5 lakh books and 5500 rare manuscripts**

Table 4: Physical Resources of Osmania University

The University is the largest affiliated University of Asia with:

720	**Affiliated colleges with an enrollment of 3.2 lakh students**
5155	**Foreign Students from 87 countries**

Table 5: Affiliation of Osmania University

Faculty and Staff Statistics:

Professors	**359**
Emeritus Professors	**11**
Associate Professors	**106**
Assistant Professors	**173**
Employees	**2730**

Table 6: Human Resources of Osmania University

University Non-teaching Staff:

Permanent	**2428**
Temporary	**1202**

Table 7: Non-teaching Staff of Osmania University

Total number of registered Ph.D Scholars:

Faculty	**Total**
Arts	**564**
Commerce	**218**
Education	**76**
Engineering/Technology	**142**
Informatics	**--**
Law	**2**
Management	**367**
Oriental Languages	**5**
Science	**1191**
Social Sciences	**443**
Pharmacy	**31**

Table 8: Number of Ph.D Scholars of Osmania University

Number of Ph.D's awarded (previous academic year):

Sciences	**181**

Engineering/Technology	**48**
Others	**137**
Total	**366**

Table 9: Number of Ph.D's awarded

Number of Research papers / Books published by University teachers (previous academic year):

No. of Research Papers published	**1339**
No. of Books published	**113**

Table 10: Number of Publications of Osmania University

No. of ongoing Research projects in the University:

Project outlay 2.0 lack and above	**176**
Project outlay below ` 2.0 lack	**62**

Table 11: Number of Research Projects of Osmania University

Vision and Mission:

The Vision	**The Vision of the University is to generate and disseminate knowledge through a harmonious blend of ancient and modern wisdom, and to serve the society by developing in students heightened intellectual, cultural, ethical, and humane sensitivities; to foster a scientific temper, and to promote professional and technological expertise. Central to this vision is a commitment to regional and national development in consonance with our culture, heritage, and environment.**
The Mission	• To achieve excellence in teaching and research. • To generate, disseminate and preserve knowledge. • To meet the challenges of a complex, and modern society through informed social outreach. • To empower through knowledge and information. • To develop a responsible and productive citizenry. • To develop, enhance, and improve the quality of human resources. • To cultivate resolute moral and ethical values.

	• To meet contemporary regional and national needs and anticipate future social and economic development. • To preserve and promote cultural heritage, humanistic and spiritual values.

Table 12: Vision and Mission of Osmania University

University at a Glance:

The University has a vision of developing, enhancing, and improving the quality of human resources to meet the challenges of regional, national and global socio-economic changes. It's mission is to achieve excellence in teaching and research and to create opportunities for the students to contribute to the national and regional development.

Accreditation:
Osmania University is re-accredited by the National Assessment and Accreditation Council (an Autonomous Institution of the University Grants Commission) as 'A' Grade University.

Summary: It is important to know about the organizational structure and the physical, human, technological, and financial facilities about the university. This helps the learner to get an insight of the working of the University and the pivotal role played by it in various contexts of the human capital development and national development.

References:*Osmania University Profile*Retrieved on 24-01-2019 from **www.osmania.ac.in**

3. The Role and Contribution of Different Universities Contribution to the Higher EducationSector:

To Do Activities:

1. Conduct Seminars and debates on the impact of Different Universities contribution to higher education sector.

2. Critically analyze the challenges of higher education in India and suggest solutions to overcome it.

3. Write a report on various accreditations for higher education in India.

4. Compare the higher education of India with any foreign country's Higher education and write a report.

Role of Different University towards enriching Higher Education:

Over a long period of the existence of Universities in the society, it must meet the needs of the society in the context of: Communities dedicated to the learning and personal development of their members, especially students; should be identified as sources of expertise and vocational identity;creators, testers, and sites for the evaluation and application of new knowledge; an

important contributor to the society and nations; the role of universities as repositories and generators of knowledge; the obligation to equip graduates so that they can obtain viable employment; the obligation to offer rational and timely criticism in areas of public policy and social and economic life; the presence of universities as large and influential bodies in civil society and the state; the longer term role of graduates in creating cohesive and tolerant communities.

According to *Professor Eric Thomas, President, 'Universities UK', Vice-Chancellor, University of Bristol; "*The main functions of higher education and universities are predominantly two-fold. One is as educational establishments and the second as generators of knowledge and technology. As educational establishments, their function is to provide able, self-directed learners that are independent and confident, and will go out into society and give to society through leadership or through civic duties. As knowledge generators, they are research institutions there to provide new knowledge, to change paradigms, to aid society in its development and in meeting new challenges as they come along."

Professor Eric Thomas; has conveyed that higher education can help in human capital development by supplying a substantial output of skilled, educated, independent, self-directed learners who are going to be confident leaders in society, in all of its areas. The second thing that higher education can do is provide new technologies and new knowledge that will help society deal with the issues that it's facing. And of course, in the local community, higher education is now hugely important as an economic, social and cultural powerhouse.

According to *Professor Michael Arthur, Vice-Chancellor, University of Leeds; "T*he main function of the university, really, is to make a significant contribution to civil society. Obviously, the education that we provide to our students, preparing them for their contribution to society is a key function. We create new knowledge. That is a key and important part of any research-led intensive university. The link between the two is particularly important to us here at the University of Leeds. We think they feed off each other, and of course, interpreting all of that into things that are of use, and that have an impact on society. Those, to me, would be the key functions of any university."

Professor Michael Arthur; conveyed that through funding our teaching and research, it translates into highly skilled graduates that contribute to the economy and also to research that in turn leads on to innovation.

Society's Impression about higher education is a process which intentionally transmits what is considered by society to be valuable, in an intelligent and voluntary manner.The objectives of higher education by Robbins as cited in the University Rationalization Committee Report (1988) have been: i. Instruction in skills suitable to play a part in the general division of labour, ii. Teaching to promote the general powers of the mind. iii. The advancement of learning iv. The transmission of a common culture and common standard of citizenship. There should be conscious efforts to formulate and implement policies to ensure that, these concepts and values are properly transmitted to the current and the next generation. This should be carefully pursued so that all sectors of education are well catered for. The basic, secondary, and tertiary levels should systematically be arranged and organized not in curriculum design alone but in funding so as to get the desired benefits for national development. Although the establishment of a higher education institution is costly, difficult to run and maintain, its role is considered critical and vital. The products of tertiary institutions form the core of nation building. Every country requires competent and experienced people for development and such people must be well trained.

Higher education, therefore, prepares the manpower level of an economy. The manpower needs must be seen in both qualitative and quantitative terms. Qualitatively,

education equips the labour force with the necessary skills and competencies, which are essential for the advancement of the nation. Quantitatively, education helps to increase the number of educated citizens in an economy as the educated are needed in various sectors. Therefore, the importance of higher education cannot be underestimated as a result the need to find sustainable source of funds for higher education. The human capital theory suggests that investment in education has a very high socioeconomic return for a country. The knowledge, skills, values, and so on learnt through education would help transform the nation in all aspects, that is, social, political, economic, and so on. Human capital investments have also shown to have measureable micro-level effects, a similar observation made by Goldsmith &Darithy (1997) who demonstrate that human capital positively impacts psychological capital and impacts individual productivity levels. Psychological capital includes factors such as perception of self, attitudes toward work, ethical orientations, and outlook on life. They also found that increases in individual attainment of higher education produced increased psychological capital, which corresponds with increased worker productivity and economic production capacity of the individual. The result is a higher standard of living of the individual with the resultant reduction in poverty and disease situations.

Manpower development serves as a catalyst to national development because it entails all processes by which the individual is equipped with knowledge, skills and the right attitude to change and improve society. Education is able to improve the quality of life and subsequently contribute to the economic and social advancement of the nation.

Rees (1968) as cited in Cohn (1978) believes that education provides the individual with skills, knowledge, competencies, technical know-how and develops their general reasoning capabilities which raise their productivity and income levels. A rise in productivity of the individual increases the total output of the economy. Any increase in total output is a measure of economic growth. Countries which are richly endowed with natural resources and have highly developed human resources do enjoy a high standard of living as cited by Watternbarger (1962) as cited in Orwing (1971). In Africa, nationalists have come to believe that education is the only thing that can help them to progress. A communiqué issued at the high level group of Education for all in Abuja, in 2002 stated among other things that, National strategies to achieve the goals of education for all must receive its necessary share of government budget and benefits from all possible funding sources including debt relief. This has prompted governments to spend huge amounts of their Gross Domestic Products (GDP) to facilitate education. This supports the view that higher education is an indispensable tool for national development hence, this massive financial support. Economic Contribution and Financial Satisfaction Every individual who pursues higher education does so with a certain aim in mind. This might be to get promotion in future, to get pay rise or just to raise his or her status in society. Higher education enables individuals to create economic benefits for the nation. The new knowledge and skills acquired by way of education helps with the overall human development of the nation.

Harbison (1973) also maintains that human resources not capital, nor material resources, constitute the ultimate basis for the wealth of nations. Capital and natural resources are passive factors of production; human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations and carry forward national development. Increased educational attainment levels result in greater rate of overall consumption of goods and services.

Barro (1997) found that raising the average level of schooling of the male labour force by one year increases the growth rate of Gross National Product by as much as one percent in the USA. Tinbergen (1971) found out that an increase in years of education contributes to a reduction in the degree of income inequality. The development of the human resources of a nation is obtained through quality higher education. Higher education is important to the individual.

Weisbrod (1962) as cited in Blaug (1969) identifies benefits of education to the individual as having direct financial returns through higher education. His income will increase which has impact on national development especially since he pays more taxes, takes care of other people i.e. the aged parents etc. The hedging option also makes the educated person to be able to adapt to any technological change. A person with higher education is broadminded hence is more likely to be able to adjust to any situation or change. As an example, a doctor has added incentive through higher education to administer medical treatment to his community instead of paying for their health care. Every country requires competent and experienced people for development and such people must be well trained. The educand is able to contribute to his well being and subsequently to economic and social advancement of the nation. With increase in the individual's productivity, the total output of the economy rises. Any increase in total output is a measure of economic growth.

Higher education makes research findings available for planning which will lead to national development. It is therefore, essential for all stakeholders to appreciate the contribution of research to national development. Government and industry must partner and support institutions of higher learning to come out with innovative research for national planning and development. Impact on Society, Equal Rights and Equal Opportunities Higher education has immense impact on society. It performs societal functions through the process of socialization and acculturation. Higher education is a powerful channel for spreading the forces of change. A change is initiated directly by preparing the students to cope with life, and to solve new social problems through research. Higher education also causes attitudinal changes in people. For example, an educated person will cut down the size of his nuclear family because he knows the negative effect of having a large family and the quality of children in the family, Shultz (1974).

Education for every individual in the country is more than necessary to reduce ignorance, poverty, disease, crime and many other social vices. The level of education among the citizenry determines the level of vices among the citizens. The higher the literacy rate,

the faster the rate of development. The role of education remains a powerful lever in the construction of a just society by equalizing the opportunities to everyone who is able to apply it in developing his or her talent even though access to higher educational opportunities may not on its own eliminate social stratification. This is because education as an agent of socialization is able to produce citizens who would respect the right of others as stated in the 1992 constitution. Lastly, higher education helps inculcate sound human values, ideals of brotherhood, religious and moral beliefs in the educand. Much as higher education can harness the human resources development, education can cause unemployment of graduates if they are not trained to meet the needs of society. The crucial role of higher education within the knowledge economy and the recognition of the need for highly skilled graduates to utilize and apply knowledge in order to advance economic competitiveness and social development must lead to improvement in policy positions and approaches towards the role of and investments in higher education in developing countries. The new policy approach to higher education both in international organisations as well as within national systems should be premised on higher education more than basic education as separate priority choices for social and economic development. There should be rethinking about tertiary education so that the institutions would continue to produce the critical human resources needed to sustain the current level of human development that has become more and more knowledge driven. Also, it is necessary for all stakeholders to support the provision of tertiary education. Industry could provide support for research since industry depends on research findings to come out with new and improved products. They must provide opportunity for students and faculty to have access to their companies for training by way of attachment. Institutions must also create opportunities for industry to come to their institutions to share ideas. They could be invited during open and exhibition days to make presentations and so on. In conclusion, it can be said that national development is considered as the capacity of a nation to improve and sustain growth in all aspects of national life and the means to achieving this is to provide higher education to the citizenry. Educational programmes therefore should be planned well for qualities such as capacity to analyse complex situations, creative initiative, entrepreneurial spirit and a sense of responsibility to be inculcated in students to promote development and national unity.

Contribution of Different Universities to Higher Education:

There are 903 Universities, 39050 Colleges and 10011 Stand Alone Institutions listed on AISHE web portal according to 2017-18 report.

285 Universities are affiliating i.e. having Colleges. 343 Universities are privately managed. 357 Universities are located in rural area.

15 Universities are exclusively for women, 4 in Rajasthan, 2 in Tamil Nadu & 1 each in Andhra Pradesh, Assam, Delhi, Haryana, Karnataka, Maharashtra, Odisha, Uttarakhand and West Bengal.

In addition to 1 Central Open University, 14 State Open Universities and 1State Private Open University, there are 110 Dual mode Universities, which offer education through distance mode also and the maximum (16) of them are located in Tamil Nadu.

There are 500 General, 126 Technical, 70 Agriculture & Allied, 58 Medical, 22 Law, 13Sanskrit and 10 Language Universities and rest 83 Universities are of other Categories.

The top 8 States in terms of highest number of colleges in India are Uttar Pradesh, Maharashtra, Karnataka, Rajasthan, Andhra Pradesh, Tamil Nadu, Gujarat and Madhya Pradesh.

Bangalore Urban district tops in terms of number of colleges with 893 colleges followed by Jaipur with 558 colleges.

Top 50 districts have about 32.6% of colleges. College density, i.e. the number of colleges per lakh eligible population (population in the age-group 18-23 years) varies from 7 in Bihar to 51 in Karnataka and Telangana as compared to All India average of 28. 60.48% Colleges are located in Rural Area. 11.04% Colleges are exclusively for Women. Only 3.6% Colleges run Ph.D. programme and 36.7% Colleges run Post Graduate Level programmes. There are 33.75% Colleges, which run only single programme, out of which 83% are privately managed. Among these privately managed colleges, 55.1% colleges run B.Ed. Courses only. 78% Colleges are privately managed; 64.7% Private-unaided and 13.3% Private-aided.Andhra Pradesh &Telangana have about 82% Private-unaided colleges and Tamil Nadu has 76.2%Privateunaided colleges, whereas, Assam has 12.0% and Chandigarh has only 8.0% Private-unaided colleges.

Total enrolment in higher education has been estimated to be 36.6 million with 19.2 million boys and 17.4 million girls. Gross Enrolment Ratio (GER) in Higher education in India is 25.8%, which is calculated for 18-23 years of age group. GER for male population is 26.3% and for females, it is 25.4%.For Scheduled Castes, it is 21.8% and for Scheduled Tribes, it is 15.9% as compared to the national GER of 25.8%.

Maximum numbers of Students are enrolled in B.A. programme followed by B.Sc. and B.Com. programmes. 10Programmesout of approximately 188 cover 81.2% of the total students enrolled in higher education. At Undergraduate level the highest number (36.4%) of students are enrolled in Arts/Humanities/Social Sciences courses followed by Science (17.1%), Engineering and Technology (14.1%) and Commerce (14.1%) At Ph.D. level, maximum number of students are enrolled in Science stream followed by Engineering and Technology. On the other hand at Post Graduate level maximum students are enrolled in Social Science stream and then Management.

Highest share of foreign students come from the neigh bouring countries of which Nepal is 24.9% of the total, followed by, Afghanistan (9.5%), Sudan (4.8%), Bhutan constitutes (4.3%) and Nigeria (4.0%).

The total number of teachers are12,84,755, out of which about 58.0% are male teachers and 42.0% are female teachers. At all-India level there are merely 72 female teachers per 100 male teachers. Pupil Teacher Ratio (PTR) in Universities and Colleges is 30 if regular mode enrolment is considered whereas PTR for Universities and its Constituent Units is 20 for regular mode.

The share of Ph.D. student is highest in State Public University (31.6%) followed by Institute of National Importance (20.4%), Central University (15.8%) and Deemed University-Private (13.4%).

UGC's Graded Autonomy Regulations for Universities:

Recognising the need to create an enabling environment whereby Higher Educational Institutions (HEIs) can become institutions of global excellence, autonomy is pivotal to promote and institutionalize excellence in higher education. The regulatory framework has recognized this need and towards this direction, the UGC (Categorisation of Universities (Only) for Grant of Graded Autonomy) Regulations, 2018 have been notified on 12th February, 2018. These regulations are aimed to provide autonomy to the HEIs based on quality benchmarks.

Under these Regulations, Universities having NAAC scrore of 3.51 or above or those who have received a corresponding score/grade from a reputed accreditation agency empanelled by the UGC or have been ranked among top 500 of reputed worldrankings are placed in Category-I. Universities having NAAC score of 3.26 and above, upto 3.50 or have received a corresponding accreditation grade/score from a reputed Accreditation Agency empanelled by the UGC are placed in Category-II.

The Universities which do not come under the above two categories are placed in Category-III.Category I & II Universities may hire foreign faculty, without approval of the Commission, who have taught at an institution appearing in top five hundred of any of the world renowned ranking frameworks such as the Times Higher Education World University Rankings or QS Rankings upto 20% of over and above of their total sanctioned faculty strength. Universities will have the freedom to hire foreign faculty on "tenure/contract" basis as per the terms and conditions approved by their Governing Council/Statutory bodies. Since the recruitment of foreign faculty is over and above the sanctioned strength of an Institution, the implementation of the reservation policy of the Government in teaching positions will not be disturbed.

Summary:

There are around 150 universities and about 5000 colleges in India today. In view of the need to effect an all round improvement in the institutions, it is proposed that, in the near future, the main emphasis will be on the consolidation of, and expansion of facilities in, the existing institutions. Urgent steps will be taken to protect the system from degradation.

In view of mixed experiences with the system of affiliation, autonomous colleges will be helped to develop in large numbers until the affiliating system is replaced by a freer and more creative association of universities and colleges. Similarly, the creation of autonomous departments within universities on a selective basis will be encouraged. Autonomy and freedom will be accompanied by accountability.

Courses and programmes will be redesigned to meet the demands of specialization better. Special emphasis will be laid on linguistic competence. There will be increasing flexibility in the combination of courses. State level planning and co-ordination of higher education will be done through Councils of Higher Education. The UGC and these councils will develop coordinative methods to keep a watch on standards.

Provision will be made for minimum facilities and admission will be regulated according to capacity. A major effort will be towards the transformation of teaching methods. Audio-visual aids and electronic equipment will be introduced; development of science and technology curricula and material, research and teacher orientation will receive attention. This will require preparation of teachers at the beginning of the services as well as continuing education thereafter. Teacher's performance will be systematically assessed. All posts will be filled on the basis of merit.

Research in the universities will be provided enhanced support and steps will be taken to ensure its high quality. Suitable mechanisms will be set up by the UGC for co-ordinating research in the universities, particularly in thrust areas of science and technology, with research undertaken by other agencies. An effort will be made to encourage the setting up of national research facilities within the university system, with proper forms of autonomous management.

Research in humanities and social sciences will receive adequate support. To fulfil the need for the synthesis of knowledge, inter-disciplinary research will be encouraged. Efforts will be made to delve into India's ancient fund of knowledge and to relate it to contemporary reality. This effort will imply the development of facilities for the intensive study of Sanskrit and other classical languages. An autonomous Commission will be established to foster and improve teaching, study and research in Sanskrit and other classical languages.

In the interest of greater co-ordination and consistency in policy, sharing of facilities and developing inter-disciplinary research, a national body covering higher education in general, agricultural, medical, technical, legal and other professional fields will be set up. The Government of India will also review, every five years; the progress made and recommends guidelines for future development.

Education Reforms of the 21st Century

- **India has one of the largest education systems in the world today. Though, there are extraordinary developments in the education sector , further reforms are necessary for the upliftment of the higher education sector. The Indian government considering the importance of education in the 21st century has made a firm commitment to create a knowledge-based society through legislation.**
- Government considers Job creation as utmost important as its success can become the engine of economic development at later stages.
- In the past, government reforms mainly focused on the development of elementary education, by expanding the number of students participating in education but by 2010s the focus changed and the emphasis now shifted to the up gradation of higher education .
- Under the tenure of Manmohan Singh's government technical training received priority with the purpose that by 2022 India may have at its disposal a trained labour force numbering nearly 500 million.
- After the victory of NarendraModi and the BharatiyaJanata Party in May 2014 elections, education reforms received a new momentum. Modi government analysed that state investments aiming to develop human capital actually contribute to economic growth.
- In 2014 India joined as the 16th member state in the Washington Convention. Thus, Indian students who are studying in engineering training institutions which are accredited by the National Accreditation Council may further pursue their studies in the educational institutions of other member states without having to pass any further entrance exams. The Modi's government program supporting the foreign investment (Make in India), a bill on the legal status of foreign suppliers will enable renowned foreign universities to establish branches in India which will further aid in raising the prestige and quality of higher education.
- The New Education Policy framework of 2015 initiative and through the MyGov internet platform, citizens could also voice their opinions on the topics related to the educational reform, and thus aid in the creation of a new, high-quality, innovative government policy that corresponds to the challenges of the present. The government also introduced choice-based credit system in higher education in 2015-16 wherein students may decide themselves which subjects they want to complete ,when and in which particular order.
- Many innovations like Smart class and Edu India helped in the radical innovation for studentsSmart class is a multimedia,3D technology based digital teaching which teachers in teaching and assessing and students in learning and Edu India being a educational YouTube channel that focuses on materials of curriculum.
- The government is planning to establish a new educational institution known as Higher Education Financing Agency to oversee the infrastructural developments in higher education sector. the next step of the government in the direction of digitalization is the creation of an online register for report cards and degrees .
- These reforms certainly prove that India has recognized the challenges of the 21st century, the power of knowledge, information, and innovation, and accordingly radical reforms are taking place in the country. The successful creation of information society would carry great opportunities for India in the 21st century.

3.3 Roles and Responsibilities of an Assistant Professor in a University

- The Assistant Professor serves as an academic advisor to students, he conducts undergraduate and graduate courses and seminars. He serves in college or university

committees, engages in scholarly activities, createsendeavors which contribute to the academic vision of the university.

- The Assistant Professor participates in the curricular development activities, supervises laboratories,independent study activities, learning practices and internships and to render service to the lay community according to the individual's academic speciality.
- An Assistant Professor is the one who has a doctorate from a university of recognized standing or from a regionally accreditable college in an appropriate field to the position. He has to satisfy the general university requirement.
- An Assistant Professor guides, leads and mentors students in research projects, he develops professional logistics to improve student performance.
- He develops and implements innovative instructional methods and also evaluates and monitors student academic progress.
- Many career-enhancement programs and activities are created and implemented by an Assistant Professor. He also participates in college and departmental activities
- He supervises and supports teaching assistants and assists and supports senior professors in their day-to-day tasks and functions.

Understanding Roles and Responsibilities of an Academician:

To Do Activities:

1. Preparation of the learners profile based on cognitive and non-cognitive characteristics in order to depict individual differences.

2. Analysis of learning situations through case study, presentation before a group followed by a discussion.

3. Engaging learners in the process of knowledge construction in a subject area following constructivist approach and presentation of paper in a seminar.

4. Reviewing various models of teaching and reflecting.

5. Participation in formation of Academic bodies and participating in becoming the member of an academic body.

6. Design a curriculum in the context of interdisciplinary integration for a subject of your choice and justify in your report.

A. Challenges through dynamic learning environment

B. Addressing problems of the students

C. Formation of academic bodies

D. Constructive approach towards learning

E. Interdisciplinary integration

F. Conducting research

G. Participation in extension activities

H. Official communication

A. Challenges through Dynamic Learning Environment:

According to National Curriculum Framework 2005, Constructivism has changed the learning environment and it is required from the Academician to take up the challenge of meeting the needs of diverse learner. According to Stephen Covey, in his book, The Seven Habits of Highly Effective People, (1989) explains about how to build trustworthiness:

1. Understand the Individual Really seeking to understand another person is the keystone to a functional relationship. However, since what we intend as understanding is often based on our own needs and desires—either now or when we were at a similar age or stage in life—teachers must be vigilant about really understanding what or whom they seek to understand. As one successful parent said about raising children, treat them all the same by treating them differently.

2. Attend to Seemingly Little Things Little kindnesses and courtesies are critical to building and sustaining relationships in the learning community. Even the smallest discourtesy can have a lasting negative impact.

3. Keep Your Commitments A promise made is a promise that must be kept, lest all future promises be met with skepticism.

4. Clarify Your Expectations Be clear about what you expect. Assume nothing. We create many negative situations by simply assuming that our expectations are self-evident, clearly understood, and shared by other people.

5. Show Personal and Professional Integrity Lack of integrity can undermine any other effort to create high trust. Integrity is simply this: treating everyone by the same set of principles. 6. Apologize sincerely when Appropriate It takes great courage to apologize quickly and sincerely. If, despite the best of intentions, you compromise your trustworthiness, take responsibility, make amends, and move on.

The strategies to build trustworthiness in learning environment:

1. Find Something in Common People tend to relate to those who they feel are most like themselves. Your students are more likely to be receptive to building a learning-conducive relationship with you if they perceive that you aren't all that different from them.

2. Encourage Students to Talk about Themselves While you probably have lots of industry stories to share with your students, remember that your students have stories, too. Provide your students with the opportunity to share curriculum-related experiences.

3. Incorporate Your Students' World Talk about what your students are interested in, innovatively incorporate digital technology, and draw their attention to current contexts they might not be aware of.

4. Build in Diversity and Integration Like you, your students live in a world that too often only pays lip service to celebrating diversity and to authentic integration. Make every member of the learning community apriority. 5. Design Clear Feedback Loops, there's no learning community without your students. Regularly evaluate course design and delivery with them. Discuss what emerges from the

evaluations and adapt accordingly. 6. Maintain a Positive Learning Environment Keep a positive attitude, have high expectations, be consistent, be fair, and laugh often.

Summary:

It is the multifarious role played by the Academician to adjust and manage the dynamic learning environment because today's ever changing society is progressing in a very fast pace. If the Academician also do not match the pace of young generation learners; then there would be lapse in educational scenario.

References:

Challenges of Dynamic Learning Environment **Retrieved from** **https://teachingcommons.lakeheadu.ca/sites/default/files/inline-files/Creating%20A%20Learning%20Community.pdf on 26-01-2019**

B. Addressing Problems of the Students:

One of the important criteria for the teacher is to solve the problems of the students. It is important that teachers provide immediate, frequent, and positive feedback.

Andragogical theory prescribes a process of self evaluation, in which the teacher devotes his energy to helping the adults get evidence for themselves about the progress they are making towards their educational goals. In this process, the strengths and weaknesses of the educational program itself must be assessed in terms of how it has facilitated or inhibited the learning of the students. So, evaluation is a mutual undertaking, as are all other phases of the adult learning experience. In fact, what is happening in practice is that precisely the same procedures that are being used for the diagnosis of learning needs are being employed to help the learner measure his gains in competence. For instance, by comparing his performance in solving a critical incident at the end of a learning experience with his performance in a similar critical incident at the beginning of the experience, a learner can quite precisely measure the changes produced by the experience. Adult

students perceive what they do at the end of a learning experience as re-diagnosing rather that evaluating, they enter the activity with more enthusiasm and see it as being more constructive. Indeed, many of them report that it launches them into a new cycle of learning, reinforcing the notion that learning is a continuing process. This shift from evaluation to self-evaluation or rediagnosis places a heavy burden on the teacher of adults. He must set the example of himself being open to feedback regarding his performance. He must be skilful in establishing a support of experience, but also has had different kinds of experience. There is, it seems to me, another rather subtle difference between children and adults as regards their experience. To a child, an experience is something that happens to him; it is an external event that affects him, not an integral part of him. An adult, his experience is him. He defines who he is, establishes his self-identity, in terms of his accumulation of a unique set of experiences. So if you ask an adult who he is, he is likely to identify himself in terms of what his occupation is, where he has worked, where he has travelled, what his training and experience have equipped him to do, and what his achievements have been. An adult is what he has done. Because an adult defines himself largely by his experience, he has a deep investment in its value. And so when he finds himself in a situation in which his experience is not being used, or its worth is minimized, it is not just his experience that is being rejected – he feels rejected as a person. These differences in experience between children and adults have at least three consequences for learning:

(1) Adults have more to contribute to the learning of others; for most kinds of learning.

(2) Adults have a richer foundation of experience to which to relate new experiences (and new learning's tend to take on meaning as we are able to relate them to our past experience).

(3) Adults have acquired a larger number of fixed habits and patterns of thought, and therefore tend to be less open minded.

Several implications for the technology of andragogy flow from these differences in experience:

1. Emphasis on Experiential Techniques. Because adults are themselves richer resources for learning than children, greater emphasis can be placed on techniques that tap the experience of the adult learners, such a group discussion, the case method, the critical-incident process, simulation exercises, role playing, skill-practice exercises, field projects, action projects, laboratory methods, consultative supervision, demonstration, seminars, work conferences, counselling, group therapy, and community development. There is a distinct shift in emphasis in andragogy away from the transmittal techniques so prevalent in youth education – the lecture, assigned readings, and canned audio-visual presentation – toward the more participatory experiential techniques. Indeed, 'participation' and 'ego-involvement' are boldfaced words in the lexicon of the adult educator, with the assumption often being made that the more active the learner's role in the process, the more he is probably learning.

2. Emphasis on Practical Application. Skilful adult educators have always taken care to see that new concepts or broad generalizations were illustrated by life experiences drawn from the learners. But numerous recent studies on the transfer of learning and the maintenance of behavioural change indicate the desirability of going even farther, and actually building into the design of learning

experiences provision for the learners to plan – and even rehearse – how they are going to apply their learning in their day-to-day lives.

3. Unfreezing and Learning to Learn from Experience. A growing andragogical practice is to build into the early phases of a course, workshop, conference, institute, or other sequential educational activity an 'unfreezing' experience, in which the adults are helped to look at themselves more objectively and free their minds from pre-conceptions. Many diagnostic exercises help to serve this purpose, but the most effective technique of all is probably a sensitivity-training 'microlab' in which participants experience a short, intensive period of feedback on their behaviour. For one of the almost universal initial needs of adults is to learn how to take responsibility for their own learning through selfdirected inquiry, how to learn collaboratively with the help of colleagues rather than to compete with them, and especially how to learn by analyzing one's own experience. Readiness to Learn It is well accepted in our culture now that children learn best those things that are necessary for them to know in order to advance from one phase of development to the next. These have been dubbed 'developmental tasks' by developmental psychologists: A developmental task is a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while Failure leads to unhappiness in the individual, disapproved by the society, and difficulty with later tasks.

Learning styles are referred and made by how certain people learn, categorize, and process new content they are descriptors of common behavior patterns. Each person may have multiple preferred learning styles and these are preferences that have mild-strong inclinations. Keefe formally defines learning styles as "characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how learners perceive, interacts with, and respond to the learning environment". The three primary learning styles are visual, auditory, and kinesthetic. Kolb suggests educating adult learners around the experiential cycle that reaches all types of learners.

Summary:

Addressing the problems of the student's; is the basic duty of the Academician in the context of Education in any level. At the top tertiary level that is higher education it is equally important to understand the diversity of learners and to make adjustments with the physical and mental environment to meet their needs as they are adults and they have their own specific objectives that comes along with them in higher education level which they constantly probe to find out their solutions. So, different learning styles and the principles of andragogy is helpful for meeting their needs.

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C. Formation of Academic Bodies:

Important Professional Authorities:

1. Association Of Indian Universities

2. University Grants Commission

1. Association of Indian Universities (AIU) Association of Indian Universities (AIU) is an organization and association of major universities in India. It is based in Delhi it evaluates the courses, syllabi, standards and credits of foreign Universities pursued abroad and equates them in relative to a range of courses offered by Indian Universities

The AIU is mainly concerned with the recognition of Degrees/Diplomas awarded by the Universities in India, which are accepted by the University Grants Commission, New Delhi and abroad for the purpose of admission to higher degree courses in Indian Universities. The AIU is also an implementing agency for the agreements signed under the Cultural Exchange Programmes executed between India and other countries in the field of education, insofar as it relates to the recognition of foreign qualifications (except for medicine and allied courses). Its opinion as to authority or recognition of any foreign qualification is not binding upon anyone, as it is neither a statutory body, nor a part of the government. It is in fact a society registered under the societies act.

2. University Grants Commission (UGC) the University Grants Commission is a statutory organization established by an Act of Parliament in 1956 for the coordination, determination and maintenance of standards of university education. Apart from providing grants to eligible universities and colleges, the Commission also advises the Central and State Governments on the measures which are necessary for the development of Higher Education. It functions from New Delhi as well as its six Regional offices located in Bangalore, Bhopal, Guwahati, Hyderabad, Kolkata and Pune. UGC was entrusted with the task of co-ordination, formulation and maintenance of the standards of university education. To this end, it engaged itself in, among other things, framing regulations on minimum standards of education, determining standards of teaching, examination and research in universities, monitoring developments in the field of collegiate and university education, disbursing grants to universities and colleges and setting up common facilities, services and programmes for a group of universities in the form of Inter-University Centres. Supporting the UGC, accreditation for education learning over Universities is overseen by the following autonomous regulatory and statutory institution.

Professional Councils of India:

1. All India Council of Technical Education (AICTE)

2. Pharmacy Council of India (PCI)

3. Medical Council of India (MCI)

4. Central Council for Indian Medicine (CCIM)

5. Dental Council of India (DCI)

6. National Council for Teacher Education (NCTE)

7. Indian Council for Agricultural Research (ICAR)

8. Indian Nursing Council (INC)

9. Central Council of Homeopathy (CCH)

10. Veterinary Council of India (VCI)

11. National Assessment and Accreditation Council (NAAC)

12. Bar Council of India (BCI)

The Government of India consists of several independent offices forming an integral part of the administration of India. The independent offices were set up to develop and improve various sectors of the country. The apex / independent offices of Government of India are as follows:

1. Planning Commission
2. Central Bureau of Investigation (CBI)
3. Central Information Commission
4. Central Vigilance Commission (CVC)
5. Comptroller and Auditor General of India (CAG)
6. Election Commission of India
7. National Commission for Women (NCW)
8. Union Public Service Commission (UPSC)
9. Accountant General, Maharashtra
10. National Commission on Population
11. National Human Rights Commission (NHRC)
12. Office of the Principal Scientific Adviser
13. Telecom Regulatory Authority of India (TRAI)

Summary:

Formation of Academic Bodies within the organization is also important as it makes easy for the Academician to be more effective and manage the system of Education well. It is a function of the Academician to be a learned member of an authentic educational body in his /her discipline as many academic associations are opened in our country through which we can make both quantitative and qualitative contributions.

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D. Constructive Approach towards Learning:

Constructivist teaching: is based on constructivist learning theory. Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information. Learners are the makers of meaning and knowledge.

Constructivist approach teaching methods are based on constructivist learning theory. Along with John Dewey, Jean Piagetresearched childhood development and education. Both Dewey and Piaget were very influential in the development of informal education. Dewey's idea of influential education suggests that education must engage with and enlarge experience and the exploration of thinking and reflection associated with the role of educators. Piaget's role in the constructivist teaching suggests that we learn by expanding our knowledge by experiences which are generated through play from infancy to adulthood which are necessary for learning. Their theories are now encompassed in the broader movement of progressive education. Constructivist learning theory says that all knowledge is constructed from a base of prior knowledge. Children are not a blank slate and knowledge cannot be imparted without the child making sense of it according to his or her current conceptions. Therefore, children learn best when they are allowed to construct a personal understanding based on experiencing things and reflecting on those experiences.

Constructivist teaching strategies:

One of the primary goals of using constructivist teaching is that students learn how to learn by giving them the training to take initiative for their own learning experiences.

According to Audrey Gray, the characteristics of a constructivist classroom are as follows:

- the learners are actively involved
- the environment is democratic
- the activities are interactive and student-centered
- the teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous

Examples of activities:

Furthermore, in the constructivist classroom, students work primarily in groups and learning and knowledge are interactive and dynamic. There is a great focus and emphasis on social and communication skills, as well as collaboration and exchange of ideas.[1] This is contrary to the traditional classroom in which students work primarily alone, learning is achieved through repetition, and the subjects are strictly adhered to and are guided by a textbook. Some activities encouraged in constructivist classrooms are:

- **Experimentation:** Students individually perform an experiment and then come together as a class to discuss the results.
- **Research projects:** Students research a topic and can present their findings to the class.
- **Field trips:** This allows students to put the concepts and ideas discussed in class in a real-world context. Field trips would often be followed by class discussions.
- **Films:** These provide visual context and thus bring another sense into the learning experience.
- **Class discussions:** This technique is used in all of the methods described above. It is one of the most important distinctions of constructivist teaching methods.
- **Campus wikis:** These provide learners with a platform for curating helpful learning resources.

Constructivist approaches can also be used in online learning. For example, tools such as discussion forums, wikis and blogs can enable learners to actively construct knowledge. A contrast between the traditional classroom and the constructivist classroom is illustrated below.

The Traditional Classroom:

- Begins with parts of the whole–Emphasizes basic skills
- Strict adherence to fixed curriculum
- Textbooks and workbooks
- Instructor gives/students receive
- Instructor assumes directive, authoritative role
- Assessment via testing / correct answers
- Knowledge is inert
- Students work individually

The Constructivist Classroom:

- Begin with the whole – expanding to parts
- Pursuit of student questions / interests
- Primary Sources / manipulative materials
- Learning is interaction – building on what students already know
- Instructor interacts / negotiates with students
- Assessment via student works, observations, points of view, tests. Process is as important as product
- Knowledge is dynamic / change with experiences
- Students work in groups Source : Thirteen Ed Online (2004)

Because existing knowledge schemata are explicitly acknowledged as a starting point for new learning, constructivist approaches tend to validate individual and cultural differences and diversity.[4]

Role of Teachers:

In the constructivist classroom, the teacher's role is to prompt and facilitate discussion. Thus, the teacher's main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject. Parker J. Palmer (1997) suggests that good teachers join self, subject, and students in the fabric of life because they teach from an integral and undivided self, they manifest in their own lives, and evoke in their students, a capacity for connectedness.

David Jonassen identified three major roles for facilitators to support students in constructivist learning environments:

- Modeling
- Coaching
- Scaffolding

Modeling –Jonassen describes Modeling as the most commonly used instructional strategy in CLEs. Two types of modeling exist: behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes. Behavioural modeling in Constructivist Learning Environments demonstrates how to perform the activities identified in the activity structure. Cognitive modeling articulates the reasoning (reflection-in-action) that learners should use while engaged in the activities.

Coaching – ForJonassen the role of coach is complex and inexact. She acknowledges that a good coach motivates learners, analyzes their performance, provides feedback and advice on the performance and how to learn about how to perform, and provokes reflection and articulation of what was learned. Moreover, she posits that coaching may be solicited by the learner. Students seeking help might press a "How am I Doing?" button. Or coaching may be unsolicited, when the coach observes the performance and provides encouragement, diagnosis, directions, and feedback. Coaching naturally and necessarily involves responses that are situated in the learner's task performance (Laffey, Tupper, Musser, &Wedman, 1997).

Scaffolding - Scaffolding is a more systemic approach to supporting the learner, focusing on the task, the environment, the teacher, and the learner. Scaffolding provides temporary frameworks to support learning and student performance beyond their capacities. The concept of scaffolding represents any kind of support for cognitive activity that is provided by an adult when the child and adult are performing the task together (Wood & Middleton, 1975).

Constructivist Learning Environments:

Jonassen has proposed a model for developing constructivist learning environments (CLEs) around a specific learning goal. This goal may take one of several forms, from least to most complex:

- Question or issue
- Case study
- Long-term Project
- Problem (multiple cases and projects integrated at the curriculum level)

Jonassen recommends making the learning goals engaging and relevant but not overly structured.

In CLEs, learning is driven by the problem to be solved; students learn content and theory in order to solve the problem. This is different from traditional objectivist teaching where the theory would be presented first and problems would be used afterwards to practice theory.

Depending on students' prior experiences, related cases and scaffolding may be necessary for support. Instructors also need to provide an authentic context for tasks, plus information resources, cognitive tools, and collaborative tools.

Assessment:

Traditionally, assessment in the classrooms is based on testing. In this style, it is important for the student to produce the correct answers. However, in constructivist teaching, the process of gaining knowledge is viewed as being just as important as the product. Thus, assessment is based not only on tests, but also on observation of the student, the student's work, and the student's points of view. Some assessment strategies include:

- Oral discussions. The teacher presents students with a "focus" question and allows an open discussion on the topic.
- KWL(H) Chart (What we know, What we want to know, What we have learned, How we know it). This technique can be used throughout the course of study for a particular topic, but is also a good assessment technique as it shows the teacher the progress of the student throughout the course of study.
- Mind Mapping. In this activity, students list and categorize the concepts and ideas relating to a topic.
- Hands-on activities. These encourage students to manipulate their environments or a particular learning tool. Teachers can use a checklist and observation to assess student success with the particular material.

- Pre-testing. This allows a teacher to determine what knowledge students bring to a new topic and thus will be helpful in directing the course of study.[2]

Constructivism for Adults:

Learning environments for adults based on constructivist philosophy include opportunities for students to make meaningful connections between new material and previous experience, through discovery. One of the simplest ways to do this is asking open-ended questions. Student responses to such questions are opportunities for experiencing the perspectives of others. For these questions to be effective it is critical that instructors focus on teaching content that is useful for participants. The importance of using these types of strategies with adults contributes to what. Bain(2004 p. 4) noted as critical learning environments where instructors "embed" the skills they are teaching in "authentic tasks that will arouse curiosity, challenge students to rethink assumptions and examine their mental modes of reality".Mezirow J. (1997) who asserts that learners need to practice in recognizing frames of reference and using their imaginations to redefine problems from different perspectives.To promote discovery learning, the educator often reframes learner questions in terms of the learner's current level of understanding. Learning contracts, group projects, role play, case studies, and simulations are classroom methods associated with transformative education. Such approaches emphasize that learning is not an "all or nothing" process but that students learn the new information that is presented to them by building upon knowledge that they already possess. It is therefore important that teachers constantly assess the knowledge their students have gained to make sure that the students' perceptions of the new knowledge are what the teacher had intended. Teachers will find that since the students build upon already existing knowledge, when they are called upon to retrieve the new information, they may make errors. It is known as reconstruction error when we fill in the gaps of our understanding with logical, though incorrect, thoughts. Teachers need to catch and try to correct these errors, though it is inevitable that some reconstruction error will continue to occur because of our innate retrieval limitations.

Specific Approaches:

Constructivism: An approach to learning based on the constructivist learning ideologies presented by Jean Piaget and Lev Vygotsky. In this approach, the individual is consciously engaged in the construction of a product, or knowledge. The utilization of constructivism in educational settings has been shown to promote higher-order thinking skills such as problem-solving and critical thinking.

Guided Instruction: A learning approach in which the educator uses strategically placed prompts, cues, questions, direct explanations, and modeling to guide student thinking and facilitate an increased responsibility for the completion of a task (Fisher & Frey, 2010).

Problem-Based Learning: A structured educational approach which consists of large and small group discussions (Schmidt &Loyens, 2007). Problem-based learning begins with an educator presenting a series of carefully constructed problems or issues to small groups of students (Schmidt &Loyens, 2007). The problems or issues typically pertain to phenomena or events to which students possess limited prior knowledge (Schmidt &Loyens, 2007). The first component of problem-based learning is to discuss prior knowledge and ask questions related to the specific problems or issues (Schmidt &Loyens, 2007). Following the class discussion, there is typically time in which students individually research or reflect on the newly acquired information and/or seek out areas requiring further exploration (Schmidt &Loyens, 2007). After a pre-determined amount of time (as outlined by the educator), students will meet in the same small groups that were composed prior to the class discussion (Schmidt &Loyens, 2007). In the first meeting, groups will spend between one and three hours further discussing the problems or issues from class in addition to presenting any new information collected during individual research (Schmidt &Loyens, 2007). Following the first meeting, students will independently reflect on the group discussion, specifically in comparing

thoughts regarding the problems or issues in question (Schmidt &Loyens, 2007). Typically, groups will meet a second time to critically analyse individual and group thoughts and discussions and will attempt to synthesize the information in order to draw conclusions about the given problem or issue (Schmidt &Loyens, 2007). Within the educational setting, problem-based learning has enabled students to actively construct individual understandings of a topic using both prior and newly acquired knowledge (Schmidt &Loyens, 2007). Moreover, students also develop self-directed and group learning skills which ultimately facilitates the comprehension of the problems or issues (Schmidt &Loyens, 2007).

Inquiry-Based Learning: An Educational approach associated with problem-based learning in which the student learns through investigating issues or scenarios (Hakverdi-Can &Sonmez, 2012). In this approach, students pose and answer questions individually and/or collaboratively in order to draw conclusions regarding the specific issues or scenarios (Hakverdi-Can &Sonmez, 2012). Within the educational setting, inquiry-based learning has been beneficial in developing student inquiry, investigation, and collaboration skills, in turn, increasing overall comprehension of the issue or scenario (Hakverdi-Can &Sonmez, 2012).

Effective essential questions include student thought and research, connect to student's reality and can be solved in different ways (Crane, 2009). There are no incorrect answers to essential questions, rather answers reveal student understanding (Crane, 2009).

Anchored Instruction:An educational approach associated with problem-based learning in which the educator introduces an 'anchor' or theme in which students will be able to explore (Kariuki& Duran, 2004). The 'anchor' acts as a focal point for the entire task, allowing students to identify, define, and explore problems while exploring the topic from a variety of different perspectives (Kariuki& Duran, 2004).

Cooperative Learning: A variety of educational approaches focusing on individuals working together to achieve a specific learning outcome (Hsiung, 2012).

Reciprocal Peer Teaching:A cooperative learning approach wherein students alternate roles as teacher and learner (Krych, March, Bryan, Peake, Wojciech, & Carmichael, 2005). The utilization of Reciprocal Peer Teaching (RPT) in educational settings has been effective in the development of teamwork, leadership, and communication skills in addition to improving students' understanding of course content (Krych et al., 2005).

Traditional Classroom	Constructivist Classroom
Curriculum begins with the parts of the whole. Emphasizes basic skills.	Curriculum emphasizes big concepts, beginning with the whole and expanding to include the parts.
Strict adherence to fixed curriculum is highly valued.	Pursuit of student questions and interests is valued.
Materials are primarily textbooks and workbooks.	Materials include primary sources of material and manipulative materials.
Learning is based on repetition.	Learning is interactive, building on what the student already knows.
Teachers disseminate information to students; students are recipients of knowledge.	Teachers have a dialogue with students, helping students construct their own knowledge.
Teacher's role is directive, rooted in authority.	Teacher's role is interactive, rooted in negotiation.
Assessment is through testing, correct answers.	Assessment includes student works, observations, and points of view, as well as tests. Process is as important as product.
Knowledge is seen as inert.	Knowledge is seen as dynamic, ever changing with our experiences.
Students work primarily alone.	Students work primarily in groups.

Table 13: Differentiation between Traditional and Constructivist Classroom

Summary:

According to National Curriculum Framework (2005) there is shift from rote-learning to the construction of knowledge. Hence, the Academician must be a facilitator in the construction of the knowledge of the learners. There has been an explosion in the population, in the knowledge and in the expectations of the society. The role played by the Academician is important for meeting these kind of expectations.

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E. Interdisciplinary Integration:

Interdisciplinary teaching is a method, or set of methods, used to teach across curricular disciplines or "the bringing together of separate disciplines around common themes, issues, or problems." often Interdisciplinary instruction associated with or a component of several other instructional approaches. For example, in a review of literature on the subject published in 1994, Kathy Lake

identified seven elements common to integrated curriculum models: a combination of subjects; an emphasis on projects; the use of a wide variety of source material, not just textbooks; highlighting relationships among concepts; thematic units; flexible schedules; and flexible student grouping

Types of Interdisciplinary Teaching:

There are many different types, or levels, of interdisciplinary teaching. On one end, schools might employ an *interdisciplinary team approach*, in which teachers of different content areas assigned to one group of students who are encouraged to correlate some of their teaching (Vars, 1991). The most common method of implementing integrated, interdisciplinary instruction is the *thematic unit*, in which a common theme is studied in more than one content area (Barton & Smith, 2000).

The example given above about rivers would be considered *multidisciplinary or parallel design*, which is defined as lessons or units developed across many disciplines with a common organizing topic (Jackson & Davis, 2000).

One of the foremost scholars of interdisciplinary teaching techniques is James Beane, who advocates for *curriculum integration*, which is curriculum that is collaboratively designed around important issues. It has four major components: the integration of experiences, social integration, the integration of knowledge, and integration as a curriculum design. It differs from other types of interdisciplinary teaching in that it begins with a central theme that emerges from questions or social concerns students have, without regard to subject delineations (Beane, 1997).

In 1989, the seminal work, Interdisciplinary Curriculum: Design and Implementation, edited by Heidi Hayes Jacobs was published by ASCD (Alexandria, Va). In this work, she presented a continuum of options for design spanning focused disciplined work to parallel to multidisciplinary to full integration.

Benefits of Interdisciplinary Teaching:

A school district in Michigan created integration plans for thematic units, based on the ideas of Howard Gardner about multiple intelligences, in a yearlong pilot program. The results of the program included "sustained enthusiasm" from the staff, parents, and students, increased attendance rates, and improvement in standardized test scores, "especially from students with the poorest test results" (Bolak, Bialach, &Duhnphy, 2005).

Flowers, Mertens, &Mulhall identify five important outcomes and findings of their experiences with interdisciplinary teaching and planning: common planning time is vital, schools that team have a more positive work climate, parental contact is more frequent, teachers report a higher job satisfaction, and student achievement scores in schools that team are higher than those that do not team (1999).

Additionally, Pumerantz&Galanto find that interdisciplinary teaching allows for students to, "Proceed at a pace commensurate with their interests, skills, and experiences" (1972).

Integrated instruction helps teachers better utilize instructional time and look deeper into subjects through a variety of content-specific lens. Another benefit of integrated instruction is that teachers can better differentiate instruction to individual student needs. Integrated instruction also allows for authentic assessment (Barton & Smith, 2000). A final benefit of interdisciplinary teaching is that students have a chance to work with multiple sources of information, thus ensuring they are receiving a more inclusive perspective than they would from consulting one textbook (Wood, 1997).

Implementation of Interdisciplinary Teaching:

Heidi Hayes Jacobs presents a four-phase approach to curriculum integration planning. (1989, ASCD, Alexandria, Va) First, she suggests that a school conduct action research to learn more about how to implement curriculum integration. This should be done six months to a year ahead of when the school is going to attempt curriculum integration. Next, phase two calls for the development of a proposal. Phase three consists of implementing and monitoring the pilot unit; this should take place in the second year of the curriculum integration plan. Phase four takes place in the third year of the plan, and calls for staff adoption of the program based on the findings from phase three (1991).

Choosing a theme to focus interdisciplinary instruction is a key step in implementing this approach. Themes should be of interest to students and relevant to the required curriculum. In some situations, students might choose the thematic topic. Themes should also be topics of interest to the teacher(s) because successful thematic instructions often requires additional research and preparation. Interdisciplinary themes related to multiple academic disciplines can be reinforced in lessons throughout the school day.

Essential questions are helpful in focusing the theme of interdisciplinary curriculum units. Essential questions are open-ended, intellectually engaging questions that demand higher-order thinking. Essential questions help teachers chose the most important facts and concepts relative to the theme and serve to focus planning efforts. For students, essential questions highlight key facts and concepts related to the interdisciplinary theme. They also serve as a focus for analysis and evaluation. Good essential questions cannot be answered with a simple yes/no or true/false; students must discuss, defend, and debate issues related to the theme. Designing interdisciplinary instruction around essential questions require students to learn both content and develop critical analysis skills.

Examples of Interdisciplinary Instruction:

- Travel and vacation can serve as a theme for cross-curricular interdisciplinary instruction. In social studies, student might study the geography of popular travel destinations, the history of tourist sites in the local community, and how travel changed dramatically during the 19th century Industrial Revolution. Analysis of travel promotion and advertising are relevant to media literacy education. Thousands of travel accounts have been published over the centuries that could be read and discussed in English classes. The impact of tourism on the environment relevant to science curriculum. In business education, students might examine the impact of tourism on the local, regional, or world economy.
- An interdisciplinary unit on rivers is appropriate for elementary or middle school Language Arts, Science and Social Studies. The local river system would be the unifying idea, but the English teacher would link it to Language Arts by studying river vocabulary and teaching students how to do a research report. The science teacher might teach children about the life systems that exist in the river, while the Social Studies teacher might help students research the local history and peoples who used the river for food and transport.
- Food is studied in every discipline and can serve as a theme for interdisciplinary instruction. Psychologists and sociologists explore how individuals and cultures decide what to eat, how to prepare it, and how to consume it. Anthropologists explore the meaning and symbolism of food in a culture or how food relates to social class, sex, gender, or ethnicity. Economists study the production, distribution, marketing, sales, trade, and prices of food. Political scientists examine the government food policies such as taxation, regulation and debate the government's role in feeding its citizens. Scientists from the fields of nutrition, medicine, chemistry, biology, and agriculture study every aspect of food, from diet, health, and nutrition to chemical composition,

production, and preservation. Food historians use interdisciplinary approaches to study food and its place in social class, religious practice, immigration, urbanization, technological change, the growth of the food industry, counterculture movements, and government policy

Concept of 5E Model:Concept of 5E Model:

Figure 5: Concept of 5E Model

The 5 E's is an instructional model based on the constructivist approach to learning, which says that learners build or construct new ideas on top of their old ideas. The 5 E's can be used with students of all ages, including adults.Each of the 5 E's describes a phase of learning, and each phase begins with the letter "E": Engage, Explore, Explain, Elaborate, and Evaluate. The 5 E's allows students and teachers to experience common activities, to use and build on prior knowledge and experience, to construct meaning, and to continually assess their understanding of a concept.

Engage: This phase of the 5 E's starts the process. An "engage" activity should do the following:

1. Make connections between past and present learning experiences
2. Anticipate activities and focus students' thinking on the learning outcomes of current activities. Students should become mentally engaged in the concept, process, or skill to be learned.

Summary:

Interdisciplinary Integration is the need of the hour in today's society. Because of explosion of knowledge and the progress of our country to match up with the modernization of the world, it is very important that higher education designs curriculum based on Interdisciplinary Approach to have holistic understanding of the global concepts and contexts.

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F. Conducting Research:

Conducting research is an inquiry-based process that involves identifying a question, gathering information, analyzing and evaluating evidence, drawing conclusions, and sharing the knowledge gained. The ability to conduct research is a critical skill students need to be college and career ready. To support struggling students, who may face difficulties in carrying out this process, teachers can use a range of technology tools to personalize instruction.

The purpose of academic research is to seek the truth and new knowledge which enhances social development. Such research is one of the integral responsibilities of a faculty member working in an academic institution. It is one of the key aspects of their job performance and to inform action. Thus, your study should seek to contextualize its findings within the larger body of research. Research must always be of high quality in order to produce knowledge that is applicable outside of the research setting.The research is important for thestudents because it helps them to have a detailed analysis of everything. When you have proper in-depth analysis on any topic, the result comes out to be fruitful and also the knowledge is enhanced.

In addition, educational research is important because of contributing knowledge development, practical improvement, and policy information. Therefore, educators can use those research findings to improve their competences and teaching and learning process (Yulirahmawati, 2008).

The process of the scientific method involves making conjectures (hypotheses), deriving predictions from them as logical consequences, and then carrying out experiments or empirical observations based on those predictions. A hypothesis is a conjecture, based on knowledge obtained while seeking answers to the question.

The Scientific Method:

It is very important for any Research output to follow a scientific approach to come out with authentic results which can be generalized. The following figure depicts the Scientific Method.

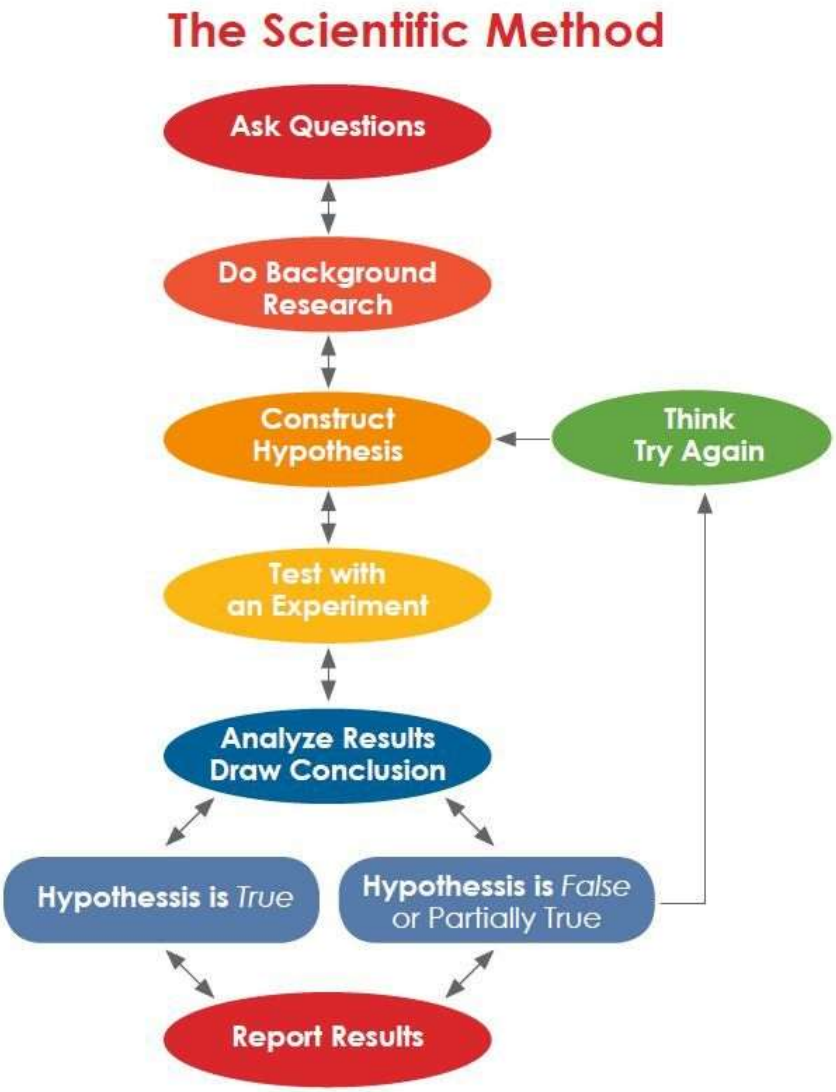

Figure 11: The Scientific Method

Summary:

Conducting Research is the one of the many responsibilities taken up by the Academician to solve his own problems and simultaneously to solve student's problem and educations problems at large. Scientific Method can only be the best approach in understanding the various problems and solving it in the light of present demands and situations.

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Effective method of transacting/disseminating knowledge to the learners

The knowledge producers consider the following key elements while designing a knowledge dissemination plan:

- Establish goals and objectives for the dissemination project
- Each of the specific objectives are articulated to achieve each goal
- The scope and characteristics of target audience or potential users are defined
- The content or information which needs to be disseminated is determined
- The sources that potential user groups view as credible are identified and the ways to partners with these sources are considered
- The medium that will best deliver the content or information to learners is determined.
- The success of the dissemination activities is determined and what measures and indicators will be collected and analysed.
- All the steps taken to promote on-going access to project related content are properly describe for future reference
- Effective strategies are identified to inform learners about the availability of project related information
- The potential barriers that may interfere with users access to the sources of knowledge are identified and efficient strategies to reduce these barriers are developed
- The disseminating planning process is drawn on a wide range of strategies and tools and tailored according to the needs of particular groups within the target audience.

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