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ASSOCIATION OF INDIAN UNIVERSITIES

INVITES

VIEWS AND SUGGESTIONS **ON IMPLEMENTATION OF NATIONAL EDUCATION POLICY-2020**

Association of Indian Universities constituted a Committee of Vice Chancellors on '***Implementation of National Education Policy-2020'*** to examine the issues pertaining to the difficulties encountered in the implementation of NEP--2020 and to suggest pragmatic solutions for fast-tracking its implementation.

The purpose of the Committee is to look into the major recommendations of National Policy of Eduaction-2020, take stock of its implementation and suggest measures and strategic implementation plan to the Governments at the Centre/ States and the HEIs, keeping in view the difficulties faced by HEIs in implementation of NEP-2020. The Committee shall (i) look into the subtle aspects of the recommendations of NEP-2020, identify the challenges and difficulties and suggest a workable implementation strategy with time line (ii) find possible and plausible solutions to address the difficulties faced by the institutions (iii) present the status report of implementation of NEP–2020 to be prepared within three months to the Honorable Union Minister of Education, Government of India.

The Committee will come out with a structured roadmap with timelines for implementation of NEP-2020 which shall help the Government and other regulatory and apex bodies and Institutions of Higher Educational to assume their respective roles in its expedient implementation.

In this process of preparing the Roadmap, AIU intends to seek feedback from as many stakeholders and practitioners as possible to make it a comprehensive and influential document.

At present, the Committee is in the process of seeking opinions from experts in the field of Higher Education on different aspects through a Feedback Form, '**Feedback Survey on Operationalization of NEP–2020 by HEIs'** which is available on AIU **Website: www.aiu.ac.in.**

Readers of the University News are also invited to provide feedback through the Feedback Survey form on or before **31 October, 2021** through Google form via link: **http://meet.google.com/wry-ypyt-qeo.** To have a comprehensive view of the Feedback Form, the PDF is available on AIU **Website: www.aiu.ac.in.**

For further details please email to sgoffice@aiu.ac.in

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Universities: Crucibles for Producing Innovators and Entrepreneurs

B M Naik*

"Universities and colleges are crucibles to produce innovators."

Universities ought to be innovative, creative and enterprising to play a vital role in generation of Hi-tech employment in emerging skills in changing world.

Universities and colleges in developed countries, have now been playing new innovative roles namely, Creating Hi-Tech startups, generation of New Knowledge, New Technology, Patents & IPR, New Technology Based start-ups, etc. This is with a view to enable people to be more competitive to make most of global opportunities. Strong higher education system is however, a pre-requisite for development, without which India in spite of potential can not hope to become a 5 trillion economy and provide jobs to youths. NEP-2020 has recommended urgent steps for strategic changes in creating entrepreneurs, start-ups. Conventional wisdom, of universities as 'teaching shops' in present stormy weather of globalization falls too short of the purpose, and does not suffice. Teaching without research base and without innovation is found to be ineffective, outdated, irrelevant and obsolete. From experience in the world it is recommended that India should harvest its untapped research, innovation, patenting and entrepreneurship potential lying idle in universities. Brilliant students and faculty are eagerly waiting to participate.

Colleges and universities in India after independence in 1947 have made a laudable progress, yet they are observed to be poorly equipped and woefully unsuited to the demands of globalization. They are far too behind their counterparts in developed world. Thousands of students every year are going abroad for higher education. Universities, today emphasize on memorization that is 'rote learning,' and do not offer innovation, entrepreneurship and leadership skills needed in world market. In globalization, they have to play a key role in developing knowledge society. They need to be repositioned, and restructured in terms of their relationship with people, government, industry, private sector and the world. Our true wealth resides in educated citizenry. NEP-2020 has recommended substantial increase in budget for education. This is a welcome sign. More so because people without skill education tend to become a liability and threat to the national as well as world peace. It is being realized that lack of skill based education is closely linked with unemployment and in turn to crime.

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It is time for Indian universities to be innovative to produce Leaders for various professions and globally competent captains for industry**.** Development to take place fast and remain sustainable requires educated people and visionary leaders in various walks of life. Universities ought to produce world class leaders for which essentially they would have to be world class by themselves, which is so essential to win in world economy. We know that today's leaders in economy, politics, industry, etc were students yesterday. We must look at today's students as tomorrow's leaders, and institutes as generators of visionary and creative leaders. World class universities are always generating new ideas and producing graduates as ideal men. They produce innovators who have extra energy and high passion for the purpose. They are never satisfied with existing and create always new. They are never jobless instead they create jobs for others. They are wealth creators, enriching the nations. India desires to have world class universities standing high in global list.

In view of the growing importance of innovation in higher education in dynamic world Government has brought out a worthy National Education Policy-2020, with focus on innovation. Systematic meaningful implementation of the NEP-2020 remains now a bounden duty and responsibility of the universities and colleges.

Recommendations of National Education Policy-2020

Government of India rightly so has now in National Education Policy NEP-2020 (NEP-2020) laid great emphasis on research, innovation and entrepreneurship. It recommends close relationship of higher education to the world of work, which includes industry, service sector, self employment and entrepreneurship (*www.education.gov.in/en/nep-new)*. NEP-2020 has recommended establishment of National Research Foundation (NRF) to provide increased funding for research and innovation. Government in the recent past has set up an Innovation Board and started Atal Innovation Mission. India is organizing Hackathon competitions every year. This will undoubtedly transform the culture in favour of innovation and entrepreneurship. How can this be accelerated and made more successful is the theme of this article. NEP-2020 recommends that companies and universities collaborate forthwith with each other to develop technologies to lead in world and not only to follow. NEP-2020 recommends strong relationship between university and industry, and synergies with each other for mutual growth and prospects. NEP-2020 has now recommended to set up a National Higher Education and Research Council (NHERC), in place of UGC and AICTE. This council along with universities will have to redesign schemes and projects for promoting innovation and entrepreneurship. Colleges will have to be autonomous. Professors will have to be geared up with these new schemes and innovative projects. There are the key challenges before the universities in implementation of NEP-2020.

The key factor behind unemployment is insufficient innovation and insufficient entrepreneurship. Innovation is a strong stimulant. Persons with innovation skills in India are in short supply. This is the major barrier in job generation and development. NEP-2020 aims at removal of these barriers. The interaction between industry and institute for technological research and innovation in India is far too weak and holding back teaching of emerging skills of innovation and entrepreneurship and in turn competitiveness and growth of both the industry and university. Government of India, recently has done right in starting rewarding innovators and arranging innovation meets like Hackathon. India must now accelerate and take a massive drive to float its own companies on national and global plane., which universities in USA, China, Japan, etc are doing. It should take advantage of cheap and yet competent graduates. Eight graduates can be employed in India against one in USA. India ought to double up in this direction. World class universities are turning out not only managers but 'First Mover Entrepreneurs,' that is those who are the first to encash brand new technology like Bill Gates, Mark Zuckerburg, Elon Musk etc. There are however, as usual a few difficulties. Some students want to start enterprises based on their research in colleges. But, they lack finance. Their family situations demand immediate earning. Colleges do not have provision of venture funds. Professors want to support students and students want to take their backing for starting enterprises. But, Professors are not allowed to take leave for one or two years for the purpose. Such difficulties need to be suitably answered. It is high time for Indian universities and

colleges to dream high and think great and inspire students for entrepreneurship, remove hold ups and create *Atma Nirbhar Bharat*. There are many new things in NEP-2020, complex in nature and advanced in technology. Meaningful implementation of the NEP-2020 policy requires understanding in proper perspective of various recommendations. This poses many challenges, some important are given below.

Challenges for Innovation

Time ahead is challenging. Main challenges are discussed here.

Changing Mindset of Governing Body Members and Professors

How to give a turn to mind set of University governing bodies and Professors, to make them Innovative is a big challenge

How to generate jobs in emerging skills? Why Indian universities should now teach research skills, innovation skills and entrepreneurship skills to students? Should universities have schemes to build world class Professors? Should universities have a vision and ambition to build professors to world class standard? Can a nation in competitive world come to people's expectations without world class professors? World over, it is believed that if university or college does not have innovative, creative and enterprising Professors in modern time, the university is not worth the name (Frank, 2001). Research innovation and entrepreneurship is assuming a greater role around the world due to its positive correlation with economic growth and job generation. USA and many developed countries have already followed and relied upon the promotion of university-based entrepreneurship and innovation development model and have successfully established low-, medium-, and high-technology accelerators for industry creation, start-ups and their growth and sustenance. India has been slower to understand the need and importance of innovation and entrepreneurship but is now slowly waking up to the important role that universities and incubators can play in promoting growth through entrepreneurship. NEP-2020 has prescribed innovation and entrepreneurship in university education. It is hoped that the authorities concerned will change their mindset and do its implementation in its letter and spirit.

Making Education Relevant to Jobs

How to make education relevant to jobs is another challenge before universities and colleges

Professors need reorientation to change their mind set. Today, universities in India do not stand high in the world ranking (Economic Times, 2019). They are far too behind. As a result skill set of graduates coming out of universities is not compatible to the job opportunities available in national and in international market. Students are dissatisfied, what is taught is not wanted and what is wanted is not taught. There is a huge mismatch. Many Indian university graduates are unemployed. Some of the students who can afford are leaving the shores and going by paying huge fees to foreign universities for better advanced education. This is mainly because the Professors in universities in India lack in training in professional cutting edge knowledge and skills of changing world. Professors themselves are outdated in professional knowledge and skills, and so teaching is irrelevant. How can they become better knowledgeable and skillful is a moot question? New technologies like artificial intelligence, digital technology, cloud computing, people management, analytical reasoning, animation, etc are emerging at a fast rate, rapid obsolescence of old technologies is frequent. Professional, behavioural and communication skills of high standard are acutely needed. Students are ambitious to learn the latest. Professors are brilliant, they want to teach latest, but for want of proper opportunities of professional growth education, and training they cannot do so and they fail to satisfy the students. They are sincere, and honest in teaching to the best of their abilities. They by themselves are not satisfied with what they teach because what they teach is not compatible to the world of work. It is irrelevant due to lack of innovation content, hence, is not useful to graduates either to get a job or be self employed (Chris, 1997). According to MacKinsey report, only 17% of graduates get jobs . Import of foreign goods from east and west countries in India is rampant. Opportunities for entrepreneurship are far more but takers are too few. Companies from developed countries take away the huge chunk of market. The students due to non innovative universities lack in capabilities, skills of entrepreneurship and knowledge. They are hungry for latest and relevant knowledge and skills. The article outlines need and importance of upgradation and providing proper training in emerging skills to university and college Professors in India so as to enable them to teach latest.

Designing Skill-based Curriculum

Curriculum design and examination system in India is not proper. Without which universities and colleges remain ineffective, dysfunctional incompetent to produce competent graduates needed for job market. Students learn passively by memorization and not actively through practicals, experimentation and innovation. Their level of achievement at graduation level is less by international standard so as to become leaders to do ably their jobs in India on local and international planes for various professions and vocations, including in politics. University graduates expect to get jobs soon after graduation or be self-employed on local, national and international planes. India is rich in natural resources but far too poor in skills of advanced knowledge and technologies. Gross Enrolment Ratio (GER) in university education is of the order of 22% which is far too low as compared to world average of 60%. As a result, poverty is wide scale, almost 25% of people are living below poverty line. Living standard of rest of the people is too low.

Reorient Professors towards Culture of Innovation and Entrepreneurship

How to reorient Professors in Emerging skills in changing world? How to harness Professors creative energy for developing a culture of innovation and entrepreneurship? University and college Professor is understood to be a king pin in university education. He is very important to Indian people and to human civilization. He is the architect and a sculptor of the future of young generation. He is expected to provide leaders with advanced knowledge and skills for various professions including politics. Although teaching profession is important in nation building it is neglected in budgeting. Budget allocation to education is too low of the order of 3% of GDP, when developed countries are providing in the range of 10 per cent. So, India remained a lowly educated, and less developed country. Creation of Innovation and entrepreneurship culture both in industry and in universities in India is the need of the hour. Are Indian Professors innovation minded? Unfortunately not. They are intelligent but their mind set need to be changed in favour of research, innovation and entrepreneurship**.** Can Professor's creative energy not be harnessed for this cause? Certainly, yes. Professors have immense potential. Today, it is untapped, going waste. It is a strategic organizational failure on the part of governing bodies. India has first class creative professors. The real challenge before colleges today is how to harness professors' creative energy for developing a culture of innovation and entrepreneurship. They should have debates and discussions again and again on this subject. We need to have world class professors and world class service conditions to sustain them to lead in innovation and entrepreneurship

There are schemes in India at national and state levels to ensure faculty training and their professional growth. They fall too short of requirement. Professors are dissatisfied with them. Service conditions are not satisfactory, to encourage them to devote to profession of teaching, like their fraternity in developed countries. Teachers are treated like government servants, who retire at the age of 58/60, when they are about to get a tooth of wisdom, they are are retired and sent out of profession, their capacities are wasted, and expertise is not available to younger generation. Service conditions do not permit them to take leave of one or two years to support start-ups of graduates.

An institution is said to be as good as its Professors. Service conditions of Professors in India are old and outdated, and not fit to create an enterprising society. Opportunities for reaching to excellence and to become enterprising are not available. Colleges have no ambition, no scheme to build faculty to world class level. So also the Professors themselves do not have ambition, although they have potential. They have no autonomy, they are treated like any other government servants, when they are working for a noble cause of making people capable for future. Students and Professors in innovation and entrepreneurship by their own imagination can do a lot, but freedom and flexibility to do that is not permitted by service conditions.

Building Synergy between Industry and University

Building Synergy between Industry and University holds the key to innovation and entrepreneurship is another challenge. Both the industry and universities in India are far too behind their counterparts in the world. It is mainly because the synergy between the two, which is must for mutual growth and prosperity is missing. The well-known saying goes, *"*Together you stand, divided you fall*"* The partnership between industry and institute is almost absent. They both are working hard but in isolation, in 'Stand Alone' style . A bird can fly with two wings operating in harmony with each other. Industry and university are like two

wings of Indian economy. They have to be mutually supportive to each other. But the synchronization between industry and institutes is missing. To illustrate, Delhi- Mumbai Industrial Corridor (DMIC) project is spending thousands of crores on roads, bridges, land acquisition, electricity, etc. but not spending a single rupee on research, innovation and entrepreneurship in local universities and colleges. Yet DMIC is expecting local people to actively come forward and establish industries, but they are not having any investment strategies to promote locals. Government is not maintaining compatibility in investment between industry and institutes at local level. On the other hand, government is complaining that local entrepreneurs are not forth coming to take benefit of DMIC. How will they come? Their own policies are a hindrance. Will the government take steps to synergies the industry and institute working? Industry requires latest technology to be competitive globally. Universities have to be able to provide 'Technology Push' matching with 'Market Pull' and turn out graduates as leaders, entrepreneurs who are in short supply. Realising the need & importance of their partnership Government have passed the law namely Corporate Social Responsibility (CSR). This is good but not enough. Compatibility between industry and institute now is not an option but compulsion.

Make Education Compatible to Industrial Development

In India it is observed, on one hand many graduates are unemployed and on the other hand many posts in industry are vacant for want of suitable competent graduates with required skillset. There are many industrial estates built with huge investment in water, electricity, roads, etc. But, then plots in them for want of entrepreneurs are vacant. Many of the enterprises are sick and performing far below the optimum level. They are using old outdated technology and professional practices hence, remain less-competitive. Academicians have become sterile for want of appropriate service rules and regulations, providing them an access to influence industry. Bill Gates in his book, Business at the Speed of Thought has highlighted that in India and many developing countries because there is almost a complete lack of coordination between universities and industry, the installed capacity of most of the industries is not fully utilized. Organizations like C.I.I., Chambers of Commerce, and FICCI have been complaining about the irrelevance of education. They have reported to government that Indian industry is missing opportunities due to the incompatibility in government policies of higher education and industry.

Crisis in Universities and Colleges

Are colleges and universities in deep Crisis? Yes, they are in deep crisis due to lack of innovation. That is why thousands of students are going abroad for higher education. Conventional teaching in class rooms which is diverted from industrial needs falls too short of the purpose. Higher education institutions, without centres in campus for technological innovation, entrepreneurship development, patent and technology transfer, venture capital, hi-tech start-ups, spin-off of companies and spin-off of technologies are incomplete, irrelevant and nonviable in modern sense. If India dreams to be a developed nation by the year 2022, the present higher education system as per NEP-2020, needs to be strengthened urgently in respect of above stated centres. They have to redesign their systems to generate new knowledge and new technologies ahead of others. The present departmental store approach, teaching knowledge generated elsewhere in the world only is unfit for the purpose. They will have to install systems in colleges as WELL SPRINGS of new knowledge. How can the institutions remain ahead of time? Institutions have to establish above stated centres afresh in their campuses, essentially in partnership or in association with industry. Restructuring in the context of global winds of change is a great challenge in implementation of NEP–2020, without which the intellectual resource will continue to be wasted and opportunities missed. Now, after NEP-2020 Higher Education and Research Council should have to do bench marking with the world best universities and make gap analysis. This is urgent because, our institutions should have to produce innovative graduates who are competent by global standards. They are facing a crisis in able leadership at state and national levels. Academics elsewhere in the world are playing a vital role in economic development**.** They generate new theories, new knowledge and new technology for the welfare of public at large. They do not hold the wheel of development in hands but they navigate, show the way to politicians and administrators. Colleges and universities can play a vital role in economic development of India, provided they use innovative and creative talent with imagination.

Spin-off Hi-Tech Start-ups

Can Indian universities spin-off Hi-Tech start-ups? Yes, they can provided they follow proper visions and missions. In the present time of dynamic economy and fast changing technology the biggest factor contributing to progress and prosperity of a nation is continuous spinning off of hi-tech start-ups in sun rise technologies. How to produce more entrepreneurs and how to encourage more firms to grow are the main missions and visions of world best institutions. This is the way to generate jobs in emerging skills. India becoming increasingly important globally, it needs to adopt world proven policies and practices, for developing people's entrepreneurial and innovation capability. From experience in the world, India needs to focus its attention on creating globally competent entrepreneurs and enterprises. Today young university graduates leave campuses with their minds set on becoming well paid employees. Far too few dream to become entrepreneurs, First Mover Entrepreneurs, because that is not what we are teaching them to become. Their role models in globalization ought to change to becoming Bill Gates, Mark Zuckerburg, and Narayan Murthy, Elon Musk. They need education for risk taking. Will universities adopt this vision?

In Knowledge-based economy competition between nations is fierce. To win in world competition India essentially requires men and woman with innovation skills for which enterprising universities & colleges are necessary. But such people are in short supply. This is the main reason for educated unemployment. Its need is critical now than ever before. As per the declared dream to become a developed nation by the year 2022, India can fulfill its ambition only if it has innovative technically trained work force, not otherwise even if they have many bookish degrees. How India can chart its road to become a dream destination in innovation and entrepreneurship? It must consciously develop a culture of innovation and entrepreneurship. The university atmosphere, syllabi, teaching methods, laboratory working ought to be charged with a spirit of innovation and entrepreneurship. Is this a challenge for university authorities?

Managing Governance Systems

Can existing Governance systems manage this change? (Naik, 2018). No, existing governance systems are out dated. They do not fit to modern purpose. It should be borne in mind that education, innovation and entrepreneurship do not grow where governance is ineffective. Governing bodies need to understand NEP-2020 and innovation philosophy in proper perspective. Many changes in state and national levels are necessary. Principals, Vice Chancellors mindset need to be changed, they need to be trained to implement such systems of innovation and entrepreneurship. Government should orient governing members to world standards. Professors essentially need to be involved in governance. Governor of the state, who is a politician should not be the Chancellor of universities. Experience says, he is the bottleneck in meaningful implementation of NEP-2020. There could be many problems in adoption and implementation of innovative schemes.

The efforts made by the Department of Science and Technology Govt. of India through programs like entrepreneurship and Science and Technology Entrepreneurship Park (Naik, 2004) are too good but they are insignificantly small for the size of the country. They suffer from inadequate finance. The strengths of Indian economy like availability of technical manpower, raw materials, and huge market with buying potential, but for innovation are underutilized, and wasted. Innovation remained neglected so far not because of shortage of resources but because of lack of global vision. Now is the time to show our wisdom, to make up the lost ground. Initiating a mass movement to stimulate innovation with adequate finance should therefore be a high priority item on national agenda.

Lessons of Experience from following organizations in developed countries can show us the way. Will India derive benefit from them?

World Experience

Experience of USA deserves consideration

Innovative universities like Stanford in USA are giving birth to hundreds of new technology based start-ups every year, employing thousands of graduates, in hi-tech on high pay with first class job conditions. Many 'First Mover Entrepreneurs' every year come out to make USA and human civilization richer. Stanford University has developed an in- built mechanism and established a culture of innovation and entrepreneurship, in intimate contact with Silicon Valley (*www.stanford.edu*). Mother- child like sweet relationship between university and entrepreneurs is

distinctly visible. A mother feeds milk to the child, similarly the Stanford University is feeding new technology to its start-ups, and so the enterprise lifelong is in love with university. The university receives royalty from these companies every year which is ploughed back in research, to spin-off further more firms. This university is known world over as a magnet for innovators and entrepreneurs. It is reported that thousands of Stanford University graduates are running active companies, all over the world. The university is doing research, obtaining patents, and giving state of the art knowledge and skills to students. Professors have flexible service conditions. They can take leave for one or two years to support start ups of their graduates. Can our universities and colleges not do this? Why not? Now is time for *Atma Nirbhar Abhiyan* in India to tighten belts, become enterprising and come fast in front. Landscape of higher education in the world is changing at rapid rate. Are Indian universities coping with the winds of change in world? Do Indian universities have innovation centres, Incubation centres, research parks, Intellectual Property Right (IPR) centres, venture Funds? Foreign universities have adopted innovation strategy long back, and because of it they are preferred by students and industry and ranking high in the world list. By virtue of innovation skills possessed by men and women common man's income and living standard has gone up. Brilliant students from anywhere and everywhere in the world are aspiring to study in Stanford University. Thousands of Indian students are leaving shores and migrating to such world class universities by paying huge tuition fees. A huge brain drain and money drain from India is taking place. In the absence of innovative and enterprising culture in Indian universities youthful time of students is spent unproductively**.** Students have to study in India for four years to get B Tech degree and two years in to get MS in USA to get the same job which US students get after three years. That means our students spend six years to reach the level attained by USA students in three years. It is because innovation and entrepreneurship skills comment in our courses is in too short, and this is the major barrier in employment generation. Innovation skills possessed by students have a great influence on nation's capacity for research innovation and in turn on national prosperity. To cope with world dynamics, research, innovation and entrepreneurship is now not an option but compulsion. Government of India in the wake of COVID-19 Pandemic has announced, '*Atma Nirbhar Bharat Abhiyan'* which aims at increasing domestic production and becoming self-reliant reducing dependence on foreign. This provides a lasting solution and great opportunity especially in sectors like electronics, coal, defence, etc. Defence Minister has announced priority for import substitution of hundreds of products. This is a most welcome step. However, the road to *Atma Nirbhar Bharat* goes essentially through innovative and enterprising universities and colleges. For without adequate research and innovation in them production is most likely to be in old, outdated technologies which is less likely to be qualitative and globally competitive. This cannot be acceptable. Therefore, setting a tone of innovation and entrepreneurship to university education is desperately needed. Government of India in NEP-2020 has rightly announced to set up a National Research Foundation to give boost to research and innovation. This is good. Young students and mid-career professionals ought to learn innovative knowledge and skills not only once but again and again lifelong, so as to remain competitive to cope with the rapidly changing needs in the world of work.

University Related Research Parks Model from USA needed (National Academy of Sciences, Report, 2007)

It is a world proven model in use in USA, Canada, Japan, China, European countries, etc. The author has personally visited many of them in these countries. Those universities which have research parks are qualitatively far superior in education than those who do not have. A University Related Research Park (URRP) is an industrial complex adjacent to a knowledge centre like university, college or research lab. Research based companies from anywhere in world come park in university campus or around it. They rent space or own for self to conduct their activities. They draw the benefit by employing university students and faculty in companies besides using college infrastructure like labs and library. Executives deliver lectures in university to students and actively participate in university research. They interact swiftly with each other. This is found to benefit each company so also students and accelerate the industrial development. No industry can do all the research it needs for becoming globally competitive all alone by itself. It has to depend on academics and others. It is observed that industry needs access

to first class research in universities to be globally competitive, so also Professors need access to industry to test findings of their research. A study entitled 'Driving Regional Innovation and Growth' conducted by Association of University Research Parks (AURP) and Battelle in the year 2012 in USA reported that university related Research Parks have accelerated industrial development and generated Hi-tech, high pay employment. On park enterprises are found to be more successful, making more profit than those off park. But, it is not yet popular in India. Can India ignore such a wonderful scheme? Association of University Research Parks [AURP] conducts courses of 2-3 week duration for those who wish to start Research Parks. It is strongly recommended for our professors to attend. Recently, IIT Chennai, IIT Mumbai and a few more have started Research Parks, but universities do not. The above quoted report is devoted to how and why to establish parks in university campus.

Japan is well known for its Innovative Universities and Colleges (higher-education-in-japan/)

They are most innovation friendly in the world. The people are educated more for innovation and less for PhD degree. Innovation is the key to university education in Japan. Most of the robots, 90% in world are designed, developed and used, in Japan. Japanese people see robots as equal partners in production. Government of Japan has been providing adequate funds for innovation. Innovation is the nucleus of growth strategy of Japan. Japan's strengths have always been in the area of innovation, product innovation, process innovation, organizational innovation, finance innovation, etc. Indian Government, its universities and colleges have to learn a lot from their counterparts in Japan. Japan's growth is attributed to innovation and entrepreneurship. Indian universities will also benefit if they adopt innovation and entrepreneurship. Their potential is high but untapped. It is for the National Education and Research Council which replaces UGC/AICTE to frame rules and provide opportunities for growth to faculty such that they become enterprising. Key concepts behind innovation are diversity and excellent higher education. The people are locally rooted and global minded.

UNESCO

UNESCO observed that compatibility between higher education policy and industrial development policy is crucial for techno-economic and social well being of a nation (*www.unesco.org/new/en/natural-sciences/science-technology/science-policy).* Science Policy). It has recognised the need and importance of partnership between industry and university and so it has started a programme called as University Industry Science Partnership (UNISPAR). It is being implemented with its financial support in many countries, especially developing. Many international conferences have taken place. The programme aims firstly to match university education with industry needs, secondly, transfer research findings from university to industry, thirdly to retrain it's mid-career personnel and maintain them competent lifelong, and finally to continuously reorient university curriculum to cater to every developmental sector. This way university on continuing basis is expected to supply and maintain enough qualified and competent manpower in business, trade and industry, and provide newer knowledge to enable economy to remain competitive. UNESCO further observed that most of the universities, especially in developing countries, are divorced from local needs. Courses offered by them and research conducted, are suffering badly from insularity to ground realities. The book lays emphasis on partnership between industry and university.

European Union

European Union (EU) has launched a scheme known as 'Innovation Relay Centres (IRC) (Green Paper of EU)'. Now hundreds of them are spanning in 30 EU countries.. They are in a network with each other and in partnership with universities or research labs. Each IRC maintains a huge data base of relevant industrial products and processes from across the world and makes it available to all enterprises. These IRCs in partnership with universities have succeeded in giving a technology push to the economy. EU has granted huge budget for the mission. Short term and long term loans are extended to organizations to carry out innovation. It has granted insurance to enterprises against failures. Training schemes like leonardo-do-vinci are started to educate industry personnel to absorb new technology. Grants are given liberally for industrial research. This scheme has provided a spring board to enterprises to jump up in international market. As many as 42% of MSMEs have in-house innovation centres; and 10% of MSMEs join the collaborative schemes. They all have close links with higher education institutes or

research institutes. It is believed that the companies which are not involved in innovation are likely to go out of business. They fully realize that future prosperity of Europe depends on what they invest today in Hi-tech education, research and innovation. Patent and IPR help centres are established in all the universities. They provide a common platform for meetings for both innovators from industry and innovators in academic institutions. Innovation meets are arranged frequently, winners identified and awards given, Enterprises in partnership with institutes need to innovate constantly if they are to remain competitive. The same is true for countries which need to transform new ideas rapidly into technical and commercial successes, if they have to achieve higher growth rate. Innovation is an essential precondition for growth and for generating employment and improving competitiveness. Those nations which lead in innovation tend to lead. European Union identified that innovation and technological transfer infrastructure in competitive world matters.

Educationists, policy makers, administrators, as well as research professors would have now to expand their thinking, introduce to new possibilities and global opportunities arising out of ever emerging new technologies. They would have to think great, go beyond class rooms, and contribute to improve public systems and public life on national as well as global plane. The article will help them to set new agendas for the thought and action and contribute in fast changing world. Innovators discoverers and creators, Governing Body Members of colleges and universities who would like to reform higher and technical education, make it competitive globally would have to act .

Conclusion

The real challenge before colleges today is how to build overall capability of the university, and necessary leadership qualities at every level, besides harnessing Professors creative energy for developing a culture of innovation and entrepreneurship. India ought to grant adequate professional growth opportunities comparable to the international fraternity to professors. Talent with professors and students is not less. They need to be trained, reoriented and enabled to upgrade their expertise in innovation and entrepreneurship with emerging skills in changing world, without which employment will not grow at expected rate. Indian youths are desperately seeking jobs in emerging skills. Can they be generated in India? Yes, why not? For that we need to have innovative, creative, and enterprising universities. They alone can play a vital role to create an ecosystem fit for the purpose.

Making youths fit for knowledge based society depends upon how well systematically NEP-2020 recommendations are implemented. Realization of declared dream of *Atmanirbhar Bharat Abhiyan* depends largely on innovative, imaginative and enterprising universities.

Experience of USA, UNESCO, Japan and European countries in support of theme is illustrated. To make education qualitative Professor should be oriented to innovation and entrepreneurship and enabled to rise to the level he is capable of. Following recommendations deserve attention.

Research, innovation and entrepreneurship has to be at the heart of every university. India needs to have world class universities, for which world class Professors is a prerequisite. A culture of patents ought to be created.

Faculty training institutes need to be restructured on priority for training Professors in innovation and entrepreneurship. They are critical to progress and prosperity of India. They must be reformed forthwith.

Interaction of Indian Professors with their counterparts in the world best universities is advocated.

Courses, seminars, and conferences for promoting innovation and entrepreneurship need to be organised to increase acceptance and accelerate the arrival of innovative culture in universities and colleges. Research and Innovation leads to creation of jobs in sunrise technologies. It avoids stagnation and explores the flow to newer horizons.

Indian universities must constantly attempt to catch up with winds of change in world.

Synergy between university and industry from Ministry Level to college level needs to be achieved. This will happen only if Policy changes in both the Ministries take place. This is very critical to the success of NEP-2020.

Governing Bodies must have to give priority to building culture of innovation and entrepreneurship.

Service conditions of Professors ought to be revised and made flexible to accommodate innovation and entrepreneurship.

Governance of universities should be modernised and oriented to innovation. Traditional bureaucratic approach should be abandoned.

There must be a paradigm shift from traditional memorization approach in colleges to creativity and experimentation. Examination should be based on creativity, rather than memorization.

Technology transfer offices, to transfer knowledge from university to industry should be started.

Corporate education centres should be opened in each university. High tech industries are observed to be flocking around the innovative universities. To attract industries to knowledge centres, infrastructure facilities should be enlarged.

Industry should be encouraged to take a long range view of the interaction with institute. It cannot do all the research it needs to be competitive, so it must join hands with universities for research and innovation.

Service conditions of faculty should be revised on lines of Stanford University. They should be allowed to take leave for one or two years to go with graduates to promote start-ups.

"*Innovation and entrepreneurship, the world over, are today's Guru Mantra."*

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Blended Learning Models

Karunesh Saxena* and Sandeep Soni**

COVID-19 Pandemic lead to many disruptions and traditional teaching-learning system is one that got disrupted. According to Pima, et al. (2018) development in the field of Information Communication Technology (ICT) possible to craft student centered quality content using multimedia. Now, a learner can easily access good quality study content using mobile or laptop having internet connectivity anytime and anywhere.

Recently, University Grants Commission (2021) has also advised universities to adopt blended learning. It has recommended 40 per cent of any subject to be imparted through online mode and remaining 60 per cent through offline mode to encourage quality education using blended learning as a pedagogical tool. In the opinion of Jumani, et al.(2018), blended learning has encouraged the learner-centered approach in which teacher and learners interact with each other in flexible and conducive environment. Blended learning environment improves communication and interaction among teachers and learners.

Blended Learning: The Concept

Traditionally, the learning occurs in a physical classroom with face to face interaction and the teacher has control over content delivery. The time, venue and speed of content delivery is same for all the learners. In the digital era, pedagogy has evolved drastically. Now, teaching and learning can be done either in the physical classroom or through online mode. Blended learning, as the name suggests is a combination of both the modes. Some of the definitions of blended Learning are given in the Table-1. As the definitions indicate, Blended Learning is a mix of online or digital component and traditional classroom system. Blended learning provides a degree of control and flexibility over learning speed, time, path and place.

Components of Blended Learning

Blended learning includes time, place, pace, path and teacher as elements which can be engaged in various models in different combinations (Beaver, et al. (2014). The blended learning provides option of choosing learning at own time and speed which is not bound to institution timings. Learning can take place in physical classroom, home, library and project site settings. The blended learning includes various paths that means learning has instructional methods involving learners at individual, small and large group using online and other instructional techniques.

Modes of Blended Learning

The interaction in blended learning can be in two ways i.e. synchronous and asynchronous.

Synchronous Mode

Synchronous Classroom mode of learning occurs at same time and same place like a traditional classroom format or same time and different place in case of virtually instructor-led classroom. Examples of synchronous mode in physical format are classrooms, seminar, conferences, mentoring and face to face coaching. The digital component of synchronous environment are live streaming, audio and video conferencing and instant texting in a virtual classroom on platforms like YouTube, Google Meet, WebEx, ZOOM platforms and through Learning Management Software (LMS) developed by an institution.

Asynchronous Mode

The asynchronous mode of learning is also called self-paced learning that learner take their own level in flexible time and place settings although it has some completion deadlines. The learning content is same for all learners. This type of learning is delivered through LMS having set of electronic instruction and access of books, articles white papers and discussion forums. The other components are CD, DVD and pen drive in which study material is prefilled which learners can access offline.

The synchronicity is of dichotomous nature. However, in blended learning synchronous and asynchronous component are not mutually exclusive. The degree of both synchronous and asynchronous lead to blending of synchronicity. The optimum blend must consider vehicles that drive content, learning environment and understanding learning objectives.

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Table-1: Definitions of Blended Learning

Author	Year	Definition
Graham	2006	"Combine face-to-face instruction with computer mediated instruction."
Allen & Seaman	2010	"Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings."
Boelens et al.	2015	"A deliberate 'blending' of face-to-face and online instructional activities, with the goal of stimulating and supporting learning."

Models of Blended Learning

There are several models of blended learning. The popular models are listed below(Figure-1):

1. Face to Face Driver Model
2. Rotation Model
3. Flex Model
4. Online Lab Model
5. Self-Blend Model
6. Online Driver Model

Face to Face Driver Model

The core of face to face blended learning model is student teacher interaction. The Online contents are used to support fast and slow learners. For fast learners, some challenging tasks are given online and for slow learners online remedial sessions are given. The advantage of this model is that it provides support to the extreme needs of the lagging and leading students without interrupting the whole class.

Rotation Model

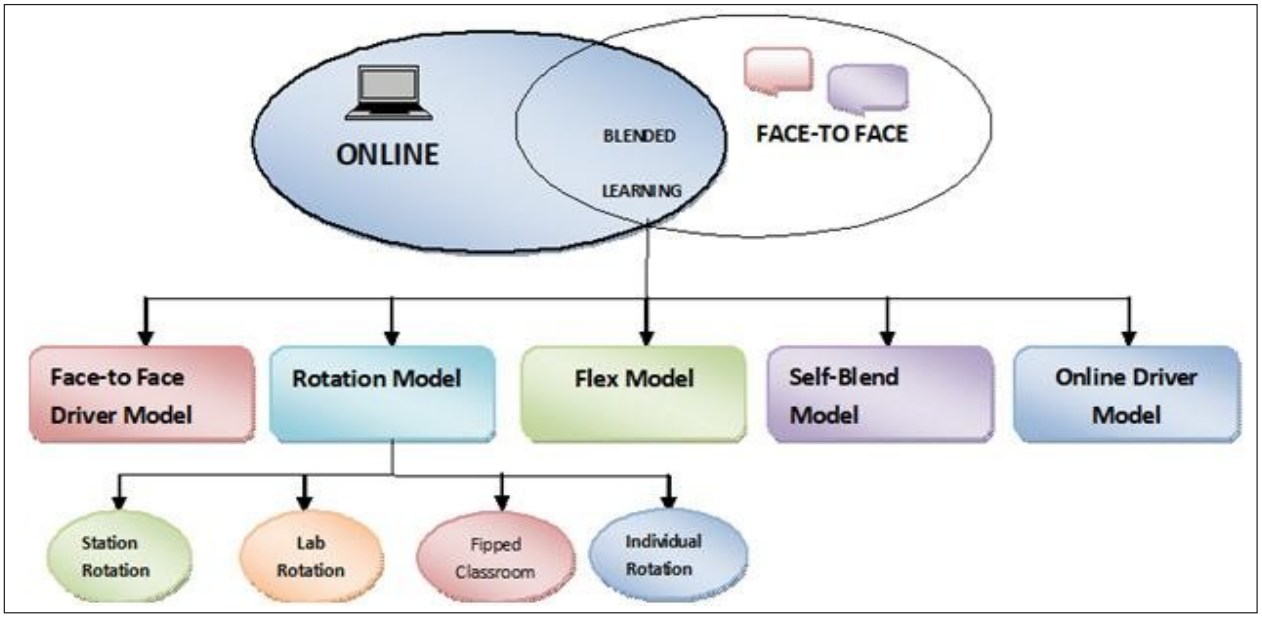
This model is the most popular type of blended learning model in which the students rotate or move to different learning modalities. The teacher's preference and discretion plays a vital role in deciding sequence of rotation and scheduling task time. For example, students can learn on a digital platform first and then move to the teacher to clear the doubts and complete the assigned tasks. We can classify rotation model into following four types:

- Station Rotation Model
- Lab Rotation Model
- Flipped Classroom
- Individual Rotation

Station Rotation Model

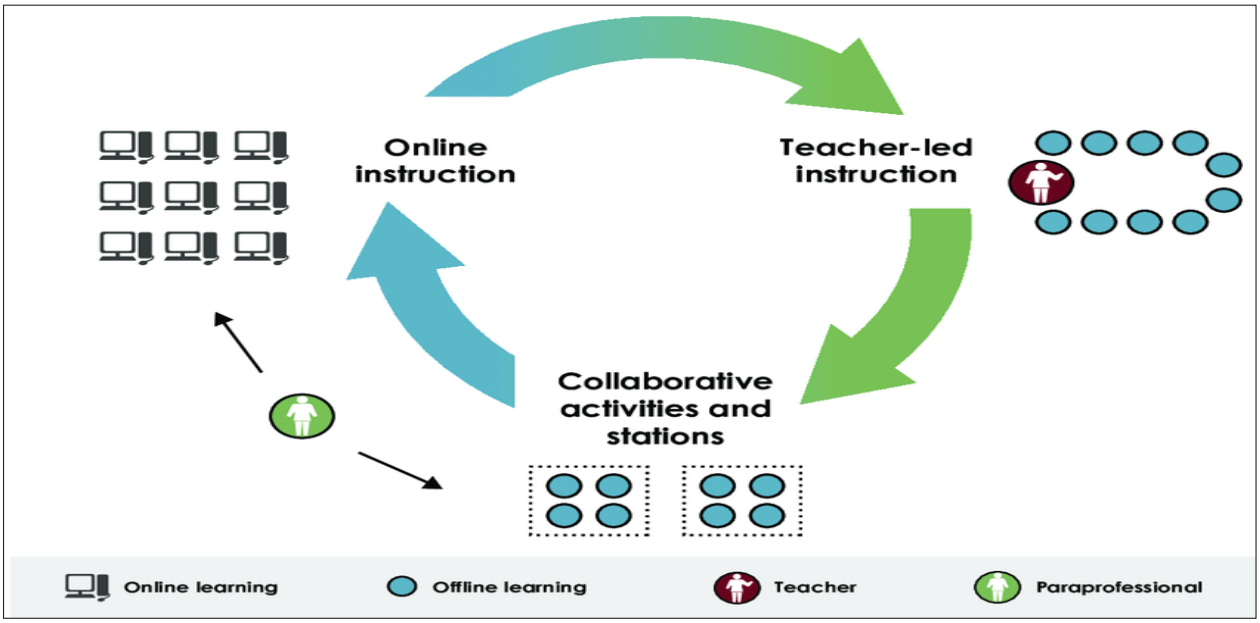
Station Rotation Model allows student to rotate through different learning modalities or stations. As depicted in Figure-2, students learn through the

Figure-1: Models of Blended Learning



Source: Sana, S., & Adhikary, C. (2017). ICT Mediated Teaching Learning In Higher Educational Enterprise. IJSART, 3(8), 506-511

Figure-2: Station Rotation Model



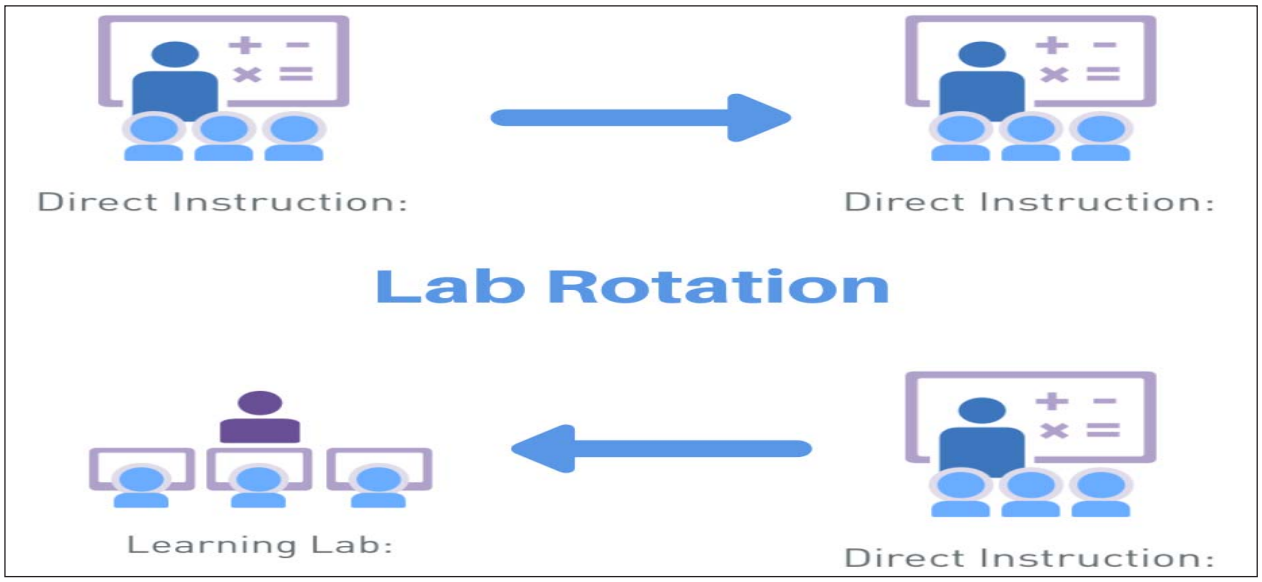
Source: Staker, H.,& Horn, M. (2012). Classifying K–12 Blended learning. Innosight Institute, Inc. Retrieved from https://files.eric.ed.go v/fulltext/ED535180.pdf.

stations of online instruction, teacher instructions and collaborative activities. This model allows students to study at their own pace independently and preserves the privacy of learners in terms comparative performance of peer learners.

Lab Rotation Model

In lab rotation-model, within a given course or subject, students rotate on a fixed schedule or at the teacher's discretion among locations on the physical campus for different aspects of learning among which at least one is a learning lab for predominantly online learning, while the additional classroom(s) house other learning modalities. For example, for mathematics course, students rotate among the math/ science teacher directed instruction and the math learning lab depending on requirement. Lab Rotation Model is almost equal to the station rotation model

Figure-3: Lab Rotation Model



Source: Adapted from Linways.in

except that in the online learning, lessons are in the computer lab instead of the classroom setting. Figure-3 shows lab rotation model in which learner after taking instruction need to go to learning lab. The prime advantage of this approach is that it frees up space of classroom and allows dedicated computer lab with adequate infrastructure. However, lab rotation model requires more monitoring compared to the station model.

Flipped Classroom Model

Flipped classroom Model reverses the traditional approach of home work and class work. Flipping the classroom is a teaching approach in which instead of lecturing for long hours and merely delivering the information/content, the course materials are introduced outside of class, often online, to the students beforehand and in-class activities is re-purposed for diving deeper into the curriculum through knowledge sharing, application-oriented learning, projects, case study analysis, role-play, debates, quizzes group presentations and assessments in order to better meet the needs of individual learners. As shown in figure-4, Flipped Classroom Model allows students to learn lessons online at home and perform set of activities in the classroom based on the online learning. The flipped classroom model makes the content available beyond college timing anytime and anywhere. Online material include readings, pre-recorded video lectures or research assignments. In-class activities might involve the faculty helping students to work on exercises, projects, cases individually and in groups, among other active learning strategies for students to gain practice applying knowledge gained prior to class.

The benefit of this model is that it allows learners to learn the concept at their own pace. Doubts that are specific and varied to each student are handled by teacher individually in the classrooms. The online or digital platform learning at home saves the time of teacher in teaching the lesson. The time thus saved is used to pay attention on specific doubts of students and ensure active participation of each student in the classroom.

Individual Rotation Model

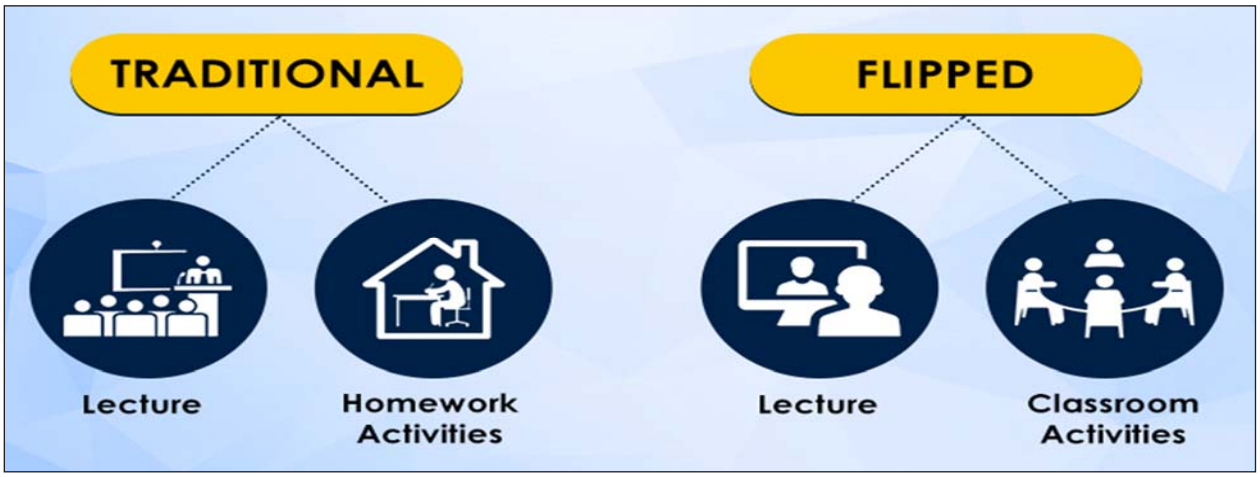
As the name suggests, in this model the individual student moves through different learning modalities or platforms. The teacher schedule the rotation as per the student requirement. The rotation is customized and flexible for each student.

Flex Model

Flex model is a digital version of traditional classroom learning environment. Most of the education in this model is delivered through computer or digital platform where the students can complete the assigned tasks with flexible timing and pace. The software or online resource allows user to access digital content, videos and presentation in the same physical space. The role of teacher is limited to assist on need based activities at individual, small and large groups. As shown in the figure-5, a learner moves through different learning modalities with flexible schedule, and the teacher supports or enriches face to face through online and offline modes.

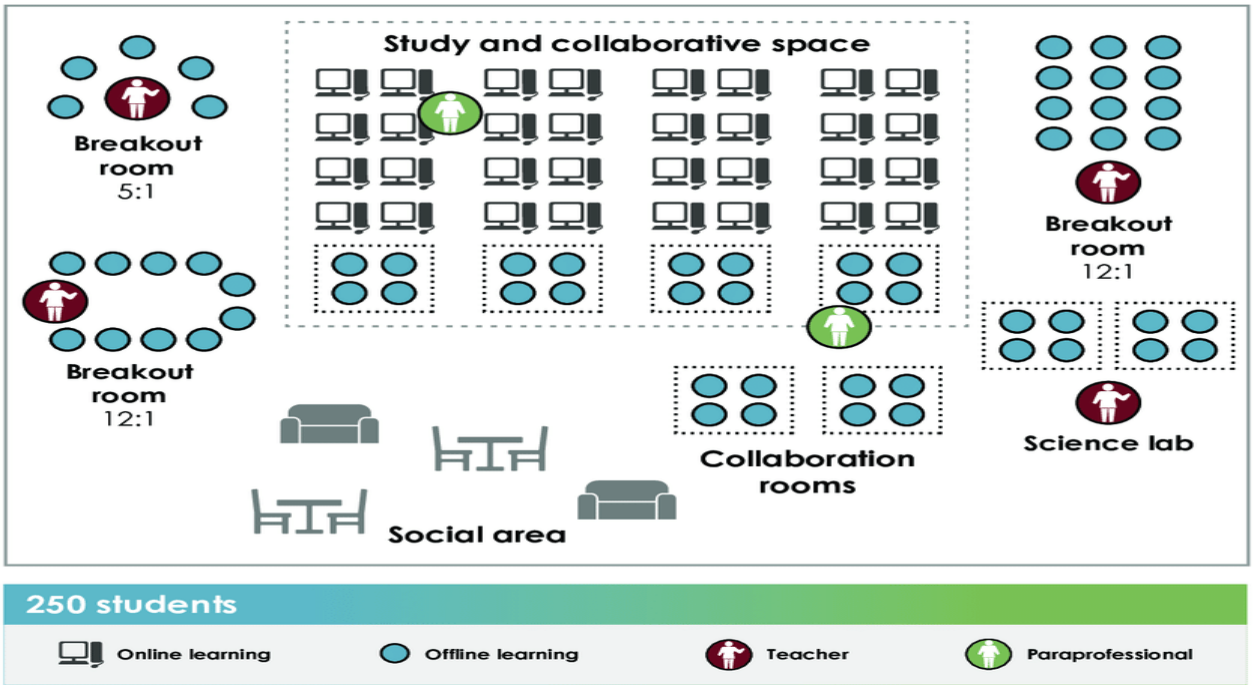
The benefit of flex model is that the students are able to learn from standard content in flexible environment with own pace and level of understanding.

Figure-4: Flipped Classroom Model



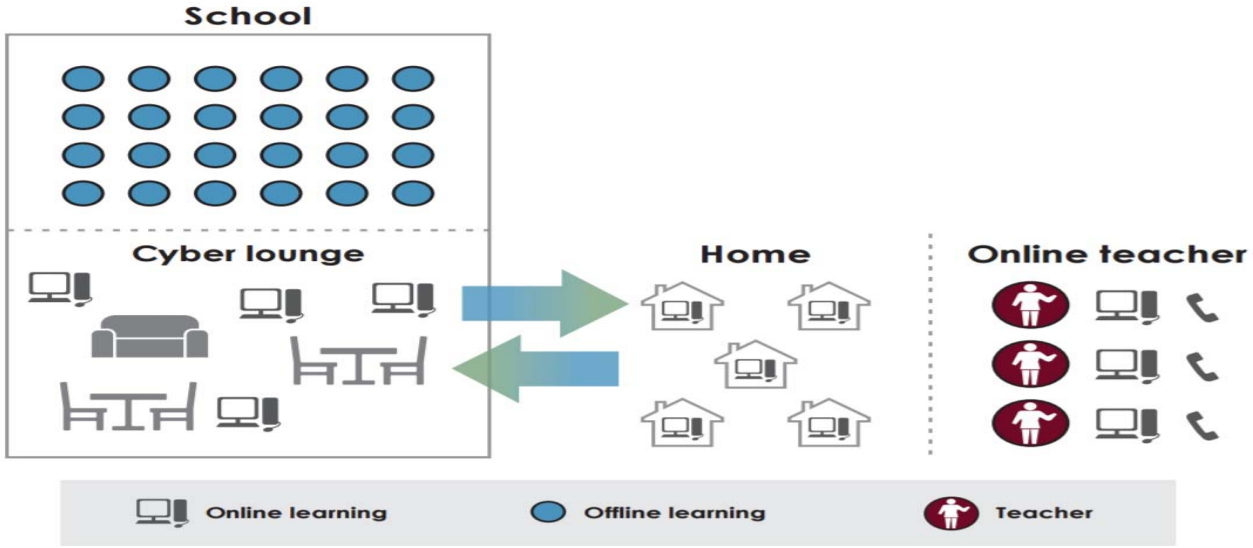
Source: Adapted from globsyn.edu.in

Figure-5: Flex Model of Blended Learning



Source: Horn, M., & Staker, H. (2015). Blended using disruptive innovation to improve schools (1 ed.). Jossey-Bass.

Figure-6: Self-Blend Model



Source: Staker, H.,& Horn, M. (2012). Classifying K–12 Blended learning. Innosight Institute, Inc. Retrieved from https://files. eric.ed.go v/fulltext/ED535180.pdf.

The flex model is cheaper compared to traditional classroom method and it also allows different curricula to be easily adjusted.

Online Lab Model

It is a sort of blended learning in which computer in the classroom is used to connect with distant teacher. The students are taught most of the curriculum subjects by the teacher. For special courses like learning foreign languages, students are connected online with a expert tutor. This model allows the administrators to optimize the use of digital resources in the campus. Secondly, it also helps in saving money as experts tutors need not be recruited

by the institution. The other benefit of this model is that the existing teachers can remain focused on their core subjects and skill sets.

Self-blend Model

As shown in figure-6, learner himself chooses some of the courses to study online apart from physical face to face courses in the classroom. It is a type of teacher less model that allows student to manage his education. Self-blend model uses digital online platforms to deliver educational content to the remotely located learners. The learner himself tracks his performance by engaging with online tutor or resource. The Learners are not bound to physical classrooms and they are free to choose their location with internet connection. The Self-blend model allows students a plethora of courses with specific choice and interest. It also supports slow students who are lagging behind and provide opportunity to pursue specialized courses. The self–blend model imbibes replication feature through which the educational organisations can benefit from economies of scale. Most of the Open Universities are working on this model and introduced Massive Online Open courses (MOOC). The Self-blended model is equally applicable to professional development and completing education curricula.

Online Driver Model

In this model, all the learning takes place via online platform in traditional classroom setting for a student located remotely. The Learners learn lessons in synchronous mode from expert teacher via live sessions on digital platforms like ZOOM, Google Meet, WebEx and many other live streaming platforms. The content is also delivered through asynchronous mode by sending DVD, pen drives etc. The Learners can also search relevant content on online digital library and scholarly journals available online. In this method, evaluation also takes place online with multiple choice questions, quizzes and automated assessment tools. This not only saves plenty of time, but also allows the institution to access the best faculty across the globe. During Corona pandemic the online driver model is thriving as the students and teacher are not allowed to gather in close proximity and online model driver remained only as an option.

Trends in Blended Learning

Recent developments in technology and virtual platforms led to the growth of blended learning. Advent of many digital learning platforms with cheaper mobile and internet access have provided many options of blended learning. The blended learning programmes have potential of mass learning with lesser cost compared to traditional learning methods. The Volatility, Uncertainty Complexity and Ambiguity (VUCA) in global education environment has made learning, unlearning and up-skilling a must. That derived the growth of online self-learning and skill based courses with no geographical barriers on digital education platforms. The growth of blended learning has impacted even prestigious global institution like MIT and Harvard to redesign courses. These institution have also introduced online degree and case based courses. Corona Pandemic has also played catalytic role in the growth of Blended Learning in India. The Ministry of Education (2020) introduced National Education Policy-2020 which stresses on use of digital technology in teaching learning to achieve hundred per cent literacy and promote local knowledge globally. It demands advancement in technology infrastructure and freedom for teacher to create good quality content.

At the outset of pandemic free world, the main physical classroom learning will coexist with a greater degree of flexibility in learning. The physical classroom will not remain only mode of learning. Blended learning model with human assistance, predesigned online courses along with artificially intelligent social robots like alexia, chatbots etc. will be part of learning and education.

Conclusion

The education world is continuously evolving and it is a need of the hour for educational institution to keep themselves updated with paradigm shift from traditional methods to Blended learning. The blended learning provides harmonious equilibrium between traditional face to face and online learning. The blended learning models stress more on pedagogy and give options of learning through different instructional modalities. These instructional modalities are combination of offline and online modes of learning. Blended learning encourages flexibility, personalization, self-guided and outcome based learning. It also improves communication between learner and teacher. Here, teacher creates good quality digital content and acts

as facilitator, guide, and instructor for learner. The blended learning gives emphasis on learning and involvement of learner rather than on teaching only. The blended learning develops a sense of ownership in the learner that makes learning more effective and creates a positive mindset.

The new generation in India is well acquainted with digital technology and it is essential to prepare students for technology driven world. However, it was observed during Pandemic period that there is a considerable digital divide between poor and rich in India. The economically poor section could not afford digital devices which is one of the plausible reasons for obstructing the growth of blended learning in India.

The policy makers should create a roadmap for low cost technologies for developing digital infrastructure, cheaper devices, internet connectivity and its access. A systematic assimilation of technology in teaching and learning surely helpful in prospering blended learning.

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Content to Competency: A Paradigm Shift in English Language Curriculum[#]

J John Sekar*

The utility and futility of online teaching and testing of the English language at tertiary level during the pandemic has dawned upon Indian academics and it has made them personally and professionally realize that it is high time that there was a paradigm shift in English language curriculum from being content-based to becoming competencies-based, from being teacher-fronted to becoming learner-centred, from being teaching-oriented to becoming learning-focused, from being bulimic to becoming skills-oriented, and from being memory-based to becoming learning focused. The present reflective article documents why English language teaching at tertiary level in India should move from content to competency in the increasingly globalized world that requires skilled workforce with knowledge, abilities, ethics, and positive attitudes toward generic issues. It is an outcome of the sharing of online teaching-testing experiences of the academics as well as feedback from students on online teaching and evaluation.

Online teaching and testing during the pandemic has facilitated the academics' reflection over teaching-learning styles and strategies that teachers and learners adopted pre-pandemic in face-to-face classrooms that kept students as passive (learners) listeners, and supervised-examinations that encouraged students' memory and recall skills. Academics have now realized that it is debilitating on their part to teach invisible students online and value scripts that are a verbatim copy of the study materials available online, and that it is unproductive and therefore futile to teach online and it is a mockery to value scripts online. For the first time, their reflections on the futility of mark-oriented and memory-based learning have crystallized now and it has now drawn their attention to a paradigm shift from content-based memorization to competency-based learning, and from testing the capacity to reproduce the study materials to testing competencies and abilities for problem solving and independent, critical thinking.

Teaching and testing are not information-oriented, but the acquisition of knowledge and skills that are to be inevitably linked to societal requirements. In online teaching, personal contact with students is missing and teachers just read the materials kept on the computer screen and they complete and 'cover' the syllabus even before they complete half the semester. They set the usual recall type of questions instead of problem solving and application-oriented questions that test students' higher order cognitive abilities. As a result, students transfer information to their answer sheets directly from the google instead of recalling from their memory, and post it online. Both serious students and well-meaning teachers tacitly acknowledge that it is a mockery of teaching-learning and testing process. They lament that no learning is taking place; no testing is possible; and no failures can be imagined. It is demotivating high performing students. Institutional advantage is that HEIs have cleared the backlog and burden of their past students who had arrear papers pending for decades together. It is of course a huge success and relief for academic administrators. While students who graduated through face-to-face classes are by and large unemployable, students who graduate through online teaching and testing worsen the situation further. Whether prospective employers would consider the graduates of the pandemic period for employment remains a million dollar question.

Teachers and students are now realizing the futility and utility of their teaching and learning respectively. They now start doubting if the present state of higher education either online or offline facilitates economic development and international competitiveness. Self-isolation during the lockdown period has enabled them to be self-critical of what they have been doing all these years and they now realize that teachers should rather develop students' competencies. Their competence should be translingual and transcultural in the present global(ized) world. Meanwhile, the UGC asked HEIs pre-pandemic to introduce Outcome-Based Education (OBE) though many HEIs are yet to

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adopt. A section of academics were opposed to the concept then, but now they realize the relevance and academic profit of the learner outcomes-based curriculum. Some institutions which implemented it did not realize that outcomes could not be superimposed on the existing curriculum when they did in order to comply with the NAAC requirements on the eve of re-accreditation. In fact, it involves the danger of putting the cart before the horse. The objectives of the course and learner outcomes with proper alignment with Bloom's taxonomy should first be decided before developing the course units and identifying the reference books. Learner outcomes should be closely linked with competencies that learners would acquire at the end of the course for demonstration in real world-life situations in unforeseen or unpredictable circumstances.

This reflective article aims at identifying a paradigm shift in English language curriculum from content-based bulimic approach to competency-based productive approach. It also argues that revitalization of English language education is possible only redesigning curriculum, revamping the plans of implementation, and enhancing teacher competencies. The research questions that guided the author's reflections and consolidation of academics' views on switching from content to competency are:

1. How to distinguish between content-based curriculum and competency-based curriculum?
2. How should English language teacher competencies be characterized?
3. Why should there a curricular change from content to competency?

Discussion

The realization that there is a dire necessity to replace the present content-transfer pedagogy with competency-based teaching is refreshing and revitalizing the teaching-learning process. Teaching without learning is incomprehensible and unimaginable. In fact, teaching is effective and necessary if only it leads to learning. Who cares for teaching and who cares for learning? It appears that students do not care for teaching and teachers do not care for learning. Students are not necessarily interested in teaching since they view it as the business of teachers. When teaching does not cater to learner needs, students do not appreciate teaching. For them, there are sources of help readily available in the most desired format from the google or in the market for a pass in English. English teachers should realize that English language teaching is not about imparting metalinguistic knowledge about English such as grammar and phonology, nor about literary knowledge about celebrated writers and texts, but about facilitating students to use English first in their daily life and subsequently or concurrently for cognitive academic language proficiency in their studies.

Department of English exists as a service department when it offers General English courses, and the object of English language teaching to students of majors other than English Majors is not to make them English language teachers but English language users. Other Major Students need English to understand lectures on their majoring subjects, to read books and articles in their disciplines, to participate in conferences, to talk about issues in the domain knowledge, and to write academic essays on examinations. They need English to become professionals who can meet societal needs. They should be equipped with communicative competencies for work and life. As per Rylatt and Lohan (1997), "It can confidently be said, as we enter a new millennium, that the business of improving learning competencies and skills will remain one of the world's fastest growing industries and priorities." In the increasingly globalized world, students developing key competences is of paramount importance for participating actively in society and to contribute to sustainable economic growth. Grognet and Crandall (1982: 3) think that competencies are "necessary for individuals to function proficiently in the [sic] society where they live." Students' qualification needs to be aligned with the requirements of prospective employers. Employers do not expect graduates with distinctions but with excellent communication skills, critical thinking skills, ethics and values, and positive attitudes.

English language curriculum should therefore focus on the development of communicative competencies and critical thinking skills, values, and positive attitudes in addition to content knowledge. Of course, google can provide students with information and knowledge but not with skills and abilities that are to be developed through the curricular knowledge in classroom interactions. Green, et al. (2002: 21) stress the reality that "higher education plays a key role in preparing students for the global workforce." English language curriculum

should therefore build link between theory and practice, and coherence between students' academic profiles (statement of marks) and professional profiles (competencies). Students are no longer expected to be content specialists in their chosen disciplines, but to demonstrate a set of abilities, skills, and attitudes which facilitate their attempt at, and aim to succeed in their chosen professions. English language curriculum should enable students of different disciplines to acquire these competencies. Graduates with excellent communicative competence, critical thinking abilities, and positive attitudes are an asset to society and are active and useful citizens in democratic society. English language curricular reorientation should therefore aim at preparing graduates to "face the challenges of this world, be they academic, economic, humanitarian, diplomatic, strategic, or otherwise," to quote Bousquet, 2008: 305.

Unfortunately, Board of Studies (BoS) in English in all state universities of Tamil Nadu miserably failed to reorient the general English curriculum to the needs of the 21st century English language learners despite repeated reminders and recommendations from the reports of the various educational commissions, the UGC, and the state government. All undergraduate students are forced to study General English in the first four semesters of their three year degree programme hoping that they enable students to pursue their studies in chosen fields. However, these courses are awfully and woefully inadequate in the sense that they are colonially loaded with literary texts to the extent that English literature is taught to them because English teachers enjoy teaching it as much as they teach it to English Majors.

On the contrary, the purpose of General English courses is to enhance students' Basic Interpersonal Communication Skills (BICS), but the current curriculum is intended to communicate something that is literary and aesthetic. The BoS did not pay attention to all these years to the direction of the UGC and the State government on aligning the English language courses with learners' communicative competencies and critical thinking abilities. Hence, the Tamil Nadu State Council for Higher Education (TANSCHE) thrust four skill-based courses under the rubric Communicative English and Professional English in October, 2020 to be uniformly followed in all state universities with immediate effect. Humphreys (2005: 31) is right in his suggestion that curriculum should incorporate approaches that "teach students to apply academic concepts to real-world contexts." However, there is so much of passive resistance from English teachers with strong literature background to these skill-based courses which do not have literature component. Tertiary English teachers believe very strongly that literary curriculum is not only interesting to young adult learners but also enables them to imbibe human values that are necessary for the formation of egalitarian and just society. It is true that our globalized corporate world requires ethically strong workforce.

Competency-based English language education is closely linked to the learning outcomes at the end of the course. Learning outcomes are declarative statements of what learners are expected to demonstrate after completion of learning. They should be articulated in terms of cognitive achievements. The statements should use verbs that indicate outcomes to be observable and measurable. In Bloom's taxonomy, these abilities are in three bands: Lower Order Thinking Skills (LOTs) of knowing and understanding, Middle Order Thinking Skills (MOTs) of applying and analyzing, and Higher Order Thinking Skills (HOTs) of evaluating and creating. Each of the five units of contents of the course should have an explicitly statement learning outcome corresponding to the unit content. Course objectives are the reflection of teacher intentions of the course, but learning outcomes which usually start with the sentence "at the end of the course, students will be able to" reflect learners' achievement.

Definition of and distinction between the terms 'competence/competences' and 'competency/ competencies' elude academic consensus. According to Fleming (2009), competence refers to a broad capacity or capability (generic), whereas competency includes particular abilities (specific). On the other hand, Pennock-Speck (2009: 172) defines it as, "ability to carry out tasks and also the behaviours and attitudes needed to carry out the tasks successfully." Generally, both are often used interchangeably and the plural is preferred. Thus, competency includes knowledge, skills, attitudes and values, and means capacity to perform successfully in academic, professional or social environments. So, competencies-based classroom is student-centred and experience-oriented where critical thinking skills are promoted in and through knowledge about the subject domain. Thus, knowledge/content is not precluded.

Rather, competencies and cognitive abilities are applied to real-world contexts. They are not acquired for the sake of acquisition, but for use in society. Bunk (1994: 10) is thus quite explicit in his definition of competencies, "The necessary knowledge, skills and capacity to perform in a profession,…to solve occupational problems in an autonomous and flexible manner and…to contribute to his professional environment and the organization of work." Education is supposed to produce citizens who can be assets not only to workplace but also to democratic society. Therefore, a similar perception of competencies as demonstrable and transferable is articulated by European Commission (2004: 7), "Key competencies represent a multifunctional and transferable set of knowledge, skills and attitudes that all individuals need for personal fulfilment and development, inclusion and employment." Competencies are broken down to two broad categories: general and communicative competencies. For example, The Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR, 2001) distinguishes between general competencies and communicative language competencies. While general competencies refer to knowledge, skills, and ability to learn (autonomous learning and lifelong learning), communicative language competencies comprise linguistic competencies (lexical, phonological and syntactic knowledge), sociolinguistic competencies (sociocultural conditions of language use), and pragmatic competencies (mastery of discourse, cohesion and coherence).

Competencies-based curricular changes will become a reality if only there are a series of fundamental changes that start with change of mindset. Traditional perception of teaching as the transmission of knowledge from teachers to students and learning as reproduction (bulimic) of content should change. Competencies-based English language education emphasizes autonomous, lifelong learning and critical thinking. English language education is extended beyond classrooms and is in companion with citizens throughout their lives. Goals of the programme should be set, courses should be developed, and evaluation should be evolved. First, academics should develop teaching competencies and it requires greater effort than merely transmitting contents from books. Thus, competencies need to be explicitly addressed, stated, and incorporated into English language teaching.

In multilingual India which has 24 constitutionally recognized languages and hundreds of regional languages which serve as Language-1 (L-1) to millions of Indians, English serves as the language of higher education, social mobility, employability, and occupational promotion of all educated Indians. Hence, students, researchers, academics and all other stakeholders of higher education should be able to communicate effectively with one another. This calls for attention to be accorded to English language learning. Language learning in HE is thus a preparation for lifelong language learning. English should not continue to be the language of the privileged. Rather, the goal of 'English-for-all' is to be realized at all HEIs. English is viewed as an academic language, as a professional language, as an occupational language, as a language of social mobility, as a language of prestige, as a language of development.

Rationale for a competency-based approach to English language teaching/learning is that English is not the object of study but its immediate, subsequent uses for academic study and in life later. There is no use of learning/acquiring it without using English. Pragmatic competencies are the capacity to assess one's skills in English, to set relevant and realistic goals, to identify one's preferred learning styles and strengths, and to identify and use relevant learning materials. Learners need English to understand lectures, gain specialized material at libraries and on the internet, to follow courses, to write assignments, to write project reports, and take examinations, and to present research papers and participate in conferences. If literary texts are used, they should become a medium for honing creative and critical thinking skills, for learning personal and social values that are basically human, and for crystallizing their attitudes toward issues and ideas. Moreover, competencies-based English language classes should prepare students for lifelong learning. Thus, all learners experience learner autonomy. Mackiewicz (2002: 3) suggested, "Lifelong learning requires a new pedagogy, i.e. a shift in emphasis form knowledge acquisition to competence development as well as a shift from teaching to learning." To achieve competencies-based models, learner-centred or learner-directed approaches to English language learning should be incorporated into the curriculum wherein objectives of the course in terms of generic and specific competencies should be strongly linked to concrete learning outcomes. Successful teaching is assessed in terms of successful learning.

Three types of competencies that may be generic or specific can be incorporated into English language curriculum. They are instrumental competencies, personal competencies, and systematic competencies. Instrumental competencies are the ability to analyze and synthesize literary texts, to organize and plan and then express one's views and opinions in English, to manage information, and to use problem solving and decision making skills.

Personal competencies consist of teamwork, interdisciplinary teamwork, work within international contexts, interpersonal skills, recognition and appreciation of diverse, multicultural practices and values, critical reasoning, and ethical commitment. Literature can serve as an ideal medium for acquiring and exploiting instrumental and personal competencies. Systematic competencies refer to capacity for autonomous, lifelong learning, learning to learn, to adapt to new unpredicted or unpredictable real life situations, to create, synthesize, and produce something new and original, to appreciate other cultures and customs, and to sensitize oneself toward environmental issues.

To implement competencies-based English language curriculum, teachers should first acquire teacher competencies which are very specific and unique to English language learning. Some of them are:

i. To demonstrate mastery in communicative competency in terms of linguistic competency, sociocultural competency, discourse competency, and strategic competency. Dell Hymes has extensively done research.

    a) Linguistic competencies refer to the ability to use (not just know of, or know about) the forms of English (sound system, lexicon, sentence structure).

    b) Sociocultural competencies refer to the ability to use English appropriately in different contexts inconsonance with socially and culturally defined norms and expectations.

    c) Discourse competencies refer to the ability to understand how English is used to construct knowledge to create forms of the language that are longer than sentences. It can be emails, academic texts of different disciplines, business correspondences, and the like.

    d) Strategic competencies refer to 'language learning strategies' although these competencies go beyond formal strategies in the classroom. They ultimately direct learners to achieve lifelong learning.

ii. To plan teaching and testing strategies for what is to be taught and to be assessed.

iii. To design activities that can promote different micro-skills of four macro-skills.

iv. To progressively develop communicative competencies and higher order thinking skills in learners.

v. To update constantly and consistently the main pedagogical, andragogical, and heutagogical trends in English language teaching and to apply them at different levels.

vi. To apply the different ways of assessing learners in terms of what should be assessed, how it should be assessed, assessment criteria, and other evaluation strategies.

vii. To demonstrate sufficient knowledge of the cultures that English texts bring to classroom.

viii. To encourage the development of metalinguistic and metacognitive required for the acquisition of English and its use.

ix. To develop positive attitudes in learners toward linguistic and cultural diversity through literary representations.

x. To demonstrate tolerance and receptive attitude toward learner errors in perception and production of language.

Teachers' role is different in competencies-based class from the traditional content-based class. Teachers are no longer contended with transmitting information that can be done better and faster by the google. They should employ teaching strategies that develop basic skills and abilities in students. Teachers' skill and will are dovetailed in reflections about learning. They must help learners believe in their own capacity to control and direct their learning. Otherwise, learners will develop negative attitudes toward learning. Here, pedagogy paves the way for andragogy and it will in turn introduce heutagogy. Research findings support the view that learners who develop and maintain positive perceptions about their abilities experience high performance, take control over learning, and evince keen interest in learning.

Suggestions

In the light of the theoretical discussion on competencies-based English language curriculum

documented above, the following suggestions can be taken up for follow-up activities:

1. Human Resources Development Centres in HEIs shall organize workshops and refresher courses on outcome-based English language and literature education.
2. English language and literature teachers can take up action research to identify a set of communicative competencies and higher order thinking skills that can be incorporated into the curriculum.
3. English departments can organize in-house workshops to write learner outcomes for different genre-based courses and link them with questions for evaluation.
4. Teachers should be trained to use literature as a medium of developing abilities and skills, values, and attitudes in students so that they can become responsible citizens in democratic society and productive workforce with communicative competence.
5. Self-Learning Materials (SLM) and textbooks can be prepared on the model of competency-based approach to English language learning.

Conclusions

Bulimic form of education causes much academic indigestion and it leads to unproductive reproduction of what students are uniformly forced to memorize. As a result, no learning takes place. Their grade is not an index of success or failure in learning. Communicative competencies and abilities to think critically, to analyze and synthesize should be developed in English language education. Learners should be equipped with the necessary tools to locate, select, interpret, and use the vast amount of data from their discipline. Ultimately, there should be a move toward a self-directed, autonomous learning where students' independence, involvement, and participation are fostered. Lockstep lectures are having a debilitating effect on students. Correspondingly, competencies-based assessment must evaluate knowledge along with components of competencies: abilities, attitudes, and skills.

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Online Teaching-learning: A Tool for Continuing Education

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The outbreak of the Novel Corona Virus (COVID-19) has been wreaking havoc in almost all countries of the world since the beginning of 2020. More than 20.47 crore people have been attacked and over 4.32 million fell prey to this disease round the globe (worldometers,11th August, 2021). In respect of infected people, India now ranks second to the USA with over 3.2 crore cases, and in death counts, she stands third with nearly 4.3 lakh deaths – only behind the USA and Brazil (ibid). To mitigate the spread of infection, people are being asked by the authority to wear masks, take vaccines and practise 'social distancing'. As in all other walks of life, this pandemic has given a mortal blow to the conventional classroom teaching-learning –from KG to PG level – as all the educational institutions are under complete closure. No classes of 2020-21 academic year could be held in the physical classroom environment, and 2021-22 session too, brings no hope till date. This disruption has compelled institutions to explore alternative platforms to communicate with the learners. Considering the unprecedented development in the field of Information and Communication Technology (ICT) and its potential in aiding teaching-learning, especially in higher education, it is imperative that educators embrace ICT-based tools and resources when face-to-face learning becomes impossible. Despite having some disadvantages of this mode of teaching-learning, especially in India, we cannot ignore online teaching-learning for compensating the academic loss of the learners due to lockdown in educational institutions.

A Glimpse of Indian Education Sector

- As per the Annual Report 2019-20 of the Ministry of Women and Child Development, (Government of India, 2020), there are 13,77,995 Anganwadi centres, serving 836.25 lakh below six-year-old age group children.
- In school education sector, there are more than 15 lakh schools, and nearly 26.5 crore students of pre-primary to higher secondary level, according to UDISE+ Report (2019-20).
- In higher education sector, there are 1,051 universities, 42343 colleges and 11,779 stand-alone institutions. Total enrolment in higher education had been estimated to be 38.5 million (AISHE Report, 2019-20).

Impact of COVID-19 on Educational Set-up

The outbreak of COVID-19 has heavily disrupted the academia and institutions are refreshing and adopting different crisis management strategies by either switching to selected courses online, postponing their schedules, or even extending dates of application deadline. Some of the ways how this pandemic is impacting the education sector in India are presented below.

Physical Campuses Saw a Complete Closure

Universities, colleges and schools across the country have been closed till date since the last week of March, 2020. Classroom teaching-learning stopped completely. Face-to-face teaching-learning of about 25 crore primary and secondary level and as many as 2.8 crore pre-primary level children got a huge setback, according to a recent survey by UNICEF (Anandabazar Patrika, 2020).

Ongoing Examinations Postponed

Examinations of various classes under Boards/ Councils, semester-end-exams and entrance tests of universities, and competitive exams – all came to a sudden halt. In higher education sector, UGC has advised universities to reschedule their final year/ semester examinations. For other semesters, internal assessments or students' performance in previous semester examinations could be used to promote them to the next semester (The Hindu, 2020).

Academic Sessions Disrupted

NCERT has released an alternative academic calendar for home-based activities for various subjects at school level. UGC has already recommended that the academic session in universities and higher

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educational institutions may be started from October, 2021, instead of the month of July.

Non-Availability of Textbooks

Many learners, especially in secondary level, are without textbooks as schools could not supply the books of some subjects provided by the State governments free-of-cost before lockdown. In lockdown period, publishing houses also could not print books, and so students are not getting ones even in the market.

Syllabus Remain Unfinished

Already one and a half of the academic session is gone in complete lockdown. Naturally, where is the scope of getting the syllabus completed? ICSE, CBSE and various State/UT Boards have already shed the curricular load at Secondary and Higher Secondary levels.

Guardians Demanding 2020 as 'No Academic Year'

As reported in an online survey by Dr. Uzma Naaz (Hindustan Times, 2020), 91.3% parents of students, ranging from nursery to class 12, from Western Uttar Pradesh, Gurugram and National Capital Regions (NCR) demanded that 2020-2021 be declared as 'no academic year'. They support the idea to promote students to the next class without conducting any examination amidst the ongoing pandemic. 97% parents did not think schools to be safe zones for children with regard to social distancing. Even 74% parents said that they would not send their children to school unless the school guarantees the safety of their children.

Possibility of Growing Students' Apathy Towards Traditional Classroom

Closures of schools for a long time is going to be detrimental for children as they are missing their daily interactions with their peers and teachers. The loss of possibly one and half a year –is going to make students apathetic towards resuming schooling after a huge gap of time.

- *Possibility of Increase in Malnutrition of Children at School Level*: School closure also means loss of cooked mid-day meals for about 115.9 million school children from class I-VIII (Microsave Consulting, 2021). This, for poor and marginalized children, is going to be distressing, furthering their existing hunger and malnutrition.
- *Possibility of Increase of Child Labourers*: People serving in unorganized sectors are losing jobs and livelihood, and it is going to leave a deep impact on their children. More children will be pushed out of school, and be compelled to earn for their family, ending up as child labourers.
- *Possibility of Dip in Enrolment in School Education Sector*: Investment in education is not going to be a priority for marginalised parents, and we might see a dip in enrolment, when and if, schools are opened.
- *Girl Child Marriage is on the Rise*: Child-marriage, especially of girls from poor families, is on the rise as girls are cut-off from their peers and teachers to raise a voice against and resist forced marriages.
- *Increase in the Number of Cases Regarding Violation of Child Rights*: The National Commission for Protection of Children Rights (NCPCR), which is the primary monitoring agency of protecting child rights as per the RTE Act 2009, has seen a huge swell in the number of complaints regarding child rights violation during the lockdown period. In the previous year, the NCPCR addressed around 5,000 complaints; post-outbreak (beginning in March, 2020), this has increased about 8-fold (Kumar, 2020).
- *Learners' Development of Psycho-motor Domains being Hampered*: Though online teaching may nourish learners' cognitive domains; development of their psycho-motor domains is being hampered.
- *Children Going under Depression:* Children are missing their school, their teachers and their peers. In some cases, being unable to procure the necessary gadgets to take access of online classes, they are going under depressive mood. Many cases have been reported about students committing suicide due to this reason. Children also are getting addicted to online games.
- *Possibility of Emerging ODL as Parallel Mainstream Education system*: With the outbreak of COVID-19, where all the educational institutions are undergoing lockdown, ICT-enabled Open and Distance Learning (ODL) is the only alternative. And it is assumed that ODL can become the parallel mainstream education system even after this COVID-19 and the number of students getting enrolled in ODL mode will increase by many times (Rao, 2020).

- *Possibility of starting online degree courses at a massive level*: According to Times of India (2020), only after nudge by the MoE, UGC is already set to tweak rules for initiating online degree courses at 230 universities in India, which fulfil one of the two criteria – NAAC 3.01 or above score or among the top 100 in National Institutional Ranking Framework (NIRF) ranking.

Why this thrust over online teaching-learning?

The Indian educational framework primarily relies on the traditional physical face-to-face classroom methodology. However, advancement in ICT led to the pursuit of improved instructional methods and techniques long before Corona came to compel us to shut down our educational institutions. Internet has made online learning possible, and many universities in India have already adopted online teaching-learning to improve student learning outcomes (Pepe, 2010). Given the growth of online education and its potential, especially in higher education, it is imperative that educators take-up online teaching-learning when the traditional face-to-face learning becomes impossible (Nguyen, 2015). At this critical juncture under the threat of COVID-19, we must take recourse to e-teaching-learning mainly for the following reasons:

- *Compensation for Academic Loss*: The lockdown is adversely affecting academic progress of the learners. This loss can be compensated by embracing online teaching-learning. Though, all students may not be benefitted fully in this process, at least it can assist us to narrow down the gap caused due to the lockdown situation.
- *Help for 'Flipped Learning'*: Even in normal study conditions, useful articles, essays, videos or write-ups are provided to the students beforehand with a message of what to do with them as an instruction. This proceeds classroom discussion on the provided material. This type of 'flipped learning' is very useful, especially in higher classes.
- *Aid to Teacher*: Online teaching-learning can aid a teacher in performing his duty and can help make the teacher-student relationship more interactive.
- *Respite from Isolation*: Online education related innovations can provide the much-needed respite in this hour of crisis to combat the compelled isolation of institutions and students.

Online Education and its Journey in India

To mean online education, people use various nomenclatures, such as computer-based education, web-based training, internet-based education, e-learning, m-learning (mobile learning), computer-aided distance education etc. At its core, online education is electronically supported teaching-learning that relies on the internet for teacher-student interaction and transaction of academic materials. Here the transaction may be synchronous, asynchronous, or a combination of the both. At present, the USA, India, China, South Korea, United Kingdom, and Côte d' Ivoire have been investing most in online education (Dos Santos, 2019).

Online education has paved the way for a pedagogical shift in the way teachers teach and students learn. In this mode of teaching-learning, teachers function as guides, while students become active collaborators, rather than mere passive learners (Stern, n.d.). The transaction may include audio, video, text, animations, virtual training environments and live chats. It is a rich learning environment with more flexibility than that of a traditional classroom. Online teaching gives educators an opportunity to reach students who may not be able to enrol in a traditional classroom course and support students who need to work on their own schedule and at their own pace. In this mode, students can learn anytime, anywhere.

Online teaching is not a new concept in India, especially in the tertiary education sector; it has been in vogue since the mid-80s of the last century. Since 1990s, web-based instruction is on in higher education sector. In 1994, there was a paradigm shift as teleconferencing facility was provided at Indira Gandhi National Open University (IGNOU) headquarter in New Delhi for the first time. It was a one-way video and two-way audio communication through phone-line, providing scope of live interaction for the learners. The teleconferencing facility was a booster for a large number of online courses like management studies, computer science, and especially for teachers training in India. In 2000, the teleconferencing got the recognition as an official education channel under the Gyandarshan platform. However, in order to fulfil the need of two-way video communication, an effort was made by the Indian Space Research Organisation (ISRO), in collaboration with MoE and IGNOU, with the launching of EDUSAT in 2005.

Keeping in mind the immense opportunities of online teaching-learning, academia has been

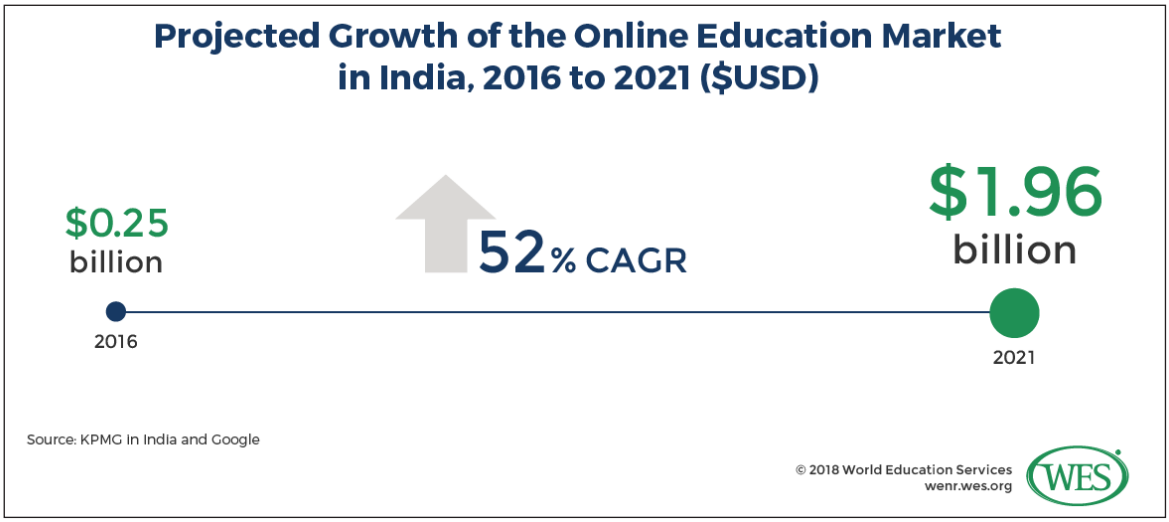
gradually embracing it. The outbreak of Corona pandemic has once again boosted people's interest in this mode of teaching-learning. It may work wonder in compensating the academic loss of the learners, by bringing education to their doorstep, by ransacking rich educational sources from the remotest pockets of the world. Online teaching-learning resources and platforms such as SWAYAM, e-Pathshala, Diksha Portal, YouTube, WhatsApp, Zoom, Google Classroom, Google Meet etc. are recently being used much towards this end. Indians are the second largest consumers on MOOCs (Massive Open Online Courses) like Coursera. Figure -1 shows the projected growth of online education market in India.

The number of students enrolled for various online learning courses was nearly 1.6 million in 2016, which is expected to grow about 9.6 million by the end of 2021. That is a huge six times leap within just five years! Nearly 48% population in India in the 15-40 age group, is the target group for online education. By 2030, we will have around 14 million students in tertiary sector, and to cater to this huge population, we will need four times the number of universities, colleges and teachers in comparison to the present numbers. It is not practically feasible. Here online education will play a significant role. The National Education Policy 2020 stresses on increasing the Gross Enrolment Ratio (GER) to 50% from the current 26% by 2035. This means, creation of an additional 35 million seats for students, and it is possible only through the proliferation on online teaching-learning.

No doubt, the spread of COVID-19 has kept us away from physical classrooms and has compelled us to explore other avenues for continuing teaching-learning. Here lies the relevance of online teaching-learning. Benefits of online teaching-learning are presented in Figure 2.

- *Enables Teaching/learning from Home*: Online education enables teachers and learners perform academic work from their home in this sensitive environment of Corona virus attack (Goel, and Devraj, 2019; Saroja, 2020).
- *Offers Opportunity to Think about Teaching in New Ways:* Online education offers opportunity to experiment with and explore new techniques for teaching-learning.
- *Student-centred Learning*: The variety of online tools nourishes individual learning styles and help students become smart learners in their own ways.
- *Builds Confidence and Communication Skills*: Online interactive teaching-learning helps in developing abilities to identify and solve problems, build teams, develop critical thinking abilities, and strengthen soft skills. Eventually, such approach shall lead to building two of the most important attributes: self-confidence and communication skills, as key outcomes in the learners.
- *Allows Wider Choices of Gaining Knowledge*: Gone are the days when teachers were thought to be the sole source of knowledge. Now learners, as well as teachers, can learn and teach, using multiple resources of ICT.

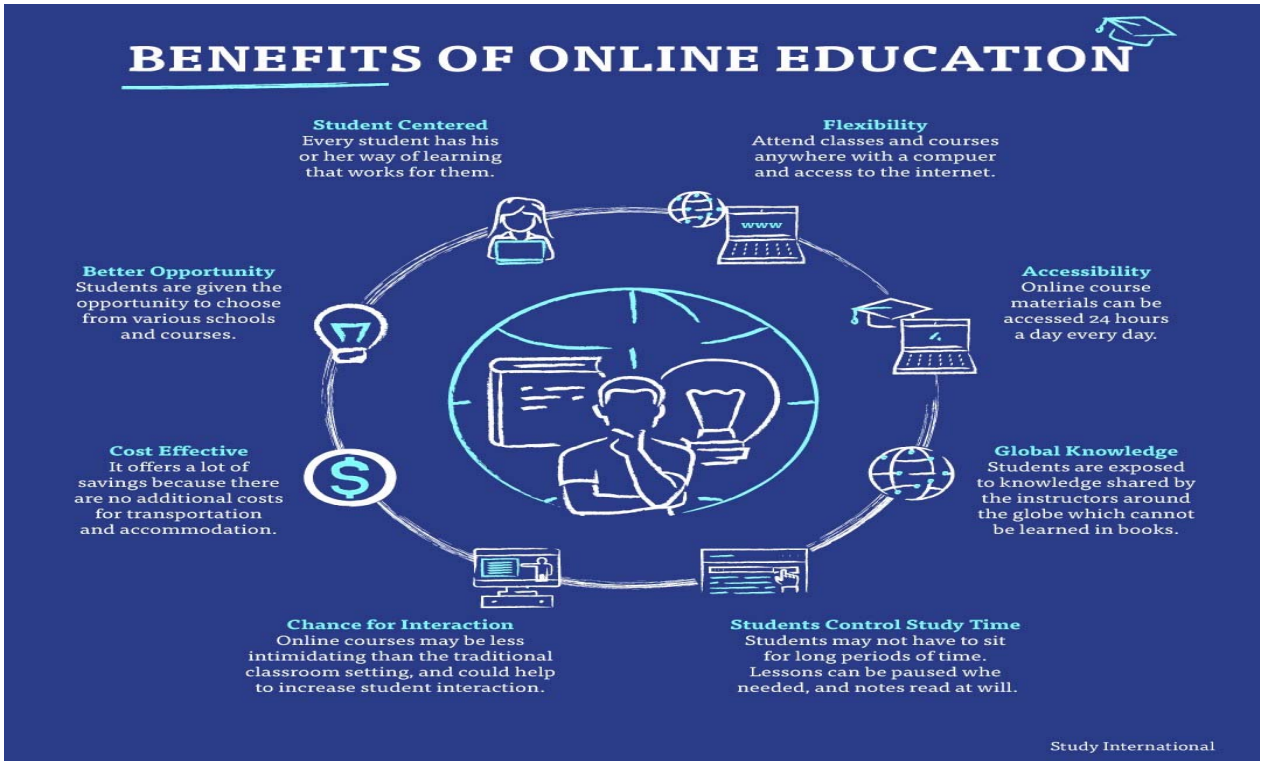
Figure 1: Projected Growth of Online Education market in India



Source: Google image

- *Augments Experiential Learning*: Online teaching-learning will gradually lead to a movement in learning method – from rote learning to experiential learning.
- *Rich Course Materials in Less Time*: Use of existing online educational resources reduces time to develop courses for KG to PG level students, and helps teachers focus on student support. Teachers can now draw on quality study materials from around the world in various formats and adapt these as per local need.
- *Availability of Global Expertise*: Using online platforms, even staying at home, learners can avail themselves of global expertise in different subjects.
- *Universal access, Increased Flexibility*: If all learners and teachers are equipped with required gadgets and internet access, online education has an advantage of universal access and increased flexibility (Jensen, 2011).
- *Teachers getting Motivated in New Pedagogy*: Teaching online can be an enormously rewarding experience for teachers who may not have undergone such experiences before. It has been observed that teachers were generally motivated when they were given the opportunity "to gain new pedagogical knowledge through online teaching, including opportunities to experiment with new pedagogy, reflect on classroom teaching, and gain new understanding of assessment issues" (Shea, 2007).
- *Fulfils Learning needs as per Capacity of Learners*: Online learning is really a boon to the learner community for fulfilment of their learning needs as per their capacity and desire.
- *Useful for Advanced as well as Slow Learners*: Audio-video based online teaching-learning may equally benefit advanced as well as slow learners. Slow learners can view those study materials many times till they can grasp a particular concept or knowledge.
- *Offers Flexibility in time and Place*: Learners can access, view, download study materials orlearn as per their convenient time.ICT makes it possible to get degree, diploma or certificate, studying from their home. Thus, learners can achieve their academic goal easily (Arora, 2018).
- *Help for Collaborative Learning*: Online group-work allows students to become more active participants in the learning process. Contributing

Figure 2: Benefits of Online Education



Source: Google image

input requires that students comprehend what is being discussed, organize their thinking coherently, and express that thinking with carefully constructed language.

- *Accessible for non-traditional Students:* Online delivery of programmes and courses makes participation possible for students who experience geographic and time barriers in gaining access to higher education.

Concluding Remarks

COVID-19 has put a brake on our academic activities, no doubt. But it is the nature of human being to search for the alternative when normal going gets tough. Today's age is the age of digitisation. In the present critical situation, there is no option except embracing online teaching-learning. By using ICT-based tools and techniques, it is also possible to make teaching-learning joyful and interesting. But it is also important to keep in mind that in this mode of education, the teacher is fully responsible for content generation, content delivery, engaging students in learning and finally evaluating them. He has to learn all these academic activities online. Who can say that such pandemic will not visit us in future and compel us to go locked-down again? So online teaching-learning is here to stay, it has a promising future. However, we must not think that it will replace traditional learning; rather both models will work in tandem. Being empowered with the tools of online teaching-learning, let us fight against further damage to our academic activities caused by the Corona pandemic.

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Need to Run Fast to Stay Where We Are

C Rangarajan, Former Chairman, Economic Advisory Council to the Prime Minister and Former Governor, Reserve Bank of India delivered the Convocation Address at the 10th Convocation of The ICFAI Foundation for Higher Education, Hyderabad on 10th March, 2021. He said, "Universities are not only centres of learning but are incubators of new ideas. That is why our universities must always remain as arenas for discussion and debate. It is this that will lead to creativity. The right to express oneself freely must not be compromised under any circumstance. Let the spirit of enquiry burn bright in our campuses. That is the essence of true education." Excerpts

It gives me great pleasure to be in your midst this morning not only to preside but also to deliver the Tenth Convocation Address of this University. It is indeed very heartening to listen to the Report of the Vice Chancellor. I congratulate the University on the progress it has made and the initiatives it has taken to make the programmes at the University both relevant and meaningful. The students who graduate from the university must not only have adequate knowledge in the disciplines they have chosen to study but also be creative enough to apply that knowledge to solve the problems that confront the nation. To be bold and innovative is the need of the hour.

Let me congratulate all of you who are graduating today. Let me add a word of special appreciation to those who are receiving medals and awards. This is an occasion for celebration for all of you, as your academic efforts have come to a successful fruition. As you enter a new stage in your life, your future is intertwined with the future of this country. But, at the same time, you have the opportunity to shape it. Youth is full of idealism and ambition. Idealism without ambition may not achieve much. On the other hand, ambition without idealism may be dangerous. May you combine the two in the right proportion!

We are at the threshold of sweeping changes in Higher Education in India. The three dimensions of the reform of higher education have to be access, equity and quality. Broadening the access is extremely important when we see the gross enrolment ratio well below that of the developed countries. Equity is vital in order to ensure that under-privileged communities share the benefits of education. Equally important is the promotion of quality. I do hope that the new arrangements that are put in place give enough freedom and space to individual universities to experiment and innovate on their own.

Thirty Years of Reform

With the arrival of 2021, the liberalization regime launched in 1991 completes thirty years. 1991 is an important landmark in the post Independence economic history of our country. The country then faced an acute economic crisis triggered by a severe balance of payments problem. The crisis, however, was converted into an opportunity to bring about some fundamental changes in India's economic policy. It was marked by three important breaks with the past. One was to dismantle the vast network of controls and permits that dominated the economic system; second was to redefine the role of the state and the third was to move away from a regime of import substitution and to integrate fully with the global trading system. The new regime gave us a much faster rate of growth, even though there is concern with the recent decline in growth rate.

Current Crisis

We have another crisis today. In recent memory, this is the first economic crisis that has been driven by a non-economic factor – a pandemic. The various measures taken to prevent the spread of the virus and most importantly the lockdown have brought to a grinding halt the wheels of economic activity. It is only with the relaxation of constraints that the economy has started moving. In the first half of 2020-21, the economy shrank by 15.7 per cent. There will be some pick up in the second half. Most analysts now think that the economy will shrink by 8 percent for the year as a whole. The latest estimate of CSO is (-) 7.7 per cent. If only the Indian economy grows at 8.7 per cent in 2021-22, will we be compensating for the decline in 2020-21. We will then be where we were at the end of 2019-20. As the sayings goes 'we need to run fast to stay where we are'. The recent Budget has projected the growth rate for 2021-22 at

10.5 per cent. It sounds a little optimistic. Even then we have note that the two years taken together the growth rate will be 2.8 per cent, an annual average of 1.4 per cent. We as a nation really needs to organize ourselves to get back to the high growth path as early as possible.

Expenditure Trends

In a situation where the economy is stuck because of the weakening of demand, the standard advice is to raise government expenditures which will not only push up the economy directly but also act as a stimulant to the private sector. The earlier analysts did not make a distinction between one type of government expenditure and another. That is how the term 'digging holes and filling them' became popular. Analysts now however believe that capital expenditures, i.e. those which create assets, are preferable as the fiscal multiplier is larger.

In this context the emphasis in the recent Budget on capital expenditure is welcome. Relative to GDP, capital expenditure is expected to increase from 1.6 per cent in 2019-20 to 2.3 per cent in 2021 and 2.5 per cent in 2021-22, signaling a change in priority.

The budgeted increase in capital outlay would provide central government's share to the National Infrastructure Pipeline. However, success of the infrastructure expansion plan would depend on other stakeholders of the Pipeline playing their due role. These include state governments and their public sector enterprises and the private sector.

Revenue Augmentation

Government's ability to spend according to the budget depends on the ability to raise the necessary revenue. For 2021-22, the budgeted increase in centre's gross tax revenues is dependent on nominal GDP growth of 14.4% with a buoyancy of 1.6 for direct taxes and 0.8 for indirect taxes. The assumed high buoyancy of direct taxes appears optimistic although there would be a positive base effect. The nominal income growth projected may also be optimistic.

Significant increases are planned in non-tax revenues and non-debt capital receipts. From a contraction of (-)35.6% in 2020-21 (RE), non-tax revenues are budgeted to grow by 15.4% in 2021-22. This increase is mainly predicated on higher dividends from non-departmental undertakings and spectrum sales. In the case of non-debt capital receipts, mainly covering disinvestment, a budgeted growth of 304.3% in 2021-22 stands in contrast with the contraction of (-)32.2% in 2020-21 (RE). Disinvestment initiatives have so far yielded minimal results.

An important initiative pertains to the launching of a National Monetization Pipeline. This would be the first practical step towards asset monetization. The Pipeline may eventually start yielding revenues, but the time lags involved remain unpredictable because of various potential disputes and claims associated particularly with government-owned land. A transparent auction process requires to be set up to facilitate suitable price discovery. Slippage in revenue estimates may not be ruled out on account of realization of lower than anticipated increases in nominal GDP growth, direct tax buoyancy, and disinvestment targets.

Role of Reforms

In accelerating growth, the reform agenda is important. The reform agenda released post 1991 had an enormous impact. It released the energies of entrepreneurs to build a strong economy. But that reform agenda constituted a paradigm shift. Today we don't need a paradigm shift. We need to look at individual sectors and see which one of these needs reforms in terms of creating a competitive environment and improving efficiency. That should be the approach of the reform agenda.

Reforms do attract criticism. The 1991 reforms were dubbed by some as dictated by the IMF and World Bank. Some criticized some of the reforms such as the repeal of the MRTP Act as a sellout to capitalists. Under the shadow of a crisis, some of the reforms in 1991 could be pushed. But today this is no longer possible. Power sector, the financial system, governance and even agricultural marketing need reforms. The reform measures mentioned in the recent Budget such as those relating to the financial sector and strategy of disinvestment in select sectors are in the right direction. But we need a lot more discussions and consensus building before action is taken. Timing and sequencing are also critically important. Looking at the recent discussions on agricultural marketing reforms, the best course of action for the central government now may be to leave to each state to decide whether they want these measures or not. That will set the stage for experimental economics

and farmers themselves will be able to see the best possible course of action with respect to agricultural marketing reforms.

Fiscal Prudence

The Union Budget for 2021-22 has provided for a sharp relaxation of central government's fiscal deficit to 9.5 percent in 2020-21 and 6.8 percent of GDP in 2021-22. The combined fiscal deficit and debt of the centre and states may be much higher in 2020-21 at about 14 and 90 percent of GDP. These levels, exceed the current FRBM norms of 6 and 60 percent by wide margins and these have been justified as a countercyclical response to the Covid crisis. Now, the issue is how to guide these back to levels consistent with debt sustainability.

Countercyclical Departure

The Economic Survey 2021 has argued the case for raising the fiscal deficit on the basis of a positive growth-interest rate differential. The Survey has contended that the line of causation runs from higher growth to debt sustainability rather than vice versa and that the higher the excess of growth rate over interest rate, the higher could be the primary deficit to GDP ratio consistent with debt sustainability. The Survey, however, did not indicate a steady state or long-term combination of the levels combined debt and fiscal deficit relative to GDP, if the present FRBMA is to be amended.

Average and Marginal Interest Rates

For deriving a steady state, the focus should be on potential growth rate and the long-term interest rate. The relevant interest rate in the derivation of debt sustainability condition is the average interest rate on government debt. This is also indicated in the Economic Survey where the applicable nominal interest rate is derived by dividing interest payment in a given year by the outstanding debt at the end of previous period *(Volume 1, Chapter 2)*. This is a weighted sum of the contracted interest rates on past debts. This should be distinguished from the interest rate at which current borrowing can be done which may be referred to as the marginal interest rate. If the marginal interest rate falls, the average interest rate would also fall but at a lower pace. This is reflected in the movement of the effective interest rate obtained by dividing combined interest payments by combined debt. During FY16 to FY20, this interest rate has fallen only from 7.4 percent to around to 7.0 percent. By pumping in additional liquidity, the current nominal interest rate can be driven down. But this may raise the inflation rate above the policy target rate and may well reduce the real interest rate, having an adverse impact on the overall savings rate. Such a policy can only lead to financial repression with all the attendant problems. Asset mispricing will also be a consequence which can have serious implications. Thus, the maintainable longer term nominal interest rate for government debt may have to be close to 7 percent, derived by combining a CPI inflation rate of about 4 percent and real interest rate of 3 percent.

India's Potential Growth Rate

For assessing India's potential growth rate, we may juxtapose India's falling investment rate since 2011-12 with India's rising capital-output ratio in recent years. The real investment (gross fixed capital formation) rate, at 2011-12 prices, has fallen from 34.3 percent in 2011-12 to 32.5 percent in 2019-20. The incremental capital output ratio (ICOR) estimated on trend basis has been in the range of 5.4-5.9 during 2015-16 to 2019-20. Taking an ICOR value of 5.5, the potential real GDP growth may be estimated at 6.0 percent. Earlier, Rangarajan and Srivastava (2017) had estimated India's potential GDP growth rate, based on a sector-wise decomposition of the ICORs, at 8 percent plus. It has now come down due to a fall in the investment rate and increase in the ICOR. In order to derive the corresponding nominal growth rate, we need to add an Implicit Price Deflator based inflation rate of 3 percent. Combining 6 percent and 3 percent, we get a nominal GDP growth of 9 percent. Thus, in the medium term, the growth rate-interest rate differential may be about 2 percentage points. Clearly, a high primary deficit relative to GDP can only be created temporarily by raising the fiscal deficit well above its steady state path but it cannot be sustained. The average primary deficit over the last five years has been 0.7 percent of GDP for the centre and 1.8 percent for the central and state governments together. A study by us shows that between 1955-56 and 2000-01 the rise of debt to GDP ratio was due only to primary deficit. Of course, its impact was substantially reduced by growth rate – interest differential. The growth rate – interest rate comparison has the implicit

assumption that the current level of debt-GDP ratio is appropriate and keeping it at that level is the desired criterion of sustainability. If in fact it is felt that this ratio needs to be brought down as the N K Singh committee proposed, there has to be primary account surplus.

Arguments are also being advanced that many developed and emerging market economies have a relatively high debt-GDP ratio (See Table 1). But it should be noted that in these and many other developed countries, the average and marginal interest rates have been close to zero for some years and their ratio of interest payment to revenue receipts is also very low. In contrast, in India, the average interest rate is still above 7 percent. More importantly revenue receipts to GDP ratio is quite high in the countries with high debt to GDP ratio. Consequently, interest payments to revenue receipts ratio is low in these countries and high in India. Therefore lowering this ratio is an important consideration.

Table1: Fiscal Parameters for General Government (Percent)

Countries	Revenue receipts/ GDP	Interest payments/ Revenue receipts	Debt/ GDP
India	18.1	25.8	72.4
US	29.5	13.8	108.7
UK	36.6	5.6	85.4
Japan	35.0	4.7	238.0
Data pertains to 2019-20 for India. For UK, USA, and Japan data for revenue receipts pertain to 2018 and for interest payments and debt to 2019.			

The broad conclusion is that the leeway provided by excess of potential growth rate over average interest rate is limited. The ratio of interest payments to revenue receipts is high. It needs to be brought down to enable larger percentage of revenue receipts is available to government for other expenditures. There is need to lower the debt-GDP ratio. All this will happen if the current norm of 3 per cent of GDP as fiscal deficit is pursued. It is a good guide over the medium term. This current year and the coming year are exceptionally difficult good years. A departure from the norm is justified. But that cannot be a rule.

A few years ago, there was the hope that India would become a $5 trillion strong economy by 2025. But that has become impossible. India's economy was $2.7 trillion strong in 2018. To go from $2.7 trillion to $ 5 trillion, it requires the economy to grow at 9 percent for 5 consecutive years. We must also note that India's per capita income after reaching $ 5 trillion will be only $ 3,500. We will still be classified as a middle income country. Growth is the answer to many of our socioeconomic problems. Growth should become the undivided concern of the govt. This can be best achieved by focusing on the economy, creating better and fairer conditions for doing business, building a consensus on economic policies, and avoiding socially divisive actions.

Let me end on one note. Universities are not only centres of learning but are incubators of new ideas. That is why our universities must always remain as arenas for discussion and debate. It is this that will lead to creativity. The right to express oneself freely must not be compromised under any circumstance. Let the spirit of enquiry burn bright in our campuses. That is the essence of true education.

Once again let me wish you all the very best. ❑

Capacity Building Workshop on Accreditation

A seven-day Online Capacity Building Workshop on 'Accreditation: Different Aspects and Key Points' was organised by the Internal Quality Assurance Cell, Hindu Kanya College, Kapurthala, Punjab, recently. During Inaugural Function, in his Keynote Address, Prof. M M Goel, former Vice Chancellor, Professor and a known Needonomist from Kurukshetra expressed that all have to develop the power of observation as art by devoting time on what, why, when, where for whom to work without worries and take small but significant steps instead of big-bang approach for NAAC accreditation. The SWOT analysis of an institution with best practices adopted can help to know the performance level, said Prof. Goel. We need to change our perception in the society as teachers called national assets on two days only including Teachers' Day and National Education Day and opined that continuous introspection on the role of teachers in the society throughout the year, believed Prof. Goel. He stressed on the use of Google form for data collection for feedback from the stakeholders including students and teachers with alertness, awakening, and awareness of the misuses of artificial intelligence.

Dr B Anirudhan, Principal, Nehru Arts and Science College, Coimbatore, Tamil Nadu spoke on the Scope of Curricular Aspects in Accreditation and how to score maximum in this by affiliated colleges. Dr Anirudhan cited the need of bringing transparency and clarity in handling the curriculum aspects of the colleges. "It is the sole criteria which can help to score 90% weightage to most of the colleges. NAAC only expects proper documentation of the claims made by colleges and uploading of relevant information on the websites," he said. Dr Anirudhan also cited the importance of Energy Audit, Green Audit and Hygiene Audit for colleges. It can certainly receive applause and good scores from accessors, he said. He also cited the need for daily updates on the college's website. He also encouraged teachers to offer value added courses relating to their subject to students in consultation with market experts.

Prof. Ujjwal K Chowdhury, Pro-Vice Chancellor, ADMAS University, Kolkata stated that the pandemic has created many learning opportunities for the teaching community of the country.

"The days of traditional teaching methods are over now. In future, it is going to be digitised teaching or blending teaching and for that teachers have to be versed with technology and various software applications," he said. He also gave tips and techniques to all participants to make their teaching more effective and innovative. Making emotional as well as professional connections with the students, who are more or less not worried about their future, is the biggest challenge for all teachers, he added. Prof Chowdhury also put light on the different techniques of evaluation that can be used by educational institutions to adjudge and check students. He expressed concern over the non-seriousness of different governments in allocating a budget for education. "It is on their least priority and a common man should raise this issue with their leaders at different platforms," he said.

Dr B K Virk, Principal, MR Government College, Fazilka stated the need and importance of SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis for every institution. Addressing the gathering he said, strengths and weaknesses are internal to any organisation but threats and opportunities are external. Every institution should invest in conducting effective SWOT analysis to survive in the market. Dr. Virk also suggested that SWOT analysis should be a regular feature for organisations and managements should take the help of expertise from the markets to make it more effective and purposeful.

He also discussed the methodology, key-factors to be kept in mind while doing SWOT analysis and dos and don'ts with all participants. Dr. Singh cited the examples of Nokia and Motorolla, who were once market leaders in the mobile phone market. After the arrival of smartphones, these brands failed to survive, he said, adding that effective and unbiased SWOT analysis can help institutions to cope up with the market changes.

Dr Ajay Lakhanpal, Former Principal, PSR Government College, Baijnath, Kangra, Himachal

Pradesh highlighted the need and importance of budgetary provisions for research and extension in colleges. It shows the research culture of the college, he said, "Colleges should come forward with incentives to promote research and extension activities. Whatever colleges do in extension activities, should be community oriented and must have benefits for society," he said. Dr Lakhanpal also suggested colleges to note down every small effort for records and try to bring improvements in these efforts with pass of time. He also answered queries raised by participants relating to research, innovation and extension activities.

Prof. Yogender Verma, Pro-Vice Chancellor, Central University of Himachal Pradesh, in his address, cited the need for sustainable quality and how it can be achieved. "Only quality can bring distinctiveness to any educational institute for achieving quality, one has to put in consistent efforts," he said. Prof. Verma put light on different issues relating to the seventh criteria of NAAC Self Study Report for affiliated colleges and highlighted the key points which can help to bring good weightage. He also appealed to all colleges to adopt Green Auditing, Energy Auditing, Rain-Water harvesting, E-Waste Management and generating energy through alternative resources.

NAAC has chalked out parameters so intelligently that nobody can fake the data and activities now, he said adding that, one has to generate proper evidence to substantiate their claims.

On the concluding day, Principal of Hindu Kanya College, the host college, Dr Archna Garg, said that all colleges are required to set up effective support services and systems for the benefit of the students. "These are the real backbone of colleges and if maintained and documented effectively, can attract more students as well as good scores from ranking agencies," she said. In her address, Dr. Garg suggested the colleges to make their services related systems more transparent and accessible through portals. If done so, students can be benefitted in large numbers from these services, she further said, "Every college should have proper track of all those who have been educated from the college. Constant touch with them can help effective and beneficial contributions from alumni for working and finance of college." Dr. Garg also gave tips on different key points relating to Criteria-5 of the Self Study Report to be submitted by colleges to NAAC for accreditation.

Proceedings of each day of the workshop, started with a different musical prayer, prepared by students, faculty members and alumni members. Through each prayer, it was prayed to keep people healthy, safe and cheerful in the stressful times of pandemic. The event was coordinated by Dr. Kulwinder Kaur and Dr. Anupam Sabharwal and Er. Inderjit Bal compared the event.

Faculty Development Programme

A Five-day Online Faculty Development Programme on 'Biowaste to Bioenergy: A Future Sustainable Energy Source' is being organised by the Department of Biotechnology, Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj, Uttar Pradesh during December 14-18, 2021. The event is sponsored by AICTE -Training and Learning (ATAL) Academy. The Faculty Members of AICTE approved institutes, Research Scholars, Students of both professional and science backgrounds, Professionals of government agencies, Industry professionals, etc. may participate in the Programme. It aims to provide information regarding the emerging field of waste conversion to bioenergy (green energy). The dimension of bioenergy includes hydrogen energy, methane, and liquid fuel etc. These potential fuels can be used to fulfill the demand of present and future populations along with bio waste reduction. More than 90% of commercial energy is generated by steam reforming of natural gas that adds tons of CO2 gas in the environment. The intent of this FDP is to promote healthy discussion regarding biowaste transformation to eco-friendly bioenergy generation by naturally occurring potent microbes (a small bioreactor) instead of physiochemical method learning. The main objective of the FDP course is to help in imparting quality technical education in the country and to support technical institutions in fostering research, innovation, and entrepreneurship through training. The programme will definitely provide a positive impact on the participants who are in the practice of this qualitative emerging field or interested in this field. The Topics of the Programme:

- Fundamental Knowledge of Bioenergy and its Future Prospective.
- Current Status, Opportunities, and Challenges in the Bioenergy Field.
- Sustainable Approaches for Screening Promising Feedstocks (biowastes) for Conversion into Different Bioenergy Products.

- Targeting Influential Parameters and its Optimization for Biowaste to Bioenergy Conversion.
- Multidimensional Approaches in Technological Development for Upscaling Biofuel Generation.
- Importance of Energy Efficient Bioelectronics and 2D Material in Bioenergy.
- Exploration of Sensing Technology in Bioenergy Detection.
- Lab session for Application of Computational Simulation in Biofuel Enhancement Using Python Tool.
- Lab Session for Experimental Set up of Bioenergy Production, and its Analysis Using Gas Chromatography.
- Mental and Emotional Development, Stress Management.

For further details, contact Coordinator, Prof. Anjana Pandey, Department of Biotechnology, Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj, Uttar Pradesh-211004, Mobile No: 9452690849, 7905861372, E-mail: *anjanap@mnnit.ac.in.* For updates, log on to: *www.mnnit.ac.in*

International Conference on Advanced Network Technologies and Intelligent Computing

A two-day Online International Conference on 'Advanced Network Technologies and Intelligent Computing' is being organized by the Department of Computer Science. Institute of Science, Banaras Hindu University. Varanasi during December 17-18, 2021. The academicians, scientists. researcher scholars and UG/PG graduates across the globe may participate to exchange and share their research outcomes. This will enable the participating researchers to exchange their ideas about applying existing methods in these areas to solve real-world problems. The topics of the event are:

- Advanced Network Technologies.
- 4G and SG Networks.
- Blockchain Technology.
- Bluetooth Communication.
- Body Area Networks.
- Cellular Networks.
- Centralized Computing Cloud Computing Cluster Computing.
- Communication Technologies.
- Computer Networks.
- Cyber Physical Systems.
- Data Communication.
- Delay Tolerant Networks.
- Digital Forensic.
- Distributed Computing.
- Edge and Fog Computing.
- Embedded Systems.
- Grid Computing.
- High Performance Computing Infrared Communication Wireless Networks.
- Wireless Sensor Networks Internet and Web Applications Internet of Things.
- Microwaves Communication.
- Mobile Ad-hoc Networks.
- Mobile Computing Multi Agent Systems.
- Intelligent Computing
- Algorithms Design Artificial Intelligence Augmented and Virtual Reality.
- Automated Software Engineering.
- Big Data Analytics.
- Bioinformatics Compilers and Interpreters Computational Intelligence Computer
- Animation and Games Computer Architecture.
- Computer Graphics Computer Vision Data Analytics Data Sciences.
- Data Text and Web Mining Deep Learning Evolutionary Algorithms Expert Systems.
- Formal Methods.
- Genetic Algorithms Human Computer Interaction Image Processing Information
- Retrieval Knowledge Discovery Machine Learning.
- Multimedia Applications.
- Natural Language Processing Neural Networks Optimization Pattern Recognition.
- Programming Languages.

For further details, contact Dr. Anshul Venna, Programme Chair and Convener, Department of Computer Science, Institute of Science, Banaras Hindu University. Varanasi-221005 (Uttar Pradesh). Mobile: 098260746181 and 07903496917, E-mail: *antic.bhu@gmail.com, anshulverma87@gmail.com* and *anshul.verma@bhu.ac.in*. For updates, log on to: *www.antic.co.in*

International Conference on Humanizing Work and Work Environment

A three-day International Conference on Humanising Work and Work Environment is being organised by the Department of Design,Indian Institute of Technology Guwahati, Guwahati, Assam during December 01-03, 2021. The theme of the conference is 'User Centered Design for Quality Life'.

The Academicians, Research and Industrialists may participate in the event. The Topics of the event are:

- Design Applications.
- Work Physiology, Biomechanics and Sports.
- Social and Rural Development.
- Cognitive Science and Neuroergonomics.
- Virtual Environments, Modelling and Simulation.
- Occupational Sectors (Informal and Organized).
- Production System, Industrial Manufacturing and Management.
- Entrepreneurship and Service Design.
- Healthcare and Medical Science.
- Occupational Safety and Health.
- Environment and Sustainability.
- Automotive Design and Transportation System.
- Education, Training and Audit.
- Regulation, Standards and Guidelines.
- People with Special Needs.
- Aesthetics, Creativity and Human Values.
- Tourism and Recreations.
- Traditional and Renewable Energy Sectors.
- Prototyping, Usability and User Experience.
- Communication Design.

For further details, contact Organizing Secretary, Dr. Urmi Ravindra Salve, Department of Design, Indian Institute of Technology Guwahati, Guwahati, Assam- 781039, Phone No: +91-361-25823097, E-mail: *hwwe2021@iitg.ac.in / 2021hwwe@gmail.com.* For updates, log on to: *www.iitg.ac.in/event*

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AIU NEWS

Leadership Development Programme in Circular Economy

One-day 'Leadership Development Programme in Circular Economy' was organised by the Association of Indian Universities (AIU), New Delhi in collaboration with International Council for Circular Economy (ICCE), Delhi on October 06, 2021. The event which aimed at sensitising the apex academic leaders i.e., Vice Chancellors of Universities/ Institutes was organised in order to create awareness among the academic fraternity and university leaders through virtual mode. More than 110 participants constituting Vice Chancellors, Deans, Directors and other Senior functionaries attended the event in which the issues like the concept of Circular Economy, the role of planning, development, and inclusion in the curriculum was discussed. The Global Society today is facing multifaceted challenges with respect to waste management, climate change, resource scarcity, loss of biodiversity, etc. These challenges are related to the sustainability of the earth. With so many pressing environmental issues, we are beginning to understand the complexities of the climate challenges if we take a more holistic perspective on the issue. A strong need has been felt to sustain our economies and offer alternate opportunities for a growing world population. Till now, all the countries of the world have been heavily dependent upon the linear economy model which uses raw materials to make a product, and after its use it is thrown away as waste. A majority of global educators now considers the issue of climate change significant enough to warrant inclusion in the national curriculum. It also emphasizes that education can play a vital role in sensitising our students and engaging them with pressing environmental issues and new emerging subjects like "Circular Economy", a model different from the linear economy. Unlike the linear economy model, in a circular economy, products and materials keep circulating in a high value state of use, through supply chains, for as long as possible, thereby minimising the waste which may support the sustainable development goals.

The event commenced with Dr Amarendra Pani, Joint Director, Research, Association of Indian Universities extending a warm welcome to the delegates. In his welcome address, Dr Pani observed that at present the world is suffering from many pressing issues which need immediate attention.

With the growing population and its requirements, the natural resources are being exploited beyond capacity. The limited natural resources are consumed in a limitless manner which is posing threat to the environment and ecology. In the process of getting finished products for our daily use and consumption, we have been creating a huge stockpile of wastes. The traditional economy model can no longer help addressing the issue. There is great need now to switch over to a circular economy. He shared that the circular economy as a concept has been practiced by the rural households in India wherein even the waste materials are reused for different purposes. But, it is practiced in a dormant manner. Now a time has come to popularise the concept and its use to counter the challenge. He expected that the Leadership Development Programme will sensitise the university leaders which will percolate to a massive population through cascading effect.

In her introductory address, Dr (Mrs) Pankaj Mittal, Secretary General, Association of Indian Universities highlighted the importance of Zero Waste campuses to achieve circularity. Dr Mittal observed that the universities as the centre for knowledge creation and dissemination have to play a bigger and important role in addressing the issues of linear economy through their innovative work. Structured efforts are required to minimise the industrial waste and create zero waste campuses. She concluded that the universities and the leaders have to play a key role in creating such campuses and setting examples for others.

Prof. Suranjan Das, Vice Chancellor, Jadavpur University, Kolkata and Vice President, Association of Indian Universities stated the role of university-industry partnerships to promote knowledge in core competencies of environmental education. Prof Das observed that there has been a paradigmatic shift of understanding the notion of economic growth.

He put forth three major points – inventions need to be converted into innovation, incorporation of environmental science to the mainstream curriculum as a part of broad discipline and utilising indigenous knowledge and integrating with the circular/recycle economy.

In her Keynote Address, Ms Shalini Bhalla, Managing Director, International Council for Circular Economy brought the fact to light that research and innovation at universities could help to transform invention to innovation.

Ms Kadri Kalle, Education Programme Manager, Let's Do It Foundation focussed on why circular economy is essential in higher education. She pointed out the fact that students in higher education need to be a major part of the change. She observed that we have to imagine a world where resources are valued and not lost. To create such a kind of world system thinking, a design thinking approach is required. There is a need to expand the core areas of competence i.e knowledge, attitude and skill. We must have the courage to embrace the change, redesign our teaching practices, a culture of asking questions must be encouraged, discussion and reflections with experts, and practitioners should be part of the momentum. The students must be encouraged to take up new experiments on the alternate models and new concepts.

Piotr Barczak, Senior Policy Officer for Waste and Circular Economy, European Environmental Bureau discussed the overview of the 2020 Circular Economy Action Plan.

Mr Pooran Chandra Pandey, Climate Scorecard US, emphasized on the role of planning and execution for the Universities to take lead in implementing new age skills. Dr Pandey emphasised on the ecosystem of Circular economy. He explained that the living context of people varies. Use and consumption of natural resources largely depends on the local availability. Unless people are made aware about the availability of natural resources and their use, the concept of circular economy cannot be a success.

The programme engaged participants through several case studies in fostering research, innovation and entrepreneurship as well as the global practices to deploy in their curricula.

Ms Kadri Kalle from Estonia and Mr Piotr Barzcak emphasized on the role of including circular economy in university curriculum.

The Leadership programme was a unique programme of its kind which received overwhelming participation from University leaders who discussed expanding the faculty roles in the latest concepts, research and publication of academic journals in Circular Economy. The programme was much appreciated by the Heads of Universities/Institutions.

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THESES OF THE MONTH

SOCIAL SCIENCES
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of August-September, 2021)

Business Administration

1. Madhusudan, K S. **Study on factors affecting stress among engineering students and preference of students towards innovative interventions**. Department of Business Administration, Hindustan Institute of Technology & Science, Chennai.

2. Mishra, Sumit. **Dimensions of automation deployment in business process management industry in India**. Department of Business Administration, Hindustan Institute of Technology & Science, Chennai.

3. Sha, S Nazim. **Influence of cartoon characters advertisement among children towards parents buying decision**. Department of Business Administration, Hindustan Institute of Technology & Science, Chennai.

Commerce

1. Agrawal, Sonu. **Contribution and its impact of e-banking system in development of retail business: With special reference to Indore**. (Dr. R.K. Bakliwal), Department of Commerce, Vikram University, Ujjain.

2. Altamash, Muneeruddin Shamsuddin. **Prime Minister's employment generation programme in Maharashtra State: A study of selected Districts in Marathwada Region**. (Dr. Khandare D M), Department of Commerce & Management, Swami Ramanand Teerth Marathwada University, Nanded.

3. Dawane, Sudarshan Kishanrao. **A study of financial management of non-government organisation's in Nanded District**. (Dr. Khandare D M), Department of Commerce & Management, Swami Ramanand Teerth Marathwada University, Nanded.

4. Dwivedi, Atul Kumar. **Gramin sakh srijan mein Allahabad U P Gramin Bank kee bhumika: Banda Janpad ke vishesh paripreksheу mein**. Department of Commerce, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

5. Gyana, Wangda Gyatso. **Promotion and development of tourism in Arunachal Pradesh: A marketing approach**. (Prof. R C Parida), Department of Commerce & Management Studies, Rajiv Gandhi University, Itanagar.

6. Manpreet Kaur. **Impact of macroeconomic variables of Indian stock market**. (Dr. Rubeena Bajwa), Department of Commerce & Management, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

7. Pawar, Jyoti Nitin. **A study of microfinance offered by State Bank of India with special reference to minority women entrepreneurs through MAVIM in Mumbai Region**. (Dr. Dipti Deshpande), Department of Commerce & Management, S.N.D.T. Women's University, Mumbai.

8. Pereira, Nicole Alban Silve. **A study of retail investors behaviour towards equity investment in stock market: A case study of Mumbai Region**. (Dr. V K Bhosle), Department of Commerce, Swami Ramanand Teerth Marathwada University, Nanded.

Economics

1. Tank, Soniya Vrajlal. **Role of District cooperative banks in economic development at the district level: A comparative study of performance of District Cooperative Banks of Junagadh and Rajkot**. (Dr. R K Varotariya), Department of Economics, Saurashtra University, Rajkot.

2. Ahirwar, Moti Lal. **Garibi unmulan mein Mahatma Gandhi Rashtriya Gramin Rozgar Guarantee Yojna ka mulyankan**. Department of Economics, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Ahirwar, Sita Ram. **Krishi Vitt mein Bhartiye State Bank kee nishpadit evam gair nishpadit sampatiyaon ka vishleshan: Sagar sambhag ke vishesh sandarbh mein**. Department of Economics, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

4. Apum, Apilang. **Child labour in Arunachal Pradesh: An economic analysis**. (Prof. Vandana Upadhyay), Department of Economics, Rajiv Gandhi University, Itanagar.

5. Jadhav, Pratibha Jaywant. **Dr Babasaheb Ambedkar yanchya istriyancha arthik sablikarnasandarbhateel karyacha abhyas**. (Dr. Kisan Ingole), Department of Economics, S.N.D.T. Women's University, Mumbai.

6. Muwel, Jagdish. **Madhya Pradesh mein mahila vikas: Ek arthik vishleshan (Dhar Jile kee shiksha tatha swasthya yojnaoan ke vishesh sandarbh mein)**. (Dr. M L Patidar), Department of Economics, Vikram University, Ujjain.

7. Singh, Purushottam. **A study on impact of corporate social responsibilities in Birla Corporation Ltd Satna**. Department of Rural Management, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

8. Veerinder Kaur. **An analysis of household expenditure on education in Punjab**. (Dr. Sumit Kumar), Department of Economics, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

9. Verma, Bane Singh. **Asangathit kshetra mein anusuchit jati evam anusuchit janjati kee kamgar mahilaoan ka arthik adhyayan: M.P. ke Rajgarh Jile ke vishesh sandarbh mein**. (Dr. Prakash Chandra Ranka), Department of Economics, Vikram University, Ujjain.

Education

1. Awasthi, Susheel Kumar. **Aarakshit evam anarakshit varg ke bhavi shikshakoan kee shikshan vyavsaye ke prati abhivriti evam unke mulyoan ka adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

2. Chaurasia, Bharti. **Prabandh shiksha mein adhyayanrat shehari evam gramin vidhyarthiyoan kee samvegnatamak budhi evam samayojan ka adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Lakhera, Ashok Kumar. **Shiksha snatak pathyekaram mein samaveshi shiksha kee kriyanviti mein aane wali badhaye evam unka upcharatamak adhyayan**. (Prof. B L Jain), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

4. Navale, Kalpana. **Shikshan Hakk kayadyayancha ambalbajavnichi sadyiisthithi: Ek abhyas**. (Dr. Madhura Kesarkar), Department of Education, S.N.D.T. Women's University, Mumbai.

5. Patel, Yashwant Singh. **Swatantre Bharat mein istri shiksha ke vikas hetu shaskiye va ashaskiye istar par kiye gaye paryasoan ka vishleshnatamak adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

6. Pratap, Ravindra. **Bodh darshan mein nihit shaikshik, sanskritik tatha manviye mulyoan tatha vicharoan kee samayik prasangikta ka adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

7. Priyadarshini, Pallavi. **Educational status and violence on women: An exploratory study of Gaya, Bihar**. (Dr. Chittibabu Putcha), Department of Adult Education, Dr Harisingh Gour Vishwavidyalaya, Sagar.

8. Rajkamal, A. **Effectiveness of counseling on emotional intelligence, self confidence and academic achievement of low achievers from class VII in Kanchipuram District**. (Dr. N. Prema), Department of Education, SRM University, Kattankulathur, Chennai.

9. Rakesh Kumar. **Gramin khetre mein BPL varg ke pratibhashali evam samanye vidhyarthiyaon kee shaikshik evam samajik samasyaoan ka adhyayan**. (Dr. Abha Singh), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

10. Saini, Manish. **Jaipur evam Sawai Madhopur Jile mein balsharam unmulan hetu karyerat sansthaoan ke shaikshik karyekramoan kee prabhavsheelta ka adhyayan**. (Prof. B L Jain), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

11. Shukla, Ashka Ashokbhai. **English language proficiency of secondary students teachers**. (Prof. Ajitsinh P Rana), Department of Education, Dr Babasaheb Ambedkar Open University, Ahmedabad.

12. Singhaniya, Vinit Ratnabhai. **Implementation of the consequential order 2012 of the RTE Act 2009**. (Prof.Ajitsinh P Rana), Department of Education, Dr Babasaheb Ambedkar Open University, Ahmedabad.

13. Swami, Anjil. **Study of relationship of teacher effectiveness with self efficacy and leadership qualities of teachers of senior secondary schools of teachers of senior secondary schools**. (Dr. Ritu Bala), Department of Education, Tantia University, Sri Ganganagar.

14. Urmila. **Surya namaskaar ka B.ed prashikshnarthiyaon ke vyaktitav par padne wale prabhavaon ka adhyayan: Alwar Jile ke pariprekshey mein**. (Prof. B L Jain), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

15. Verma, Kirtibala. **Madhyamik istar ke vidyalyoan mein apvyaye va avrodhan kee samsayaoan tatha unke nirakaran hetu apnaye gaye paryasoan ka adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

16. Wadke, Chitra. **Effectiveness of task based approach in mLearning**. (Dr. Jayashree Shinde),

Faculty of Interdisciplinary Studies, S.N.D.T. Women's University, Mumbai.

17. Yadav, Durgesh Singh. **Gair sarkari vidhyalyoan mein Shiksha ke Adhikar Adhiniyam (2009) kee jagrukta kriyanwayan va samasyaoan ka adhyayan**. Department of Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

Home Science

1. Shukla, Khushboo. **Skill development and its impact on women empowerment of District Sultanpur (U P)**. Department of Home Science, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

2. Tiwari, Bandana. **Janpad-Chitrakoot ke gramin kshetroan kee purve kishoravastha kee balikaoan kee aahar ke prati udasinta aur vyavhar ka adhyayan**. Department of Home Science, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Tripathi, Swapna. **To study the role of women in farm and family decision making process in Raibareli District of Uttar Pradesh**. Department of Home Science, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

Journalism & Mass Communication

1. Mishra, Umapati. **Bharat mein media achar sahitaoan ke pramukh ghatak evam chunotiyoan ka adhyayan evam aadarsh achar sahita ka prastav**. (Dr. Avinash Bajpai), Department of Journalism, Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal.

Law

1. Anil Kumar. **Legal framework on e-waste management: A critical analysis**. (Dr. Anis Ahmad), Department of Law, Babasaheb Bhim Rao Ambedkar University, Lucknow.

2. Mishra, Arun Kumar. **A study on judicial trends in privacy law with special reference to data protection**. (Prof. Priti Saxena), Department of Law, Babasaheb Bhim Rao Ambedkar University, Lucknow.

3. Parineet Kaur. **A critical study of copyright and competition law challenges in the Indian entertainment industry**. (Dr. A P singh), Department of Law, Dr Ram Manohar Lohiya National Law University, Lucknow.

Library & Information Science

1. Jadhav, Anil Venkatrao. **Collection development policy for e-resources in the University libraries of Western India**. (Dr. Kulkarni J N), Department of Library and Information Science, Swami Ramanand Teerth Marathwada University, Nanded.

Management

1. Arora, Shilpa. **Role of technology: A comparative study of public and private banks**. (Dr. Priyanka Singh), Faculty of Management Studies, Manav Rachna International Institute of Research and Studies, Faridabad.

2. Bhatt, Swati. **Sustainability of corporate social responsibility in India: A comparative study of public and private enterprises**. (Dr. Sharat Sharma), Department of Management Studies, SRM University, Kattankulathur, Chennai.

3. Gupta, Arpan Kumar. **Convergence of Indian accounting standards with IFRS by Indian companies**. Department of Management, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

4. Joshi, Madhur. **Corporate reporting and financial performance of selected Indian companies: A critical appraisal**. (Dr. B S Bhatia and Dr. Monika Aggarwal), Department of Commerce & Management, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

5. Louis Babu, A. **Impact of work culture on employee engagement: A study on the manufacturing industries in Chennai**. (Dr. A Chandra Mohan), Department of Management Studies, SRM University, Kattankulathur, Chennai.

6. Megavannan. **An empirical study on consumers' buying behaviour of green products**. (Dr. C. Praseeda), Department of Management Studies, SRM University, Kattankulathur, Chennai.

7. Mohana Sundari, V. **A study on moderating role of emotional intelligence on students employability**. (Dr. C. Praseeda), Department of Management Studies, SRM University, Kattankulathur, Chennai.

8. Priya, K. **Influence of selected macroeconomic variables on the stock market index and volatility due to global financial crisis: An evidence from BRICS and developed countries**. (Dr. T. Ramachandran), Department of Management Studies, SRM University, Kattankulathur, Chennai.

9. Radhaakrishnan, V R. **Impact of microfinance on women empowerment through self help group in Kancheepuram District, Tamil Nadu, India.** (Dr. Shenbagaraman), Department of Management Studies, SRM University, Kattankulathur, Chennai.

10. Ramandeep Kaur. **Performance analysis of momentum and contrarian investment strategies in**

India. (Dr. Rubeena Bajwa), Department of Commerce & Management, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

11. Shahi, Archana. **A study on determinants of capital structure of Indian corporate sector: Impact of global financial crisis**. (Dr. R K Sharma), Department of Management, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

12. Shukla, Sadhana. **Micro finance institutions in India with special reference to Satna District**. Department of Business Management, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

13. Sikivahan, N B. **Role of SHGS in women empowerment: A study in Tiruvannamalai District**. (Dr. V. M. Ponniah), Department of Management Studies, SRM University, Kattankulathur, Chennai.

14. Soni, Sugandha. **Impact of e-commerce on women entrepreneurship: A study in Indian context with reference to Jammu**. (Dr. Ritwik Sahai Bisariya), Department of Management, Rama University, Kanpur.

15. Srivastava, Ishu. **Customer expectation, service quality and satisfaction measurement of banking institution: A comparative study of Kashi Gomti Bank and State Bank of India: With special reference to Jaunpur Distt**. Department of Management, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

16. Varghese, Fr Shibu. **Holistic education: A Gandhian perspective**. (Dr. V T Vasagan), Department of Management Studies, ICFAI University, Nagaland.

17. Victor, Wilson. **Development of a framework for the enhanced revenue collection of health insurance levies in Ghana**. (Dr. K M Sharath Kumar and Dr. N Suresh), Department of Management Studies, M S Ramaiah University of Applied Sciences, Bangalore.

18. Vishwakarma, Shiv Shanker. **Role of Information Technology in financial inclusion in Madhya Pradesh**. Department of Management, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

Physical Education & Sports

1. Ali, Hamid. **Mahavidyalayeen pradhyapakoan evam shikshnetar karamcharioan ka sharirik shiksha evam krida ke prati drishtikon ka tulnatamak adhyayan: Rewa Sambhag ke vishesh sandarbh mein**. Department of Physical Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

2. Baljeet Singh. **A study of bowling skill enhancement of District level cricketer of Rajasthan with planned training**. (Dr. B K Choudhary), Department of Physical Education, Tantia University, Sri Ganganagar.

3. Bhadu, Suman. **A study of ability in sprint races of junior boys and girls of Bikaner Region**. (Dr. Surjeet Singh Kaswan), Department of Physical Education, Tantia University, Sri Ganganagar.

4. Harpreet Kaur. **Contribution of S Baldev Singh Dronacharya awardee in field hockey: A case study**. (Dr. Kanwaljeet Singh and Dr. Anu Sharma), Department of Physical Education, Yoga and Sports, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

5. Mishra, Sangeetika. **An empirical study on low popularity of indoor games in Bhopal**. Department of Physical Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

6. Mishra, Satyanarayan. **Concept of Kundalini in hathayogic texts: A psychophysical analysis**. (Dr. Subash Chandra Dash), P G Department of Sanskrit, Utkal University of Culture, Bhubaneswar.

7. Narware, Anusaya. **Maharishi Patanjali aur Swami Ramakrishna Paramahamsa kee sadhna padhati ka tulnatamak adhyayan**. Department of Yoga, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

8. Pandey, Alok Kumar. **Kishoroan ke atamwishvas, samvegik budhi evam swayetshasi karyoan par yog evam prekshadhyayan ke prabhav ka vishleshnatamak adhyayan**. (Dr. Vivek Maheshwari), Department of Yoga and Science of Living, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

9. Santhosh Nathan, K P. **Effect of Tabata training with and without yogic practices on selected physical fitness physiological and psychological variables among engineering college men students**. (Dr. R. Mohanakrishnan), Department of Physical Education, SRM University, Kattankulathur, Chennai.

10. Saran, K S. **Isolated and combined effect of plyometric training and weight training on selected physical fitness, physiological, haematological and skill variables among football players**. (Dr. K. Vaithianathan), Department of Physical Education, SRM University, Kattankulathur, Chennai.

11. Shrivastava, Bramhesh. **Effect of yogic practices on emotional social intelligence of tribal and non tribal volleyball players**. Department of Physical Education, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

12. Vairagi, Rajesh. **Avsad grast rogioan ke samayojan par yog evam prekshaadhyayan ka**

prabhav. (Prof. Samani Malli Prajna), Department of Yoga and Science of Living, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

13. Yadav, Ashok Kumar. **The impact of standardized yoga protocol supplementation on cognitive function among Indian patients with schizophrenia**. Department of Yoga, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

Political Science

1. Fatehpuria, Kiran. **Bhartiye videsh niti ke badalte aayam: Rashtriye hit banam vishav shanti**. (Dr. Samani Rohini Prajna), Department of Non Violence and Peace, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

2. Harijan, Durga Prasad. **Dalitoan ke rajnitik chetna ke unyaan mein jansanchar madhyamoan kee bhumika ka ek adhyayan: Satna Jile ke Raghurajnagar Tehseel ke sandarbh mein**. Department of Political Science, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Jain, Shailee. **Study on various dimensions of value-based human resource management**. (Dr. Jugal Kishore Dadhich), Department of Non Violence and Peace, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

4. Megha Kumari. **Rajyapal samkaleen vivad: Arunachal Pradesh evam Uttarakhand ke pariprekshey mein**. (Dr. Usha Mishra), Department of Political Science, T M Bhagalpur University, Bhagalpur.

5. Pal, Anushuya. **Development policies in the social sector and the state party led coalition governments: A study of two States of Odisha and Bihar (2000-2010)**. (Prof. A K Jana), Department of Political Science, University of North Bengal, Darjeeling.

6. Rashid, Syed Rabbani. **Maharashtrachya Rajkarnawar Maratha seva sanghacha padlela prabhav: Vishesh sandarbh-1990-2015**. (Dr. Chavan P A), Department of Political Science, Swami Ramanand Teerth Marathwada University, Nanded.

7. Vishwanath, Popalwar Sangita. **Naded Jilhyateel mahilateel samajik-arthik jagriti swayam -sahayeta mahila bachat gatancha vishesh abhyas**. (Dr. Kadam Kalpana), Department of Political Science, Swami Ramanand Teerth Marathwada University, Nanded.

Social Work

1. Bhartiya, Abhaykumar Vijaykumar. **Social and cultural determinants of child health and infant mortality: A cross sectional study in Hingoli District**. (Dr. Mujawar W R), Department of Social Work, Swami Ramanand Teerth Marathwada University, Nanded.

2. Gupta, Deepika. **Mahila shramikoan kee samajik, arthik evam rajnaitik isthithi, samajik suraksha evam kalyan suvidhaye: Hira Khadane Jila-Panna ke vishesh sandarbh mein**. Department of Social Work, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Gupta, Priyanka. **Mahilaoan ke badalte pratirup: Ek samikshatamak adhyayan: Mahoba Jile ke vishesh sandarbh mein**. Department of Social Work, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

4. Namdev, Pawan. **Krishak parivaroan ke yuvaoan par uchh shiksha ke prabhavoan ka vishleshnatamak adhyayan**. Department of Social Work, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

5. Srivastava, Shashi Kant. **Professional social workers in hospital setting: Scope, role preception and role performance: Study in the city of Lucknow**. (Dr. Bijendr Pradhan), Department of Social Work, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

6. Tandiya, Vineet. **A study on the psycho-social condition of TB patients and social work intervention: With reference to Dindori District M P**. Department of Social Work, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

Sociology

1. Kushwaha, Jitendra Kumar. **Janjatiyoan ka samajik evam arthik vikas: Ek samaj vaigyanik adhyayan: Satna Jile ke Kol Janjati ke vishesh sandarbh mein**. Department of Sociology, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

2. Narayan, Samir. **Mahila sashaktikaran mein uchh shiksha kee bhumika (Karyojit mahilaoan ke vishesh sandarbh mein) Ek samajshastriye adhyayn**. Department of Sociology, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, District Satna.

3. Patil, Dhananjay Raosaheb. **Marathwadyateel aidsachey samajshastriye adhyayan**. (Dr. Wagh R B), Department of Sociology, Swami Ramanand Teerth Marathwada University, Nanded.

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विद्याधनं सर्वधन प्रधानम्

INDIAN INSTITUTE OF TECHNOLOGY JAMMU

Advt. No. IIT Jammu/01/2021 (Direct Rectt.)

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ONLINE Applications are invited from Indian Nationals for filling up various non-faculty positions at IIT Jammu. For further details / information regarding qualification, experience, general instructions and submission of online application etc., **please visit Institute website https://iitjammu.ac.in.** Last date for submission of applications through online mode is **26 Nov 2021 upto 5:00 p.m.**

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Dated: Oct 2021

GUJARAT TECHNOLOGICAL UNIVERSITY

(Established under Gujarat Act No. 20 of 2007)
Chandkheda, Ahmedabad - 382 424, Gujarat

EMPLOYMENT NOTICE

Advertisement No. 16/2021 Date: 13-10-2021

Fresh on-line Applications are invited for the 11 months purely on Contractual and temporary basis recruitment in following posts of Professor, Associate Professor, Assistant Professor, Laboratory Assistant, Laboratory Technician, Store Keeper, Store Purchase Assistant, Computer Programmer, Lab Instructor, Project Manager, Library Assistant, Administrative Assistant etc. at GTU and its constitute college between date **16/10/2021** from 13:00 hours to **08/11/2021**. Last date for submitting the print out of an online application along with all the requisite documents is **16/11/2021** *(upto 17:00 hours)*.

Candidate should apply in separate application for each advertisement. The general category candidates are required to pay fee of ₹500/- through net banking whereas the candidates belonging to EWS, S&EBC/SC/ST/PD are required to pay fee of ₹250/-.

Candidates are advised to see the details of advertisement before applying online.

Place: Ahmedabad
Date: 13/10/2021

Sd/
Registrar

ST. THOMAS COLLEGE, PALAI

Arunapuram P.O., Palai, Kerala-686 574
Ph: 04822-212317, 212316
Website : www.stcp.ac.in, Email: principal.stc@gmail.com

ASSISTANT PROFESSOR VACANCIES

English : 3	Physics : 4	Zoology : 1
Statistics : 1	Botany : 1	Commerce : 1
	History : 4	

General and PwBD candidates who seek to avail the benefit of reservation may not apply for subjects with only one vacancy since those posts are reserved for the Syrian Catholic (Syro-Malabar Catholic) community. One post each is reserved for the said community in the other three subjects. Out of the remaining eight, one vacancy is reserved for Persons with Benchmark Disabilities in accordance with Clause 34 of the Rights of Persons with Disabilities Act, 2016.

Age, qualifications and nature of appointment shall be as per UGC/Government of Kerala/Mahatma Gandhi University norms that are in consonance with the educational rights of minorities guaranteed by the Constitution of India. The application form and other details can be obtained from the college office or downloaded from the college website. Duly filled in application forms and copies of all required documents along with an application fee of Rs. 1000/- by cash or a D.D. for Rs. 1050/- drawn in favour of the Principal, St. Thomas College, Palai payable at Palai, may be submitted to the college office during working hours either by hand or by post on or before the **30th day** from the date of this notification.

Those who have applied in response to our earlier advertisements in the years 2017 and 2019 for the posts of Assistant Professor in English, Physics, Botany, History, Zoology and Commerce need not apply again. In case they have earned additional qualifications or awards, they may submit copies of supporting documents without extra payment. Those who have applied for posts in Malayalam, Hindi, German, Economics, Political Science, Mathematics and Chemistry and those General candidates who have applied for the posts in Commerce and Botany may claim refund of their application fees by contacting the office within one month. Provisions herein contained shall prevail over those in previous notifications.

Palai, 21/10/2021

(Sd/-) Manager

ATTENTION ADVERTISERS

Advertisers are requested to send their text matter at following Email IDs:

1. advtun@aiu.ac.in

2. publicationsales@aiu.ac.in

Text matter may be sent in MS-Word document file OR in PDF file in original (as per Mechanical Data/Size of the Advertisement).

All the correspondence may be addressed to the **Under Secretary (Publication & Sales),** Association of Indian Universities, AIU House, 16 Comrade Indrajeet Gupta Marg, New Delhi-110002.

Mob: 09818621761

Phone Office: 91-11-23230059, Extn. 208/213.

Navgan Shikshan Sanstha

Rajuri (N.), Tq. & Dist. Beed (M.S)

WANTED

Navgan Shikshan Sanstha, Rajuri (N.), Tq. & Dist. Beed (M.S) invites applications with duly attested Xerox copies of requisite documents for its affiliated colleges, for below mentioned posts at **P.G. level within 15 days** from the date of publication of this advertisement.

Sr. No.	Name of the Subjects	Number of Vacant posts	Reservation	Status of Grant
1	Marathi	06	Unreserved- 02, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01, E.W.S.-01	Permanent Non-Grant
2	Hindi	08	Unreserved- 03, S.C.-01,S.T.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01, E.W.S.-01	
3	English	04	Unreserved- 01, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01	
4	Political Science	06	Unreserved- 02, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01, E.W.S.-01	
5	Geography	06	Unreserved- 02, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01, E.W.S.-01	
6	Home-Science	02	Unreserved- 01, S.C.-01	
7	Music	02	Unreserved- 01, S.C.-01	
8	Botany	02	Unreserved- 01, S.C.-01	
9	Zoology	02	Unreserved- 01, S.C.-01	
10	Microbiology	04	Unreserved- 01, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01	
11	Chemistry	02	Unreserved- 01, S.C.-01	
12	Computer Science	02	Unreserved- 01, S.C.-01	
13	Commerce	06	Unreserved- 02, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01, E.W.S.-01	
14	History	04	Unreserved- 01, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01	
15	Sociology	04	Unreserved- 01, S.C.-01, V.J.N.T.-S.B.C.-01, O.B.C.-01	
16	Economics	02	Unreserved- 01, S.C.-01	
17	Public-Administration	02	Unreserved- 01, S.C.-01	
18	M.M.S.	02	Unreserved- 01, S.C.-01	
19	Physical-Education	01	S.C.-01	

1. Educational qualification and other requirements will be as per norms specified by U.G.C., State Government of Maharashtra and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M. S.) from time to time.
2. Backward class candidates should send one copy of their application to Dy. Registrar, Special Cell Dept., Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.).
3. 30% posts are reserved for women, 4% posts are reserved for persons with disability. 10% posts are going to reserved for economically weaker section within unreserved posts, therefore, number of posts earmarked for unreserved category may change accordingly.
4. Percentage of marks is relaxed from 55% to 50% for S.C., S.T. & P.W.D. candidates.
5. Caste Reservation for VJ-A, NT-B, NT-C and NT-D is interchangeable.

Note: - No T.A., D.A. will be paid for attending interview.

Address for the correspondence:-

SECRETARY
Navgan Shikshan Sanstha,
C/O S.K.H. Medical College Campsus,
Navgan College Road,
Shivajinagar, Beed 431122

SECRETARY
Navgan Shikshan Sanstha, Rajuri (N.),
Tq. & Dist. Beed 431122

विद्या अनंतम्

GOKUL GLOBAL UNIVERSITY

SIDDHPUR, DIST. PATAN, GUJARAT

RECRUITMENT NOTICE

Applications are invited from prospective & eligible candidates for Teaching & Non-Teaching positions in the following faculties of the Gokul Global University :-

Faculty of Law | Faculty of Science | Faculty of Engineering (Diploma & Degree) | Faculty of Computer Science and Applications | Faculty of Arts, Humanities and Social Science | Faculty of Paramedical (Physiotherapy) | Faculty of Nursing | Faculty of Ayurveda | Faculty of Commerce & Management

:: TEACHING STAFF ::

Dean, Principal, Professor, Associate Professor, Assistant Professor, Lecturer, Teaching Assistant, Research Assistant, Tutor, Instructor.

:: NON-TEACHING STAFF ::

Controller of Examinations, Director (Research), Electrician, Junior Engineer (Civil/Electric), Lab Assistant, Project Officer, Public Relation Officer, Purchase & Store Officer, Senior Manager (International Admission), Training & Placement Officer, Librarian, Marketing Executive.

- Candidate Interested to apply for other administrative positions can also submit their resume.
- Qualifications and salary as per UGC and respective Council norms.
- Applications will have to be submitted through online **https://gokuluniversity.ac.in/home/job_applied within 15 days** from the date of publication of this advertisement.

Place : Siddhpur, Gujarat
Date : 08-10-2021

Registrar

GUJARAT TECHNOLOGICAL UNIVERSITY

Chandkheda,
Ahmedabad-382424, Gujarat.

Phone: 079-23267521/70

POST-DOCTORAL FELLOWSHIP (PDF) ADMISSION (2021-22)

GTU invites Offline applications from eligible candidates for Post-Doctoral Fellowship as follows;

School	Specialization	No. of Post
Graduate School of Engineering & Technology	Image Processing & Network Security	02
	Wireless Communication, Data Communication, Micro Electronics	02
	Wireless Communication, Image & Speech Processing, Networking	02
	Antenna Engineering, RF & Microwave Engineering, Wireless Communication, Internet of Things, Machine Learning, 5G Technology	02
Graduate School of Pharmacy	Herbal Drug Standardization, Formulation & Development of Phyto Medicine & Its Determination of Various Bio Activities from Medicinal Plants	01
	Pharmaceutical Chemistry	02
	Pharmaceutics	02
	Pharmaceutical Drug Development & Delivery	02
	Pharmaceutical Quality Assurance & Pharmaceutical Analysis	02
Graduate School of Management Studies	Finance & General Management	02
	Behavioural Finance	02
	Marketing	02
School of Applied Sciences & Technology	Biotechnology	02

**PDF candidate will be paid a fellowship amount of INR 40,000 per month and a contingency amount of INR 50,000/- per annum.*

For details, please visit Guidelines for Post-Doctoral Fellowship dated 21/08/2021. Offline application format can be downloaded from **https://www.gtu.ac.in/Circular.aspx** dated 21/08/2021.

Last date for accepting hard copy application along with requisite documents at University office is 10/11/2021.

Place: Ahmedabad
Date: 12-10-2021

Sd/
Registrar

Matushri Kanbai Lalbai & Motibai Lohana Kanyashala & Balikagruh's

ADHIA COLLEGE OF LAW

N.S. Road No.6, J.V.P.D. Scheme, Vile Parle (W), Mumbai-400056

MINORITY

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS FROM THE ACADEMIC YEAR 2021-2022

UN-AIDED

Sr. No	Cadre	Subject/Course	Total No. of Posts	Category
1	Principal	–	01	01-OPEN
2	Assistant Professor	Law	03	03-OPEN

The above posts are open to all, however, candidates from any category can apply for the post.

Reservation for women will be as per **University Circular No. BCC/16/74/1998 dated 10th March, 1998. 4% reservation shall be for the persons with disability as per University Circular No. Special Cell/ICC/2019-20/05 dated 05th July, 2019.**

Candidates having knowledge of Marathi will be preferred.

"Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No. Misc-2018/C. R.56/18/UNI-1 dated 8th March, 2019 and University Circular No. TAAS/(CT)/ICD/2018-19/1241 dated 26th March, 2019 and revised from time to time".

The Government Resolution & Circular are available on the website: mu.ac.in.

Applicants who are already employed must send their application through proper channel. Applicants is required to account for breaks, if any, in their academic career.

Application with full details should reach the **CHAIRMAN, MKLM's Adhia College of Law, N S Road No 6, JVPD Scheme, Vile Parle(W), Mumbai-400056 within 15 days** from the date of publication of this advertisement.

This is University approved advertisement.

Sd/-
Chairman

Matushri Kanbai Lalbai & Motibai Lohana Kanyashala & Balikagruh's

B.L. AMLANI COLLEGE OF COMMERCE & ECONOMICS

AND M.R. NATHWANI COLLEGE OF ARTS

N.S. Road No.6, (Next to Jamnabai School Gate No. 4),

J.V.P.D. Scheme, Vile Parle (W), Mumbai-400056

MINORITY

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS FROM THE ACADEMIC YEAR 2021-2022

UN-AIDED

Sr. No.	Cadre	Subject/Course	Total No. of Posts	Category
1	Principal	—	01	01-OPEN
2	Assistant Professor	Economics	01	01-OPEN
3	Assistant Professor	Accountancy	01	04-OPEN
4	Assistant Professor	Sociology	01	01-OPEN
5	Assistant Professor	Commerce	01	01-OPEN
6	Assistant Professor	Mass Media	01	01-OPEN

The above posts are open to all, however, candidates from any category can apply for the post.

Reservation for women will be as per **University Circular No. Bcc/16/74/1998 dated 10th March, 1998. 4% reservation shall be for the persons with disability as per University Circular No. Special Cell/ICC/2019-20/05 dated 05th July, 2019.**

Candidates having knowledge of Marathi will be preferred.

"Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No. Misc-2018/C.R.56/18/UNI-1 dated 8th March, 2019 and University Circular No. TAAS/(CT)/ICD/2018-19/1241 dated 26th March, 2019 and revised from time to time".

The Government Resolution & Circular are available on the website: mu.ac.in.

Applicants who are already employed must send their application through proper channel. Applicants is required to account for breaks, if any, in their academic career.

Application with full details should reach the **CHAIRMAN, MKLM's B.L. Amlani College of Commerce & Economics and M.R. Nathwani College of Arts, N S Road No 6, JVPD Scheme, Vile Parle (W), Mumbai-400056 within 15 days** from the date of publication of this advertisement.

This is University approved advertisement.

Sd/-

Chairman

AGNEL INSTITUTE OF TECHNOLOGY & DESIGN

ASSAGAO, BARDEZ, GOA

Tel: 9975797916

E-mail: careers.agnel@gmail.com

Applications are invited for the position of PRINCIPAL at Agnel Institute of Technology & Design (AITD), Assagao, Bardez, Goa

Pay Scale	Qualifications	Experience and other requirements
Rs. 37400 - 67000 + AGP 10000 Higher start can be considered for deserving candidates.	BE/BTech and ME/MTech in relevant branch with First Class or equivalent either in BE/BTech or ME/MTech. PhD or equivalent, in appropriate discipline. Post PhD publications and guiding PhD students is highly desirable.	Minimum of 10 years experience in teaching/Research / Industry out of which at least 3 years shall be at the level of Professor. OR Minimum of 13 years experience in teaching and/ or Research and/or Industry. In case of research experience, good academic record and books/research paper publications/IPR/patents record shall be required as deemed fit by expert members of Selection Committee. If experience in industry is considered, the same shall be at managerial level equivalent to Professor level with active participation record in devising/designing, developing, planning, executing, analyzing, quality control, innovating, training, technical books / research paper publications / IPR / patents, etc. as deemed fit by expert members of Selection Committee. Flair for Management and Leadership is essential.

ESSENTIAL REQUIREMENTS

- **15 years Residence / Domicile Certificate in Goa issued by the competent authority (Office of Mamlatdar)**
- **Knowledge of Konkani**

Application form must be accompanied by duly-filled PBAS proforma for calculating API scores for Category III - Research and Academic Contributions (refer to www.aicte-india.org).

Interested candidates are required to apply on the "**APPLICATION FOR POSITION OF PRINCIPAL**" link on **www.aitdgoa.edu.in within fourteen days** from the date of publication of this advertisement.

Fr. Agnelo Gomes

Director

Saket Gyanpeet's

SAKET COLLEGE OF EDUCATION (B.Ed.)

Saket Vidyanagari Marg, Chinchpada Road, Katemanivali, Kalyan (E) – 421 306, Dist. Thane

(Affiliated to University of Mumbai) (Hindi Linguistic Minority Institution)

APPLICATIONS ARE INVITED FOR THE FOLLOWING POSTS
FROM THE ACADEMIC YEAR 2021-22

UNAIDED

Sr. No.	Cadre	Subject	Total No. of Posts	Post Reserved for
1.	**Principal**	—	01	01–OPEN
2.	**Assistant Professor**	Perspectives in Education	04	04–OPEN
		Pedagogy subjects, (Mathematics, Science, Social Science, Language)	08	08–OPEN
		Health and Physical Education	01	01–OPEN
		Fine Arts	01	01–OPEN
		Performing Arts (Music/Dance/Theater)	01	01–OPEN
3.	**Librarian**	—	01	01–OPEN

The above post are open to all, however, candidates from any category can apply for the post.

Reservation for women will be as per **University Circular No. BCC/16/74/1988 dated 10th March 1998. 4% reservation shall be for the persons with disability as per University Circular No Special Call/ICC/2019-20/05 dated 05th July, 2019.**

Candidates having knowledge of Marathi will be preferred.

"Qualification, Pay Scales and other requirement are as prescribed by the UGC Notification dated 18th July, 2018, Government of Maharashtra Resolution No Misc-2018/C.R.56/18/UNI-1 dated 8th March 2019 and University Circular No TAAS/(CT)/ICD/2018-19/1241 dated 26th March, 2019 and revised from time to time".

The Government Resolution & Circular are available on the website: mu.ac.in.

Applicants who are already employed must send their application through proper channel. Applicants are required to account for breaks, if any, in their academic career.

Application with full details should reach the **SECRETARY, Saket Gyanpeeth's SAKET COLLEGE OF EDUCATION (B.Ed.), Saket Vidyanagari Marg, Chinchpada Road, Katemanivali, Kalyan (E)-421306, Dist. Thane within 15 days** from the date of publication of this advertisement. **This is University approved advertisement.**

Sd/-
SECRETARY

ATTENTION : SUBSCRIBERS UNIVERSITY NEWS

The NEW RATES of Subscriptions effective April 01, 2020 shall be as per following:

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7	Contact No. & E-mail ID	(011) 23230059 Extn. 208/213 (M) 09818621761

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For further information/enquiries, ***send Mail at : subsun@aiu.ac.in / publicationsales@aiu.ac.in***

Website : ***https://www.aiu.ac.in***

Announcement

The **Special Number of the University News** on **'Realising Sustainable Development Goals through Higher Education Institutions'** is being brought out on various themes. The **Special Issue** will cover articles of eminent educationists and policy makers. Readers of the University News are also invited to contribute to the Special Number by submitting papers/articles on above theme by **November 15, 2021**. The papers will be published in the Issue subject to the approval of the Editorial Committee of the University News. The Issue shall contain papers on Sustainable Development Goals on the following Subthemes:

A. ***Implementation of SDGs in India: Status, Scope and Future Action.***

B. ***Strategies and Approaches in Teaching-Learning to Realize SDGs.***

C. ***Realising SDGs through Research and Innovation: Strategies and Approaches.***

D. ***Engagement of Universities with Society to Realise SDGs.***

E. ***Creating Policies and Roadmap for Realizing SDGS through Indian Higher Education.***

F. ***Individual Article on each of the 17 SDGs.***

Guidelines for Contributors

Articles submitted for the Journal should be original contributions and should not be under consideration for any other publication at the same time. A declaration is to be made by the author in the covering letter that the paper is original and has not been published or submitted for publication elsewhere.

Manuscripts including tables, figures and references should be around 3000-4000 words for articles, 2000 – 5000 words for Convocation Addresses, 1000 words for Book Reviews and 600 words for Communications. All the manuscripts should typed in double-space with 12 point font and ample margin on all sides on A 4 size paper.

The cover page should contain the title of the paper, author's name, designation, official address, address for correspondence, contact numbers and e-mail address.

The main text should not contain footnotes. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. The full reference should be listed at the end in alphabetical order running the following style:

Books

- Miles, M., and Huberman, M., (1994). *Qualitative Data Analysis*. London: Sage.

Articles

- Over, R.(1982). Does research productivity decline with age? *Higher Education* 11: 511-20.

Chapter in a Book

- Rendel, M. (1986). How many women academics 1912-1977? In R. Deem(ed.), *Schooling for Women's Work*. London: Routledge.

Authors may send their articles addressing to the Editor through e-mail: **ramapani.universitynews@gmail.com / rama.pani2013@gmail.com with a copy to universitynews@aiu.ac.in**.

Authors are responsible for any copyright clearance, factual inaccuracies and opinion expressed in their paper.

The final decision on the acceptance or otherwise of the article rests with the Editorial Committee and it depends entirely on its standard and relevance. The article accepted may be modified to meet the journal's standards of contents, presentation and style. Authors may also be requested to revise their manuscripts before they can be accepted for publication. Correspondence in this regard will be done with the first named author unless otherwise indicated.

The Editor is free to make editorial corrections in the content as well as title of the article and change the title in accordance with the content of the article as well as the overall theme of the Issue.

Maximum time taken for processing the article is six months. Contributors are free to send the material to any other publication after a period of six months from the date of their submitting the article to the University News, if they do not receive any intimation from AIU.

Author will receive two complementary copies of the Journal immediately after its publication.

AIU may re-use the articles published in the University News for its various other publications including University News.

AIU may extend courtesy to other journals or websites to use the articles published in the University News if due credit is given to the author(s) of the article(s) and the University News.

Manuscripts be sent to: The Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002. E-mail: *ramapani.universitynews@gmail.com / universitynews@aiu.ac.in* on or before **November 15, 2021.**

Editor, University News

Announcement

Edited Volume

on

'75 Years of Higher Education in Independent India'

An Edited Volume is being brought out on the theme **'75 Years of Higher Education in Independent India'** to commemorate ***75 years of Indian Independent, Azadi Ka Amrit Mahotsav*****.** The Volume will cover articles of eminent educationists and policy makers. Readers of the University News are also invited to contribute to the Edited Volume by scholarly papers on the above theme, and below sub theme by December 15, 2021. The Volume shall contain papers on the following Subthemes:

i. *Significant Landmarks in Higher Education in Independent India.*

ii. *Higher Education Policies and their Impact.*

iii. *Democracy, Plurality, Equality and Universality of Indian Higher Education.*

iv. *Rise of Research, Innovation and Entrepreneurship in Independent India.*

v. *Student dynamics in Indian Higher Education.*

vi. *Impact of Indian Higher Education on Community.*

vii. *Functional Dimensions of Indian Higher Education: Governance, Leadership, Financing.*

viii. *Professional Education in India.*

ix. *Islands of Excellence in Indian Higher Education.*

x. *Higher Education in India: Roadmap for 75 years Ahead.*

The papers will be published in the volume subject to fulfillment of AIU Norms for publication as given in AIU Website and on the approval of the Editorial Committee. Manuscripts may be emailed to the Editor, University News, Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002. E-mail: *ramapani.universitynews@gmail.com*/*universitynews@aiu.ac.in*/*rama.pani2013@gmail.com*, Phone: 011-23235009 (6 lines), Fax: 011– 23232131 on or before ***December 15, 2021***.

EDUCATIONAL TECHNOLOGY AND MANAGEMENT ACADEMY **and** **ASSOCIATION OF INDIAN UNIVERSITIES**

Present

International Conference on Hybrid, Blended and E-Learning

3-4-5 December 2021

Association of Indian Universities (AIU) and Educational Technology and Management Academy (ETMA) are jointly organizing an Online International Conference on 'Technology Integrated Learning Focusing on Hybrid, Blended and E-Learning' during December 03-05, 2021.

The primary objective of the Conference is to create a forum for practitioners to meet the global leaders in technology-integrated education. To meet this objective, the Conference will be bringing together some of the finest experts on technology integrated education from all over the world and India at a common platform. The Conference will have four keynote sessions, two panel discussions, ten paper presentation sessions and eight workshops.

Patrons of the Conference are: Col. Dr G. Thiruvasagam, President AIU and Vice Chancellor, AMET University, Chennai; Prof Marmar Mukhopadhyay, Former Professor, NIEPA and President, ETMA; and Dr Pankaj Mittal, Secretary General, Association of Indian Universities, New Delhi.

Invited Keynote Speakers of the Conference are *Prof. Stephen Petrina*, Professor, Department of Curriculum and Pedagogy, University of British Columbia, Vancouver; *Prof. V. Chinapah,* Emeritus, Department of Education, Stockholm University, Stockholm; formerly at UNESCO Headquarters in Paris-France for 16 years; *Dr N. M. Ostashewski,* Associate Professor, Athabasca University Distance Education Program, Alberta, Canada; *Dr Libing Wang,* Chief of Educational Innovations and Skills Development and Senior Programme Specialist in Higher Education at UNESCO, Bangkok.

The Sessions will be chaired by *Dr. Pankaj Mittal,* Secretary General, Association of Indian Universities, Former Vice Chancellor, BPS Women University, Government of Haryana; *Prof Tony Bates,* Distinguished Visiting Professor, Chang School of Continuing Education, Ryerson University; *Prof Matiul Alam,* Professor of the Education, University of British Columbia, and CEO of World Education, Vancouver, Canada; *Dr Sanjaya Mishra,* Education Specialist, e-Learning, Commonwealth of Learning, Vancouver.

There will be two panel discussions – one each on ***Technology-enabled Learning Assessment and Examination Management; and Innovations*** **and** ***Research on Technology Enabled Learning*** on 5th December, 2021.

Expert panelists invited for the Session on 'Technology-Enabled Learning Assessment and Examination Management' are Dr *Vineet Joshi,* Additional Secretary, Ministry of Education, Government of India and Chairman, National Testing Agency, India; *Mr Anshul Sonak,* India Global Director, Digital Readiness Programs and Senior Director for Global AI Readiness at Intel Corporation, Singapore; *Dr Manish Gupta,* Director of Google Research India & Infosys Foundation, Chair Professor at IIIT.

Expert panelists invited for the session on 'Innovation and Research on Technology-Integrated Education' include *Dr Som Naidu*, Principal Fellow of the Higher Education Academy (PFHEA); Executive Editor, Distance Education Journal (Australia's ODLA), Former Pro-Vice Chancellor, The University of South Pacific, Fiji; *Dr Indira Koneru*, Associate Dean and Head, e-Learning Department, ICFAI Business School and Founding Director, Koneru Bhaskara Rao and Hemalata Human Development Foundation; *Prof Amarendra Behera;* Joint Director, Central Institute of Educational Technology (CIET), National Council of Educational Research and Training, New Delhi.

There will be 8 parallel workshops on the themes: Learning 321 Going forward to Normal: Education in a Different World Design Thinking Repurposing OER for Blended Learning; Virtual Reality in Education; Open Education Resources; Advanced Educational Research Methods; AI and Machine Learning. Workshops are free for all the participants. Workshops will be run parallel, participants can choose one theme, and must register in advance.

Call for Paper Presentation and Participation: The Conference invites participation and presentation of case studies, thematic and research papers on ***Technology-integrated Education, Hybrid Learning, Blended Learning, Online Education and e-Learning***.

A nominal Registration Fee of Rs.1000/- need to be paid for registration through the link *https://docs.google.com/forms/d/e/1FAIpQLSffPXeR10iGh_T83pSh0JivJvmC0kBTUIxPw7ZqChTCSUM9Q/viewform*.

For updated information, please visit: *www.aiu.ac.in* **or** *www.etma-india.in.*

For further information contact, Principal, Amitava Ghosh, Conference Secretary at a*mitavaghosh2k1@gmail.com* or Sri Chandan Sarkhel at *etma.india@gmail.com*.

or

Dr S Rama Devi Pani, Editor, University News, Association of Indian Universities, New Delhi at *ramapani.universitynews@gmail.com* or Mobile No: 09582573719

ASSOCIATION OF INDIAN UNIVERSITIES
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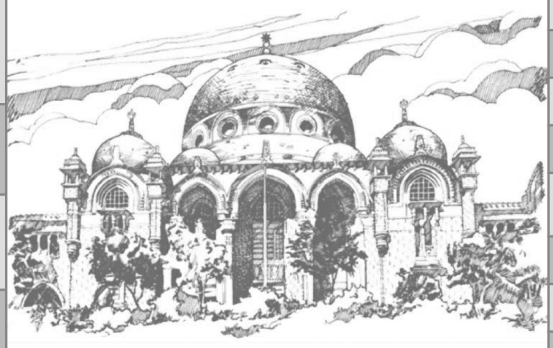

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