



Rs. 25.00  
ISSN- 0566-2257

# UNIVERSITY NEWS

*A Weekly Journal of Higher Education*

**Association of Indian Universities**

Vol. 58 • No. 15 • April 13-19, 2020

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Subscription is payable in advance by Bank  
Draft/MO only in favour of Association of  
Indian Universities, New Delhi.

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# Higher Education Institutions as Learning Institutions : A Way Forward towards Quality Assurance

G John

The term 'quality' has multiple meanings and is fluid in nature. As there are diversities in views, there will be diversities in measurement of qualities. No two educationists would concur as to its meaning and assessment. What is considered as 'quality' may mean different things to different people who therefore may demand different quality outcomes and methods of measuring the same. Taking a subjective concept called 'quality' and measuring education institutions in order to assess them is like counting the grains of sand. But there needs to be some ways and means of assessing the same so that quality is measured and assessed. The ultimate objective should be enhancement of quality which can also be achieved when HEIs become 'Learning Organisations'.

### Quality – A Subjective Construct

The term 'quality' is not only relative but also subjective in nature. Oftentimes, it is highly personal. In fact, the same person may conceptualise the concept of quality differently at different moments. What is considered as quality at a certain moment in time, need not be the same at another point of time as it has several reference points like: who decides the definition of quality; with what intention is it measured; what is the purpose of measuring it; what are the intended and unintended outcomes; what is the hidden agenda; what is the scale or instrument used; who is measuring; at what time the measurement is undertaken or data is collected; and so on. Another fact is that there are a variety of stakeholders in HEIs including students, employers, teaching and non-teaching staff, accrediting and funding agencies, and the government. Each of these stakeholders have a different view on quality, influenced by her or his own interest and personal experience in higher education. All of them will try to put their best foot forward and quantify HEIs' quality in absolute terms. Whatever be the agency, and whatever be the scale used to measure the quality, the outcome of any stock taking should be future oriented rather than finding 'what was not there'.

### The Cobra Effect – 'Pseudo Quality' Bubble

The 'cobra effect' is in its fullest manifestation in Indian Higher Education system. The cobra effect says that the results are often quite different from what is envisaged or intended. To tackle the menace of a large number of cobras roaming the city of Delhi, the then wise British Government announced monetary incentive to everyone who brought a cobra skin to the state. This worked very well and the cobra population roaming the streets of Delhi came down to a greater extent but then this gave rise to a new profession of cobra farming. Indians started breeding cobras and slaughtered them and brought the skin to

*Associate Professor, Department of Commerce, St. Joseph's College Trichy-2, TN,  
Email: johnsjctry@gmail.com Mobile: 9443637465/7373020866*

government offices to claim the prize. The frustrated government, on seeing such a practice, abruptly abandoned the scheme whereupon the disappointed cobra farmers let loose their homegrown cobras on the streets of Delhi, thus turning the solution into a problem. This is exactly the problem with the quality of HE in India.

Administrators of the Indian Higher Education System, like AICTE, UGC, NAAC, NIRF, MHRD etc, envisage to improve quality by prescribing a set of parameters known as Performance Indicators (PIs) to measure and assess HEIs, but they often become stumbling block for achieving quality as everyone tries to manipulate and create records to comply with requirements. For instance, colleges enter into clandestine agreements with hiring agencies that come for 'campus recruitment' and students are given placement offers. The college proudly prepares a list of students who got placed with various companies, and often a flux is erected with photos and other details for the consumption of general public. As per record, their placement is 'fantastic', supported by documentary evidences. After receiving placement offers, students are made to wait in 'benches' endlessly without any assurance as to when they would be placed in jobs. As the waiting time stretches into months, students usually opt out taking up some other jobs on their own or end up pursuing higher studies. Practices like these are quite rampant. If placement record is a criterion for quality, what the college has achieved is 'pseudo quality', which goes unchecked by the system. When this type of 'pseudo quality' builds up over a period, the country will be ruined and we will reach a point of no return. By the time this 'pseudo quality' bubble bursts, the damage would have already been done, as was in the case of Ramalinga Raju of Sathyam.

### **Application of Organisation Learning (OL) Theory in HEIs**

Senge, P. M. (1990) in his seminal book, *The Fifth Discipline* states that "as the world becomes more interconnected and business becomes more complex and dynamic, work must become more 'learningful' ... The ability to learn faster than your competitors may be the only sustainable competitive advantage". Educational institutions that will truly excel in the future will be those that will learn to tap its teachers' commitment and ensure the capacity to learn at all levels (teaching and non-teaching) in an institution.

'Organisational Learning' is a process of developing, retaining, and transferring knowledge within an organisation. OL occurs as a result of experience and an organisation is said to have learnt

from an experience when there is a change in the organisation's behaviour, performance or the way they have been doing things. Learning occurs when an organisation learns from its mistakes through a process of detecting and correcting errors. For this to happen, there should be a continuous interaction with fellow colleagues. Interaction depends on two sets of behaviour: the first set relates to formal rules, policies and procedures of the organisation. This is known as *Espoused theory*: the way things are ought to be done. The second one relates to how things are actually done, known as *Theory in use*. Both should be encouraged - not pitted one against another- to achieve Organisation Learning, often giving more emphasis for theory in use. The same could be applied in the context of Higher Education Institutions (HEIs).

A Learning Institution (LI) creates structures and systems where "teachers continually expand their capacity to create the results they truly desire; where new and expansive patterns of thinking are nurtured; where collective aspiration is set free; and where teachers are continually learning how to learn together. Learning Institutions are able to weave a continuous and enhanced ability to learn, adapt, and change into their culture." The whole system of Higher Education should enable and provide a conducive environment to become 'Learning Institutions'. The institutional values, rules, regulations, policies, practices, structure and support system of an educational institution should be woven with the ultimate aim of making an institution a 'Learning Institution'.

### **Units of Learning in a 'Learning Institution'**

#### ***Individual Teacher (Individual Learning)***

An individual teacher in a college learns new skills, concepts, methods and theories relating to teaching-learning-evaluation. This paves the way for keeping oneself abreast of new developments happening in the core area of one's specialisation.

#### ***Department (Group Learning)***

This is the next largest level at which learnings can occur. Group learning occurs when individuals within a department acquire, share, and combine knowledge through experience with one another. Creating an atmosphere where members of a departments work as a team paves the way for sharing of knowledge with other members.

#### ***Institution/College***

Institutional Learning occurs when a college creates and organizes for sharing of knowledge and expertise at college level. The objective of Institutional

Learning is to prepare the teachers to adapt to changing environments, to cope with uncertainties and to increase teaching-learning-evaluation efficiency. This could be used to increase the efficiency of every system and sub-system of the college.

### ***Inter-Institutional Learning***

Inter-institutional Learning takes place when different colleges form an alliance to collaborate, share knowledge and learn from each other. There are a lot of best practices unique to each institution that could be replicated by other colleges. An institution can grow and improve its system and process by integrating insights and experience from other institutions. Learning from another institution may mean either applying the same ideas used by that institution or modifying these ideas, thereby creating innovation.

### **Five Principles of Learning Institution/ Organisation (Senge, P. M. (1990))**

#### ***Lifelong Learning – Personal Mastery***

Personal mastery is process of special proficiency in one's chosen area of specialisation and this proficiency is lifelong. The focus is on practical skills and knowledge they can apply in real-world situations. Individuals must display commitment and dedication to personal goals, as well as institution's learning objectives. It is a discipline "as a series of practices and principles that must be applied to be useful". It encapsulates two main ideas: 1) continually clarifying what is important including personal vision; and 2) how to see current reality more clearly and work towards the vision.

#### ***Mental Models***

It is concerned with how we see the world, how we understand our position, and shape how we act. Teachers and administrators of HEIs must reflect on their mental models and understand other's mental models that are present in the college/institution and alter their ways of thinking to ensure shared understanding of goals and vision of the college/institution.

#### ***Shared Vision***

It is imperative to have forward thinking administrators and leaders in academic institutions. The enthusiasm and dedication starts from the top. Administrators and leaders in academic institutions should have a 'shared vision', which percolates down the line and in turn provides the focus and energy for learning by individual members. Leaders must challenge assumptions, encourage self-reflection, and set an example for their team members.

### ***Team Learning***

Team learning is the process of creating and facilitating collective learning. It starts with dialogues and ensures people are thinking together. It helps to discover insights. It is a process of aligning and developing of a group of people to function as one, or as a whole. The ultimate objective is to have the intelligence of the team that exceeds the intelligence of individuals in the team and to develop extraordinary capacities for the coordinated action.

### ***System Thinking***

System thinking is the unifying concept that encompasses all the other four principles to enable a learning institution to be actualised. It is the understanding of cause and effect, being able to see the big picture and patterns in a college/institution. According to the system thinking principle, organisations are made up of smaller units, much like the pieces of a puzzle. Individuals learners must understand the system as a whole, as well as each individual component that's involved. Every individual is honoured, and but they also play a vital role in the overall framework. Individual learners should respect and honour the ideas of their peers.

### **Conclusion**

One way to enhance quality of HEIs in India is to instill and practice the theory of Learning Organisation thereby facilitating learning of its members. Colleges and HEIs should create a climate whereby learning takes place at all four levels. Individual leaning should be harnessed to achieve institutional learning. By doing this, HEIs can ensure quality on their own without any need to be measured by some outside agency. There should be a system in place to maximize human potential that it has at its disposal and this can be assured by establishing a culture of learning and continuous progress.

### **References**

1. Altbach, et al (2010). *Trends in Global Postsecondary Education: Tracking An Academic Revolution*, Sense, Rotterdam.
2. O'Banion, T. (1997). *A Learning College for the 21st Century*. Ariz.: Oryx Press, Phoenix.
3. Sallis, E., & Jones, G. (2002). *Knowledge Management in Education: Enhancing Learning & Education*. Kogan Page, London.
4. Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. Doubleday, Currency, New York.
5. Senge, P. M. (2000). *Schools that Learn: A Fifth Discipline Field Book for Educators, Parents, and Everyone who cares about Education*. Doubleday, New York.

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# Digital Initiatives for Higher Education in India: A Technological Revolution

Sunil M. Gawande

India is the seventh biggest nation by land, the second most populated nation after China (with more than 1.3 billion people), and the most populous democracy on the earth is a country in South Asia. It has made incredible developments in science and engineering and is growing on the international platforms as one of the robust economies. The advances in knowledge and technology have brought significant reforms to the development of Indian society through exchange of information. Virtual technologies that incorporate Cloud Computing and Mobile Apps have grown worldwide as motivation for significant financial growth and empowerment of citizens. Advanced technologies are in reality used increasingly from retail outlets to government workplaces as never before on a daily basis. They allow us to communicate with each other and also to exchange data on issues and concerns.

India's higher education system is the world's third, next to the US and China. India will be one of the most important educational hubs in the future. The 'Right to Education Act 2005', which provides for compulsory and free education for all children aged of 6 and 14, it has brought about a revolution in the country's education system, with figures showing a growing school enrolment in past years. With the advent of technology and its growing awareness throughout society, there is enormous scope for taking education to the remotest part of the world to increase knowledge and enhance understanding. Moreover, India's field of education is mired in tradition, ideology and incumbent interests. This study aims to review the new government of India offering the higher education digital initiatives in the last few years and their impact on changes in the modern Indian education system.

## Digital India Movement

Digital India, which was launched by Indian Prime Minister Narendra Modi on 1<sup>st</sup> July 2015, is both an

enabler and recipient of other main Indian Government initiatives, such as BharatNet, Make in India, Start-up India and industrial corridors, Bharatmala, Sagarmala. Digital India is composed of three core components: Secure and Reliable Digital Infrastructure Growth, Digital Government Services Delivery and Universal Digital Literacy.

As of 31 December 2018, India had a population of 130 crore (1.3 billion), 123 crore (1.23 billion) Aadhaar digital biometric identification cards, 121 crore (1.21 billion) mobile phones, 44.6 crore (446 million) smartphones, 56 crore (560 million) internet users, up from 481 million people (35 percent of the total population of the country) in December 2017, and 51 percent growth in e-commerce. Digital India is a movement initiated by the Government of India to ensure that the services offered by the government are given access electronically to people by enhancing online infrastructure and through Internet access or making the nation digitally empowered through technology.

- ✓ Total enrolment in higher education has been estimated to be 37.4 million with 19.2 million male and 18.2 million female. Females constitute 48.6 percent of the total enrolment.
- ✓ Gross Enrolment Ratio (GER) in Higher education in India is 26.3 percent, which is calculated for 18-23 years of age group. GER for male population is 26.3 percent and for females, it is 26.4 percent; for Scheduled Castes, it is 23 percent and for Scheduled Tribes, it is 17.2 percent as compared to the national GER of 26.3 percent.
- ✓ Pupil Teacher Ratio (PTR) in universities and colleges is 29 if regular mode enrolment is considered whereas PTR for universities and its constituent units is 18 for regular mode.
- ✓ 60.53 percent colleges are located in the rural area 10.82 percent colleges are exclusively for girls.

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*Assistant Professor, Central University of Kashmir Green Campus, Near Govt. Degree College Ganderbal, (J&K), Pin-191131 (Affiliated to Central University of Kashmir) Mob No-09404079253 E-Mail:-sunilgawande99@gmail.com*

- ✓ The highest number of students are enrolled at the Undergraduate level across India. Similar situation could be observed in States/ UTs. Out of the total enrolment of 3.73 crore students, a vast majority of 2.98 crore students are enrolled in Undergraduate that is a sweeping 79.8 percent. On the other hand, second to Undergraduate, 10.8 percent students are enrolled in Post-Graduation, which is approximately 40.42 lakh students. There are 3,880 students enrolled in Integrated PhD in addition to 1.69 lakh students enrolled at PhD Level. There is a small share of 7.2 percent students enrolled at Diploma level in India that amounts to around 26.99 lakh students and out of this majority of students are enrolled in Teacher Training, Nursing and Technical streams.
- ✓ Distance enrolment constitute 10.62 percent of the total enrolment in higher education, of which 44.12 percent are female students.
- ✓ In higher education institutions 56 percent of universities, 22 percent of colleges and 21 percent of standalone institutions (not affiliated with universities) having connectivity of NKN. 39 percent of universities, 22 percent of colleges and 20 percent of standalone institutions having connectivity of NMEICT.

### **Digital Initiatives for Higher Education In India**

National Convention on Digital Initiatives was held July 9, 2017 in Vigyan Bhawan, New Delhi. A 17-point action plan was adopted during the convention, which was to be introduced by December 2017. The Ministry of Human Resource Development (MHRD) has forwarded the action plan. The path-breaking initiatives including SWAYAM and SWAYAM PRABHA (DTH Channels) offered enormous opportunities to raise educational quality; their ability is still to be completely explored. Progress in implementing this Digital Action Plan, especially in the sense of adopting SWAYAM and SWAYAM Prabha on a blended mode to enhance the teaching-learning process quality.

### ***Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)***

Using Information and Communication Technology (ICT), SWAYAM is designed to provide

one integrated forum and portal for online courses across all subjects of higher education and courses in the skills domain. To present, more than 28 lakhs learners have been enrolled in 1000+ courses of Massive Open Online Courses (MOOCs) running through SWAYAM. Foreign universities can also offer their courses on the SWAYAM platform and examinations can be conducted through SWAYAM by following their guidelines.

SWAYAM is an indigenous (made in India) IT Massive Open Online Courses (MOOCs) platform for providing best quality education that can be accessed by anyone, anytime and anywhere using the IT system. MOOCs concept involves simultaneously providing immersive learning content online to a large number of individuals. This facilitates the sharing of best quality education with everyone, thereby creating equality with regards to the quality of the education. Microsoft has entrusted the developer of the IT Platform with the responsibility for developing the IT platform. SWAYAM Portal Beta ( $\beta$ ) edition was released on 15.08.2016. As of October 2016, the complete version has been functional.

MOOCs' pedagogy involves four quadrants:

- i. **Video tutorials covering the entire course:** typically providing about 20 hours of instruction in lecture series, not exceeding 30 minutes in each lesson;
- ii. **E-content:** reading content that could apply to the video tutorials' learning;
- iii. **Self-assessment:** quizzes/assignments intersecting courses; and
- iv. Discussion forum for posting SWAYAM queries would allow students in any corner of the world to take courses provided by the country's best teachers, thereby encouraging everyone to have access to the first education.

SWAYAM includes:

- Anytime, anywhere, high quality learning experience using multimedia;
- One-stop digital e-content location for all School-to-University courses;

- State-of-the-art system providing easy access, monitoring and certification;
- Interaction of peer groups and platform for debate to explain the concerns;and
- Hybrid model which adds to classroom teaching quality.

### **SWAYAM PRABHA**

As one of the government's main initiatives, SWAYAM PRABHA is planned to provide 32 high-quality education channels across the country, via DTH (Direct to Home) on a 24X7 basis. There will be new content of at least four hours per day, which would be repeated 6 days, enabling the student to choose the time of convenience. With the active participation of the Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG) Gandhinagar Gujarat and Electronics Corporation of India Limited (ECIL) Hyderabad the project was conceived and completed within three months.

The SWAYAM PRABHA DTH Channels cover:-

- (a) Curriculum-based courses covering various disciplines such as Music, Science, Commerce, Performing Arts, subjects of the Social Sciences and Humanities, Engineering, Technology, Law, Medicine, Agriculture, etc. in the higher education domain (all courses would be certified-ready in their comprehensive offer).
- b) School education modules (9-12 levels): teacher training as well as teaching and learning aids for Indian children to help them better understand the subjects and also to help them better prepare themselves for competitive exams for admission to professional degree programmes.
- c) Curricula and courses intended to meet the needs of lifelong learners or Indian people in India or elsewhere.
- d) IIT-PAL to assist Class 11 and Class 12 students aspiring to join IITs by encouraging logical analytical thinking and conceptual comprehension to address JEE Advance's 'hard' questions, so that high-quality students join the IIT portals. Mathematics, Physics, Chemistry, and Biology would be the four channels under this.

### **National Digital Library (NDL)**

Ministry of Human Resource Development (MHRD) under its National Mission on Education through Information and Communication Technology (NMEICT) has initiated the National Digital Library of India (NDL India) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. NDL India is designed to hold content of any language and provides interface support for leading Indian languages.

### **National Academic Depository (NAD)**

NAD is an initiative of the Government of India, Ministry of Human Resource Development (MHRD) to promote the issuance, preservation, access and verification of Academic Awards by academic institutions on a digital basis. NAD is a unique, innovative and progressive initiative under the theme of 'Digital India' to achieve Education Records virtual enabling. NAD aspires to make the vision of Academic Digital Certificates a reality for every Indian. This touches Indian youth's lives and empowers them with Electronic, Online, Trusted, Verifiable Certificates that are securely accessible at all times.

### **E-ShodhSindhu**

The government initiative aims at providing academic institutions with a lower subscription rate with access to quality online resources including full-text, bibliographic, and accurate databases. By integrating three consortia initiatives such as UGC-Infonet Digital Library Consortium, NLIST and INDEST-AICTE Consortium, the MHRD has developed this project.

### **Virtual Labs**

Physical distances and lack of resources render us incapable of working on conduct experiments, especially when they require sophisticated instruments. Good teachers are likewise also a precious resource. Web-based and video-based courses deal to some extent with the issue of teaching. No additional infrastructural setup is necessary for Virtual Labs to

conduct experiments at user premises. One computer terminal with broadband internet connectivity is all it takes for remote success of the experiments. More than 205 virtual laboratories in 9 disciplines of Engineering & Science, comprising about 1515 experiments, are operational and are currently accessed by more than 6 lakh students.

### ***E-Yantra***

The MHRD initiative under the NMEICT Programme, named 'e-Yantra' is being introduced to integrate robotics into engineering education with the goal of engaging students through exciting practical application of the concepts of mathematics, computer science and engineering. During phase of the project, the development of robotic platforms was demonstrated with great success. E-Yantra has currently been introduced in 100 colleges.

### ***Campus Connectivity***

Setting up of 1 GBPS Campus connectivity and 20 512 Kbps broadband connectivity to colleges was given under NMEICT. A total of 600 universities have been connected via 1 Gbps of Optical Fiber and 22026 colleges have been linked to 10 Mbps of bandwidth so far. With the PMO's 'Digital India' project, the MHRD has now agreed to make university campuses (with a bandwidth of 1 Gbps) Wi-fi-enabled. Wi-fi campuses have been built already by all the IITs, IIMs and NITs. At Central Universities, the process of installing the optical fibre and supplying Wi-fi is currently underway.

### ***Talk to a Teacher***

'Talk to a Teacher' developed by IIT Bombay is an initiative of the MHRD-funded National Mission on Education through ICT to provide free access to a few selected graduate and postgraduate courses taught by respected faculty members and scholars at IIT Bombay. It uses the collaboration tool. A-View has been developed by Amrita University to provide faculty across the country with virtual classrooms. So far, under this initiative, more than 80,000 teachers have been educated, involving synchronous delivery of IIT Mumbai & IIT Kharapur courses.

### ***E-ACHARYA***

E-Acharya, also known as NMEICT's 'Integrated e- Portal', is the official repository of NMEICT e-Acharya and all content produced under NMEICT is placed on this repository platform at the INFILIBNET Centre Gandhinagar in order to perform basic principles of digital content preservation, implement standard metadata schemes of various types for digital content and ensure their long-term availability. The e-Acharya is assisted by a robust 24X7 data centre, which is integrated with NMEICT, the cloud network developed by the IITDelhi at the NIC / NKN Data Centre and named 'Baadal'. The MOOCs produced under NMEICT would also be published to e-Acharya.

### ***E-KALPA***

Another MHRD/NMEICT initiative named e-Kalpathat is creating a digital learning environment for design in India, successfully demonstrated the achievement of the following project objectives at the completion of phase I:

1. Online learning software Design with Design e-learning programmes.
2. Digital Design Resource Database including the craft sector
3. Social networking for Higher Learning with collaborative Learning Space for Design
4. Design inputs for products of National Mission in Education through ICT.

### ***E-VIDWAN***

The 'Information and Library Network' (INFLIBNET) Centre took the initiative called e-Vidwan: Expert Server and Network of National Researcher with NMEICT's financial support. VIDWAN's objectives are to:

- (i) Compile academic and research profiles of academics, professors and research scientists working in leading academic and research organisations in India and abroad;
- (ii) Provide expert information to peers, prospective collaborators, funding agencies, policy makers and research scholars in the country in a timely and convenient way;



- (iii) Establish direct contact with experts who possess the expertise required by research scholars;
- (iv) Identify peer reviewers to review articles and research proposals; and
- (v) Create resources for scientists to exchange information as well as to network.

As of 31 December 2015, the database contains over 17,500 profiles of experts from 2,000 leading academic institutions, universities, research and development organisations like IITs, CSIR, DRDO, etc.

### **Central Cloud Infrastructure**

A project has been awarded to IIT Delhi by MHRD under NMEICT for the establishment of a robust 24x7 backed data centre and the activities have been set up at the NIC/NKN data centre and the cloud is named 'Baadal'. IIT Delhi cloud host e-Acharya content and video content.

### **Conclusion**

In conclusion, it may be pointed out that digitalisation has helped to distribute education faster, more effectively and at a lower cost, but the obstacles to its future delivery are unspecified and somewhat uncertain. How these issues are overcome in the future would be fascinating to see. Higher education system success or failure depends on the successful responses to those challenges. Some may doubt that digital reforms will or may not live up to their commitments, but they certainly demonstrate that India and its states have recognised the challenges of the 21st century, the power of technology, information, creativity, and radical reforms, which are taking place

in the country. Successful creation of knowledge-based society would bring significant opportunities for India, while its failure could drive the nation not only towards an economic but also towards a political crisis.

### **References**

1. Tomer, Akash. *Reforming Education through Digitisation*, Digital Learning Magazine, 2018, 12. Available at: <https://digitalllearning.eletsonline.com/2018/07/reformin-g-education-through-digitisation/> Retrieved February 10, 2020.
2. Tomer, Akash. *Reforming Education through Digitisation*, Digital Learning Magazine, 2018, 12. Available at: <https://digitalllearning.eletsonline.com/2018/07/reformin-g-education-through-digitisation/>, retrieved February 15, 2020.
3. <http://www.niab.org.in/DIW/DigitalIndiaPresentation.pdf>, retrieved February 20, 2020.
4. <https://cms.iamai.in/Content/ResearchPapers/b945325c-beb4-4848-8ff1-041cb571f535.pdf>, retrieved February 26, 2020.
5. <https://www.ijser.org/researchpaper/Impact-of-Digital-India-by-2019.pdf>, retrieved March 10, 2020.
6. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.825.4794&rep=rep1&type=pdf>, retrieved March 10, 2020.
7. <http://www.allresearchjournal.com/archives/2019/vol5issue4S/PartI/SP-5-4-85-420.pdf>, retrieved March 15, 2020.
8. [https://www.ugc.ac.in/pdfnews/9208605\\_Brochure-\(National-Convention-on-Digital-Initiatives-for-Higher-Education\).pdf](https://www.ugc.ac.in/pdfnews/9208605_Brochure-(National-Convention-on-Digital-Initiatives-for-Higher-Education).pdf), retrieved March 20, 2020.
9. <https://digitalindia.gov.in/content/programme-pillars>, retrieved March 20, 2020.
10. [https://en.wikipedia.org/wiki/Digital\\_India](https://en.wikipedia.org/wiki/Digital_India), retrieved March 22, 2020.
11. <http://aishe.nic.in/aishe/viewDocument.action?documentId=262>, retrieved March 22, 2020. □

# Global Politics of Elementary Education and its Impact on Higher Education in India

Sarabjit Kaur

Access to higher education in India has increased considerably in the last two decades and Higher Education System of the country is considered one of the largest in the world. The role of higher education is critical for the development of any nation. However, Indian higher education has the crucial responsibility to reap the full benefits of its demographic dividend. Education is fundamental right and it has been emphasized that education at elementary level should be equally available for all. At higher education level, it should be available for the meritorious. However, there exists a wide disparity in enrolment rates in higher education on the basis of gender, caste, region, religion, economic status etc. Besides these disparities, the quality of education in many public institutions is also very low. Inequalities in the access and quality of education at any level and especially in higher education are serious concern of all. The Human Development Report (2019) pointed out that inequalities in human development in present era are more profound and many people have little prospect for better future. Even today, factors like gender, ethnicity and parents' wealth determine person's place in the society. Inequalities in human development such as education hurt societies, weaken social cohesion and prevent people from reaching their full potential at work and life.

The main reason for the existing disparities is the rise of private participation in this level of education. Majority of higher education institutions are privately managed and this increased involvement of private sector in higher education is not only limited to India, rather it is a global phenomenon. The global development agenda is imposed on all the developing countries, and countries have to follow particular educational policies framed by the international organizations such as World Bank, International Monetary Fund (IMF) and UNESCO. Amongst these, the World Bank is considered as the most influential and undisputed architect of educational policies among international organizations as the Bank through the

'Washington Consensus' has acquired a monopoly position regarding aid.

The World Bank in the 1960s and 1970s supported the expansion and improvement of public higher education but with the emergence of neoliberalism in 1980s, the interest of the World Bank has been shifted from higher education to the primary education. Since 1990s, the World Bank, through 'Structural Adjustment Programmes', has been imposing homogenization in the educational policies of developing countries. It means that single model of schooling is spread across the world. It has been considered that basic education is good for all so it should be compulsory for seven or nine years. And the national governments with the help of international cooperation should ensure free and compulsory elementary education for all even at the expense of other levels of education. It has been considered socially more efficient to invest scarce public resources in primary education shifting them away from subsidizing other levels of education especially higher education. The finance-driven reforms in education as introduced by the World Bank and IMF have been based on three principles: shift of public funding in education from higher education to lower levels of education; privatization of education at secondary and higher level of education and reducing the costs per pupil in all levels of education by increasing class size.

Carnoy (2016) describes the underlying theory of this ideological convergence of mass education in developing countries. He states that elites implicitly came to agree upon a model of nation state that had feature of mass education. The nation states have control over their social policies but inexorably driven to conform to global institutional norms. In most of these countries, the mass schooling has been done at the expense of transferring higher education from a public to a private good. Robinson (2016) considered that it is double movement to fulfil the needs of global capitalism system through education. The global capital system requires a large army of people who can only supply their labor to this system and who can be easily controlled. This kind of people need basic numeracy and literacy skills to provide labor to the system and should not critically think or question the system. So,

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*Assistant Professor in Education, DIPS College of Education, Rarra Morr-Jalalpur, Tanda, Distt. Hoshiarpur Punjab. sarbscience@gmail.com*

the public education system, designed and promoted by international organizations for such people, should restrict their ability of critical thinking that could mount a challenge to global capitalism.

The global politics of elementary education has been introduced in India in 1990s. Jain (2015) reported that the World Bank in its policy document ‘Higher Education: The Lessons on Experience’ in 1994 stated that the countries, which have not yet achieved quality primary and secondary education for all, should not consider higher education as a highest priority on public expenditure. The document clearly advocated strong participation of private sector in higher education. The Government of India comply with this policy document of the World Bank and categorized the elementary education as a merit good and higher education as a non-merit good in a discussion paper on ‘Government Subsidies in India’ in 1997. And this categorization of education counter poses the elementary education against higher education in the allocation of public expenditure. Besides this, the Ambani Birla Report, 2000 also emphasized the privatization of higher education in India. All these global as well as national pro-private efforts have been considered responsible for reduction in share of public expenditure on higher education. On the other hand, the demand for higher education has been increased drastically in recent times and this has resulted in mushroom growth of private institution in higher education from the year 2001 onwards.

In India, the society is divided into different castes and caste is an important phenomenon in this country. And even today India is fighting over its caste system as some castes have been considered superior and others such as Scheduled Caste (SC) and Scheduled Tribes (ST) are discriminated. UNDP (2014) highlights that *Dalits* in India encounter discrimination and exclusion due to the past social and cultural norms. The caste system critically influenced all aspects of an individual in India and also his/her education achievement. The overall literacy rate for the population age 15 and above was 69.3 percent with gender gap of 19.5 percent in 2011 and the literacy rate for SC and ST was 60.4 and 51.9 percent respectively for the same period (GOI, 2014). The inequality based on gender towards the access of higher education has been significantly reduced in recent times, but even today the representation of females in higher education is low as compared to males. And the enrolment of females from disadvantaged groups like SC/ST is worse as compared

to others. As due to patriarchal mindset of society, males have more chances for education as compared to females. Under the global politics of the international financial organizations, the Government of India has reduced the public expenditure on higher education by simultaneously increasing it on elementary education. The paper intends to highlight this shift in priority from higher education to elementary education by studying the intra-sectoral allocation of public expenditure on elementary and higher education and its impact on the enrolment of girls and SC/ST students in higher education.

### **Public Expenditure on Elementary Education Versus Higher Education**

From independence till 1980s, the government of India has expanded higher education system of the country not only by setting new institutions but also by taking the responsibility of the institutions set up by private sector. After the economic reforms of early 1990s, despite the increased demand of higher education, fewer institutions were established by government and only few private institutions were bought under the ambit of government. Under the impact of global politics, the public spending on primary education has witnessed an increase in 1990s and the role of government as a provider of higher education has started diminishing. The policy shift due to the globalization of 1990s has counter posed elementary education against higher education. In the 8<sup>th</sup> Five Year Plan, the government spending on higher education drastically reduced and contrary to it, the public spending on elementary education has witnessed an increase. From the 8<sup>th</sup> Five Year Plan till 10<sup>th</sup> Five Year Plan, government spending on higher education was less than 10 percent. However, it has been increased up to 15.5 percent in 11<sup>th</sup> Five Year Plan.

**Table 1- Intra-Sectoral Allocation of Resources in Elementary and Higher Education in Five Year Plans**

<b>Five Year Plans</b>	<b>Elementary Education</b>	<b>University/Higher Education</b>
I (1951-1956)	57.6	7.8
II (1956-1961)	34.8	17.6
III (1961-1966)	34.1	14.8
IV (1969-1974)	50.1	25.2

Five Year Plans	Elementary Education	University/Higher Education
V (1974-1979)	51.7	27.9
VI (1980-1985)	32.1	21.4
VII (1985-1990)	37.3	15.7
VIII (1992-1997)	47.7	9.6
IX (1997-2002)	57.1	8.7
X (2002-2007)	65.6	9.5
XI (2007-2012)	46.5	15.5
XI (2012-2017)	48.5	14.8

Source: Behera & Khatei, 2018

Due to reduction in public expenditure on higher education after the economic reforms of 1990s, the private sector started to flourish and from 1990-91 to 2000-01, the enrollment in higher education doubled from 4.4 million to 8.8 million. This increase in a decade was equivalent to the increase in last four decades. The increase in the share of private providers in higher education is due to the decrease in the share of public expenditure on higher education and increase in the demand of higher education in the country. After this, dramatic increase has been registered in the growth of private institutions and it has been reported that the share of private institution has been increased from 42.6 percent in 2001 to 63.21 percent in 2006. This increase in the number of private institutions has been observed in almost all the developing countries and has resulted in the exclusion of those who are unable to pay the price. However, as per the latest Organization

of Economic Co-operation and Development (OECD) data, it has been reported that majority of students of higher education are enrolled in private institutions in India as compared to other G20 countries.

### Access to Education at Elementary and Higher Education Level

The Gross Enrollment Ratio in Elementary and Higher Education level has been studied to highlight the difference in educational attainment on the basis of caste. Table 2 shows GER in elementary ratio from 1990-91 to 2015-16. From table 2, it has been observed that the trends in access to elementary education present an interesting picture. The Gross enrolment ratio of SC/ST students in elementary education from the session 1990-91 to 2015-16 has remained higher than the total gross enrolment ratio in this level of education as the government is giving priority to this level of education. Due to this, the children from the socioeconomically disadvantaged families such as SC/ST Community are able to get access to elementary education. From the trend analysis of the enrolment rates, it can be observed that the enrolment rates of girls in elementary education has followed an upward trend in total, SC and ST categories and in all the three categories the enrolment of girls remained higher than the boys.

On the other hand, from the analysis of gross enrolment ratio in higher education from the session 2000-01 to 2015-16, it can be reported that the representation of SC/ST has remained low. The increasing participation of private sector and reduction in public expenditure on higher education are contributing to the disparities in the access of higher education and these disparities can be observed from Table 3 depicting GER of different social groups in higher education. Following observations can be made from Table 3:

**Table 2- Gross Enrollment Ratio in Elementary Education**

Year	All			Scheduled Caste			Scheduled Tribe		
	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All
1990-91	90.3	65.9	78.6	100.6	63.5	82.5	99.6	60.2	69.6
2000-01	90.3	72.4	81.6	97.3	75.5	86.8	102.5	73.5	88.0
2005-06	98.5	91.0	94.9	109.5	93.7	102.0	111.9	101.3	106.7
2010-11	104.5	103.3	103.3	116.9	116.5	116.7	120.5	118.7	119.7
2015-16	94.5	99.6	96.9	105.3	110.8	107.9	103.4	103.1	103.3

Source: Educational Statistics at a Glance, 2018



1. Table 3 shows that total GER of females has witnessed an impressive increase from 6.7 in 2000-01 to 23.5 in 2015-16, however even in 2015-16, GER of females was less than males.
2. Regarding the access of SC students, the table 3 depicts that GER of SC students in higher education was less than total GER. GER of SC students in higher education has increased by more than three times from 5.8 in 2000-01 to 19.9 in 2015-16. And in case of females from SC category, the increase in GER was more impressive i.e. from 3.6 in 2000-01 to 19.0 in 2015-16. But the representation of females from SC Category in higher education is lower than total females, less than the males of the same category and also lower than the total GER in higher education.
3. In the session 2015-16, the total gross enrolment ratio of SC Students in higher education was approximately 5 point less than total GER.
4. Access to higher education is lowest among the students from ST category and GER of ST students is lowest as compared to other two categories. Females of ST category faced more disadvantage in the access of higher education as compared to total female GER and also females of SC category. GER of females of ST category is lowest among all the categories and it is approximately half than total GER in higher education. No doubt, from 2000-01 to 2015-16, GER of females of ST category increased significantly, but as per the latest data, GER of females of ST category remained quite low.

From the data analysis, it can be reported that inequalities in the access to higher education has improved a lot in recent times, despite that, even today SC and ST categories have low representation in higher education as compared to others. It is also important to note that the enrolment of these categories

has increased more rapidly as compared to rest of the population. The gender-based inequality in the overall enrolment ratio is also not very significant. However, as per the latest data, access to higher education in these categories is low as compared to rest of the population and it is a matter of concern for all. UNDP (2019) also highlighted that SC, ST and other backward classes in India underperform the rest of the society across human development indicator especially in educational attainment. From the trend analysis, it can also be observed that the students from SC/ST categories especially females from ST category faced more exclusion as compared to others. The higher education sector in India has grown rapidly after 2001 due to increase in the demand for higher education. This increase in demand has resulted in the increase in number of private institutions as the public expenditure on this level of education was reduced under the global politics of education. Private sector involvement has resulted in inequality in the access of higher education and marginalization of those who are already suffering one or more disadvantage. Besides the caste-based disparities, there were inequality in access to higher education on the basis of economic status, religion, rural-urban location, region etc. Disparity in the access of higher education will enhance the inequality among different social groups and will seriously hinder the overall development of country. Higher education should be equally accessible to all on the basis of merit.

### Conclusion

Under the influence of neoliberal agenda, the Government of India has reduced its public spending on higher education and liberalize the growth of private sector to meet the increased demand of higher education in the country. From the year 2001, the higher education sector of India has grown up rapidly due to increase in the number of private institutions. This increase has resulted in the expansion of access of higher education and even the SC/ ST category students

**Table 3- Gross Enrollment Ratio in Higher Education**

Year	All			Scheduled Caste			Scheduled Tribe		
	Male	Female	All	Male	Female	All	Male	Female	All
2000-01	9.3	6.7	8.1	7.7	3.6	5.8	5.8	2.6	4.2
2005-06	13.5	9.4	11.6	10.1	6.4	8.4	8.6	4.7	6.6
2010-11	20.8	17.9	19.4	14.6	12.3	13.5	12.9	9.5	11.2
2015-16	25.4	23.5	24.5	20.8	19.0	19.9	15.6	12.8	14.2

Source: Educational Statistics at a Glance, 2018

are catching up with rest of the population. But as compared to rest of the population, the representation of SC/ ST category, especially females from these categories, is quite less. For elementary education, the trend is just opposite as GER of SC/ST category was more than rest of population. The global politics of education has counterposed elementary education against higher education in almost all the developing countries, however, as compared to other countries, enrollments in private institutions in India are higher. And this increase in enhancing the inequality in the access of education on the basis of gender, caste, economic background etc. Higher education is a powerful tool to create a knowledge society and to improve socioeconomic equity. So, the access to higher education should be expanded by increasing public expenditure and by promoting inclusiveness with equal access for all irrespective of gender, caste, socioeconomic status, region, location and religion. It should be treated as public good and not as a non-merit good.

## References

1. Behera, P.K., & Khatei, R. (2018). An Analysis of Public Finance on Education Sector in India. *Vision: Journal of Indian Taxation*, 5 (2), 72-83.
2. Carnoy, M. (1999). *Globalization and Educational Reform: What Planners Need to Know*. Paris: UNESCO International Institute for Educational Planning.
3. Carnoy, M. (2016). Educational Policies in the Face of Globalization: Whither the Nation State. In Karen Mundy, Andy Green, Bob Lingard & Antoni Verger (Eds.). *The Handbook of Global Education Policy*. West Sussex: John Wiley & Sons Ltd.
4. Government of India. (2000). *A Policy Framework for Reforms in Education* (Mukesh Ambani and Kumaramangalam Birla). Prime Minister's Council on Trade and Industry, GOI.
5. Government of India. (2014). *Educational Statistics at a Glance*. New Delhi: Bureau of Planning, Monitoring and Statistics, Ministry of Human Resource Development.
6. Government of India. (2018). *Educational Statistics at a Glance*. New Delhi: Department of School Education and Literacy Statistics Division, Ministry of Human Resource Development.
7. Jain, N. (2015). *Education under Globalisation: Burial of the Constitutional Dream*. Delhi: Aakar Books.
8. OECD. (2019). *Education at a Glance 2019: Country Note*. Paris: Organization of Economic Co-operation and Development. Retrieved on February 5, 2020 from [https://www.oecd.org/education/education-at-a-glance/EAG2019\\_CN\\_IND.pdf](https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_IND.pdf)
9. Robinson, W. (2016). Global capitalism and the restructuring of education: The transnational capitalist class' quest to suppress critical thinking. *Social Justice*, 43(3), 1-24. Retrieved January 19, 2020 from [www.jstor.org/stable/26405720](http://www.jstor.org/stable/26405720).
10. UNDP. (2014). *Human Development Report 2014-Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*. New York: United Nations Development Programme.
11. UNDP. (2019). *Human Development Report 2019-Beyond Income, Beyond Averages, Beyond Today: Inequalities in human development in 21<sup>st</sup> Century*. New York: United Nations Development Programme.

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# Emerging Role of Cloud Computing Services in Startups

Ajay Kumar Gupta

In current scenario cloud computing is becoming one of most popular technologies in the technical, business and social scenarios because of easy and almost free availability on almost all the platforms. A common user in the society is availing all its benefits on the mobiles and desktops. Besides the individual use, different kinds of cloud services are also available for businesses and start-ups on pay and use basis. Organizations, especially startups, do not need to incur funds on the infrastructure, platform, software and other resources, and they may choose the services on the basis requirement and easily increment or decrement the level of services at any time. Due to availability of different cloud services, the promoter may pay more attention on other parts of his business. Due to security and other concerns, the business may integrate partial/full services in a gradual manner. The success of start-ups is not only associated with self reliance but also with the employment opportunities they provide to others, and therefore, the Government of India is providing all technical, financial and moral support to launch innovative ideas through start-ups. According to the government, the Start-up India initiative has created approximately 1,87,000 jobs directly and numerous others indirectly, taking the figure to about 5,60,000 since its inception in 2016. In this paper the role and benefits of cloud services for the start-ups is discussed along with brief explanation of the cloud service environment.

The growth of start-ups and skill development are an important part of the main agenda of the Government of India. For the success of the same, the government has created a dedicated Ministry of Skill Development and Entrepreneurship. These are directly associated to technological empowerment, to enhance the youth employment opportunities and also to reach the national goal of making India a 5 trillion dollar economy by 2024. The start-up campaign was launched by our Hon'ble Prime Minister,

Shri Narendra Modi on 15th August, 2015 with an action plan of the initiatives viz. simplification and

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*Computer Centre, Rani Durgavati University, Jabalpur*

hand-holding, funding support and incentives, industry academia partnership and incubation. The government is also aiming to facilitate skill oriented training on various aspects with their traditional degrees to make people ready for jobs and self employment. A number of ICT enabled tools such as Cloud Computing, E- Commerce, Virtual Learning and training with high speed internet connectivity are also available to empower the youth and boost the environment. The NASSCOM has estimated almost three times growth to \$7.1 billion by 2022 due to adoption cloud and other growing technologies in the Indian market and startups.

## **Start-up Initiative by the Government of India (GOI)**

Start-up India is another initiative under the Ministry of Commerce and Industry to provide all the support needed for innovation and entrepreneurship in India. Since its launch on 16<sup>th</sup> January, 2016, the government has tried to answer each and every question required to ease the development of start-ups in India [[www.startupindia.gov.in](http://www.startupindia.gov.in)]. Start-up companies are currently booming in India because of initiatives like 'Make in India' Start Up India etc. Currently a number of start-ups in various fields have made their entrepreneurship goodwill and name, some of them being Wow! Momos (food chain), Ola Cabs (taxi service), Zomato, (food cooking and delivery), Myra (online pharmacy), Acko General Insurance, 1Mg (online pharmacy), Cars24 (selling cars), Dailyhunt (news and local language content application), Meesho (e-commerce distribution channel), Policybazaar (insurance provider), Unacademy (free classes on various subjects from teachers from all over India), Paytm (e-commerce, wallet and banking services) and many more. These success stories encourage the youth to put forward their innovative ideas and start their own company which provides employment to countless other people.

## **Basic Needs for a Start-up**

For any kind of start-up, basic requirements such as funding, technology, infrastructure and manpower

is essential. Thoomkuzhy (2016), presented a survey based investigation regarding cloud adoption and recommendations by start-ups in India. The promoter may minimize the overall requirements to some extent by integrating the hired services at least at the initial phase of the start-up. Some basic requirements are as listed below:

- Money/Funding
- Primarily knowledge
- Basic eligibility conditions
- Sharp management skills
- Flexibility
- Digital competency
- Marketing strategies
- Social Skills
- Managerial competency
- Risk factors
- Account handling
- Advertisement
- Online portal
- E-Commerce and many more.

To some extent, by adopting the cloud computing, the start-ups may get latest technologies at a very nominal cost. As per growing need of the firm, the services can not only be increased but also decreased at any time. Here we have an option to pay on the basis of use and so the entrepreneurs do not require huge investments which helps to reduce the risk. Veigas( 2019), explored the benefits and impact of the cloud computing adoption in emerging markets in India.

### **Cloud Environment**

Cloud computing is a versatile technology that provides a broad spectrum of resources and services at a very low cost to start-ups and other organizations. It is an internet based solution for government and private organizations, where virtually shared servers provides infrastructure, platform, services and other required resources on a pay-as- you-use basis. Thousands of books, articles, research publications are available with the availability of detailed and conceptual information of cloud computing technologies along

with its architecture and services, and the same is also available from NASSCOM(2019). Here, we will discuss about the cloud computing environment briefly.

### **Cloud Deployment Strategies**

**Private Cloud:** Here, data and services are managed within the organizational level.

**Public Cloud:** Services are available to the clients from a third party service provider via internet. It is an elastic and a low cost means to use the resources and infrastructure.

**Community Cloud:** This is managed and controlled by a group of organizations working with a shared interest and to achieve a common goal.

**Hybrid Cloud:** This is a combination of private and public cloud, where critical nature data and services are managed by the organization itself.

### **Cloud Delivery Models**

There are three main cloud computing services available for the deployment to start-up and others such as Software as a Service (SaaS), Platform as a Service (PaaS), Infrastructure as a Service (IaaS). Each of these can be used independently or in cooperation with other cloud service types to comprise a complete cloud computing solution. These services are available via internet at a very nominal charge and offered by the Cloud Service Providers.

#### ***Infrastructure as a Service (IaaS)***

This is the mode of cloud service where an individual/organization gets services of servers, network, hardware, storage, and virtualization. Here, the organization requires highly skilled technical team to install and configure operating system and application software as per need of the organization. In IaaS, we get only infrastructure on pay- and-use basis. If the organization is capable to recruit the skilled and technical experts then they may go ahead with this mode of cloud computing service module.

#### ***Platform as a Service (PaaS)***

In this mode of cloud computing service, the individual/organization gets cloud based services of



Operating System, Runtime, and Middleware. This reduces the dependency on skilled technical staff because the providing and configuration liability of the platform, which includes Operating System, Runtime application and middleware is of the service provider. The organization needs to pay only for the services used and as per necessity the same may be increased or decreased.

### ***Software as a Services (SaaS)***

In this mode of cloud computing service, the individual/organization gets all services mentioned above as well as applications like email, social sites and others on demand. The organization need not worry about technical manpower and infrastructure, the service provides manage and handles everything. The organization needs to pay only for the services used. For start-ups, this could be an optimal solution. Here, they are not required to invest huge funds on infrastructure, platform, software, but only need to pay a very nominal amount they may get all the services. Even they can save the recurring expenditure at the initial phase, which will be required to deploy the technical manpower. In addition to these many more specialized cloud enabled services are also available such as Security as a Service (SecaaS), Operations as a Service (OaaS), Database as a Service (Daas). The organization can avail these during any phase of their business.

### **Benefits of Cloud Computing for Startups**

Some benefits of adoption of cloud computing service modules in startups are :

- Low capital expenses and operational expenses
- Ease of deployment and use
- Very nominal charges in case of owned services
- Scalability according to need of the organization
- No infrastructure required
- No licensing and other formalities required for the use of software
- Addition and withdrawal of services, which directly save the operational expenditure
- Not many trained and experts are needed to maintain the infrastructure

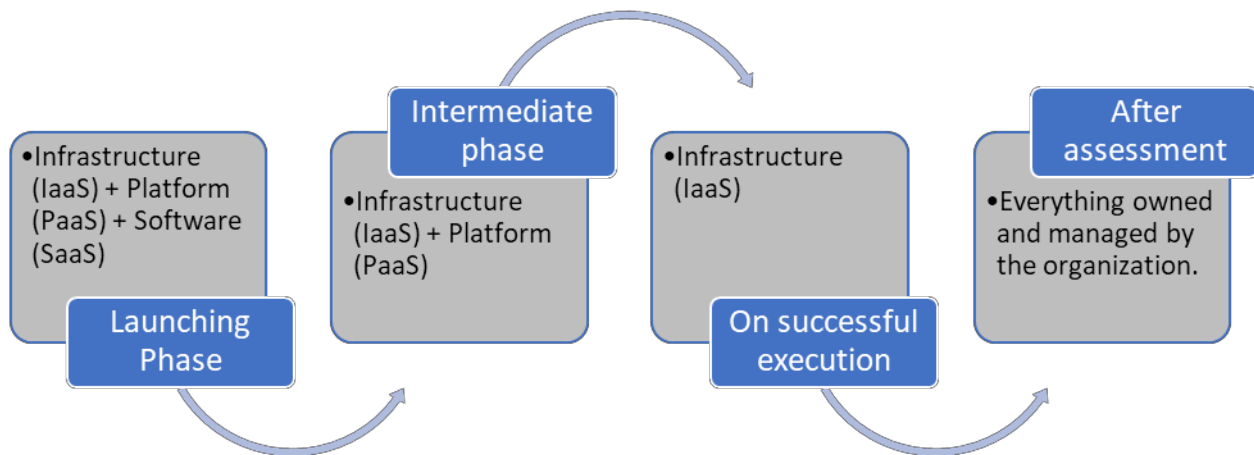
- Backup and disaster recovery facility provided
- Immediate deployment of services without any formalities
- Pay-and-use , which saves a lot of money and time in acquiring the services
- Innovative marketing
- Digital platform to contact the customer and other related individual/firms
- Instant monitoring and feedback to formulate the policies
- As business grows, we may own services on phase manner
- Tension free working, all burden goes to the service provider
- Infrastructure increment and decrement is facilitated
- Stored data may be shared between different applications with security implementation
- Multi Tenancy (one storage area network stores multi-client data)
- Round the clock availability of services
- Selection of best service provider on minimum payment due to global competition
- Reliability and Security
- Easy Migration based on business experience and requirement
- Time and schedule management
- Only small storage is required on local level

During the launch of start-ups, the main concern seen is the recurring and non recurring expenditure. Nowadays, almost all the new and established organizations are integrating ICT tools in their day-to-day operations. The reason behind this is to reduce the operational cost and risk. Once the start-up starts giving the expected results then the entrepreneur gets the courage to invest in software, platform, infrastructure and in other resources in a gradual manner. The hired cloud services prevent them from the risk of newly launched idea. Table 1 illustrated the manner in which the start-ups may correlate the investment with its successful implementation and desired outcomes.

**Table 1: Adoptability of Cloud Services during various Phases of Startups**

Startups Scalability	Cloud Services
Launching Phase of Start-up	Applications, Middleware, OS, Virtualization, Server, Storage and backup, Networking (Managed by Service Provider) Infrastructure (IaaS) + Platform (PaaS) + ware (SaaS)
Intermediate phase of cycle of Start-up	Middleware, OS, Virtualization, Server, Storage and backup, Networking (Managed by Service Provider) Infrastructure (IaaS) + Platform (PaaS)
On successfully execution of Start-up	Server, Storage and backup, Networking (Managed by Service Provider) Infrastructure (IaaS)
After assessment of successful implementation and outcome of each and every aspect of the start-up	Applications, Runtime, Middleware, OS, Virtualization, Server, Storage and backup, Networking resources etc. (Everything owned and managed by the organization)

**Fig. 1 Adoptability of Cloud Services during various Phases of Startups**



The cloud computing environment may provide a support not only during the launch of the service but also during the operation, the promoter is free to increase or decrease the hired service without any time delay as per the need of the organization. The promoters may plan analyzing the performance of the operation after one/two/or more years and on availability of earned funds to partially/fully own services (Fig-1).

**Conclusion**

As demonstrated throughout this paper, cloud computing and supporting service environment provides uncountable benefits for the establishment and growth of the start-ups by minimizing the risk and investments. Due to round-the-clock availability

of services on pay and use basis, the companies may give attention on other issues, which are directly or indirectly linked with the growth of the initiative. It is true that the cloud computing services are reliable and cost reduction facility but the services where security is main concern, in these cases the company needs to adopt the service to the extent where security is not going to be compromised. In a recent announcement, the Reliance Jio and Microsoft Azure announced to provide free cloud services for Indian tech start-ups, which too is an initiative to boost the start-ups initiative.

In conclusion, we may say that with the adoption of the cloud services will definitely help to enhance the

service to the company and customers on a small value of investment and risk. These features will definitely create a boosting environment for the start-ups and will help in achieving the goal of GOI by providing employment opportunities for others too.

## References

1. Agrahar, M. and Jhaveri, H., (2014) Cloud Computing: Emergence, Evolution and Future in India *International Journal of Scientific & Engineering Research*, 5(6), June.
2. Aljabre, A. and Federick (2012). Cloud computing for increased business value, *International Journal of Business and Social Science*, 3(1), Jan, 2012.
3. NASSCOM(2019). Cloud: Next Wave of Growth in India. [www.nasscom.in](http://www.nasscom.in)
4. Thoomkuzhy, JG (2016). Cloud Adoption by Startups in India--Adoption, Preferred Cloud Models, *Challenges and Business Transformation: A Survey Based Investigation and Recommendation*, 7(1), Jan-March 2016.
5. Veigas, J.P. and Heraje, N.K.(2019). Cloud Computing Adopting and its Impact in India, *International Research Journal of Engineering and Technology (IRJET)*, 6(6), June 2019.
6. Veigas, J.P., Naik N. and Chandrasekaran K., Cloud Computing Adoption and Impact in Emerging Markets, *IRNet Transactions on Computer Science and Engineering*, Available: [https://www.academia.edu/2250682/Cloud\\_Computing\\_Adoption\\_and\\_Impact\\_in\\_Emerging\\_Markets](https://www.academia.edu/2250682/Cloud_Computing_Adoption_and_Impact_in_Emerging_Markets),
7. <https://www.business-standard.com/article/economy-policy/startup-india-initiative-created-over-560-000-jobs-since-2016-says-govt->.
8. <https://www.startupindia.gov.in/>. □

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### **National Seminar on Revised Framework of NAAC**

A One-day National Seminar on 'Revised Assessment and Accreditation Framework of National Assessment and Accreditation Council– An Approach' was organized by the Internal Quality Assurance Cell (IQAC), Saiva Bhanu Kshatriya College in Academic Collaboration with National Assessment and Accreditation Council (NAAC) recently. Thiru P V S M N Gnanasekaran presided over the Inaugural Ceremony of the National Seminar. Dr N Muthuselvan, Principal delivered the welcome address. Dr. Syed Wajeed, Associate Professor, Department of Microbiology & Director-IQAC, St. Joseph's College (Autonomous), Bangalore delivered the Keynote address in the inaugural ceremony of the National Seminar.

In the first technical session, Dr. Syed Wajeed, Associate Professor, Department of Microbiology & Director-IQAC, St. Joseph's College (Autonomous), Bangalore spoke on 'Benchmark for Quality Sustainance'. He insisted on the benefits of accreditation and the systematic process to sustain quality and how benchmarking should be integrated into the fundamental operations of the Institutions. He enumerated how to sustain quality in all the seven criteria.

Prof. S.Sivasubramanian, Former Advisor, Research and Development, Vels University, Pallavaram, Former Vice Chancellor, Bharathiar University, Coimbatore and Noorul Islam University, Nagercoil delivered a lecture on 'NAAC – The New Format for Assessment – A Paradigm Shift'. He elaborated the Paradigm Shift in each criterion in both Autonomous and Affiliated institutions. He spoke on the need for innovation in curriculum design and listed the open educational e-resources which will enhance ICT learning process. He explained Methodological Innovation, Technological Innovation and insisted that mixed Methodology need to be adopted in Social Sciences. As biological hurricane sweeps across disciplines like Social Sciences and Digital hurricane sweeps across disciplines like Chemistry and Life Sciences leading to totally disruptive innovations. Hence the teachers should equip themselves to face this challenge. He enumerated the check list to be kept

while SSR preparation and submission. He concluded that Superior grade in NAAC the Institution can proclaim its credentials to whole world.

In the Valedictory function Prof. Dr S Sivasubramanian, Former Advisor, Research and Development, Vels University, Pallavaram, Former Vice Chancellor, Bharathiar University, Coimbatore and Noorul Islam University, Nagercoil gave the valedictory address. Dr. N Muthuselvan, Principal distributed the certificate to the participants. Dr. D Jacqueline Perianayakam, Convener, Saiva Bhanu Kshatriya College proposed vote of thanks. Dr. A Baskar, Co-Convener and the IQAC members made all the arrangements for the successful conduct of the Seminar.

### **Training Programme for Madarsa Teachers**

Anjuman I Islam's Akbar Peerbhoy College of Education, Navi Mumbai organized a 15 Days Residential Training Programme for Madarsa Teachers of Western and Southern Regions in collaboration with Maulana Azad Education Foundation, Ministry of Minority Affairs, Government of India. Dr Asma Shaikh, Principal, AIAPCE was the Programme Coordinator and Mr. Mohd. Qamar Saleem, Faculty, AIAPCE was the Programme Incharge. The programme was attended by 26 teachers from Madarsa Schools of Western & Southern areas of Country. Theme of the Programme is 'A Step Towards Main Stream'. Objectives of the Training Programme were:

- To provide opportunities for Professional Growth/Development of Madarsa Teachers.
- To include modern techniques, skills, methodology, and approaches to bring whole minority community into mainstream.
- Giving them exposure to understand the learner and learning environment.
- Facilitating them to learn from experiences of each other.

Dr. Asma Shaikh, Principal, AIAPCE, and Coordinator of Maulana Azad Education Foundation Teachers Training Programme described the outline of the course. Motivational speech given by Mr.



Rizwanur Rahman, Secretary, Maulana Azad Education while addressing the gathering spoke about the need for improvement in the curriculum and suggested them to take care till last child is benefited. The function was Presided Over by Dr.Zahir I Kazi, Hon. President, Anjuman-I-Islam. In his address, he focused on the necessity to improve the value of teachers in society at large. Dr.Supriya Deka, and Ms. Hoorjahan Hasan, Faculty of AIAPCE were the coordinators of the inaugural event. The programme had following components:

- Sensitization of Educational Problems in the Schools.
- Activity based lecture discussions.
- Techniques & skills imparting through group exercise and individual exercise.
- Awareness of Madrasa teacher's roles and challenges.

In the Valedictory function Dr.Zahir I Kazi, Hon. President, Anjuman-I-Islam delivered the welcome address. Mr. Mukhtar Abbas Naqvi, Hon Union Minister, Minority Affairs was the Chief Guest of the function. Mr. Rizwanur Rahman, Secretary, Maulana Azad Education was the Guest of Honour. Other members of the management present on the occasion were Mr. G A R Shaikh, Hon. Gen. Secretary, Mr. Mushtaque Atulay, Hon. Vice President, Mr. Aqeel Hafiz, Hon. Joint Secretary, Mr. Moiz Miyajiwala, Hon. Treasurer, Anjuman-I-Islam.

Chief Guest Mr Mukhtar Abbas Naqvi, Hon Union Minister, Minority Affairs spoke about the importance of education and developing the academic and cultural talents of the teachers, improving their capabilities to work as a team and raising their level of self-confidence by interacting with people. He stressed on empowering the women of our society in all aspects whether it be education, job or any other thing.

He informed that under his supervision more than 500 teachers were trained adding that government has provided opportunity not only for students but also the alumni by offering the bridge courses, which had helped them to get jobs. The success of these courses have resulted into more people got attracted towards this and they have started getting more proposals. The teachers also demanded that along with Urdu language, we need the training for other subjects like History, Geography, English, Science and Mathematics. He expressed

his gratitude that institutions like Anjuman-I-Islam, Jamia Hamdard and Aligarh Muslim University are doing commendable job for the prosperity of our teachers and country.

The function was Presided by Dr. Zahir I Kazi, Hon. President, Anjuman-I-Islam. In his speech he stressed on the role of minority in the development of the country and in rendering equal services for prosperity of the nation. He addresses the audience that Anjuman-I-Islam is well known for organizing such kind of training programmes. He expressed happiness that government is taking initiatives to educate more and more people of the country. Mr. Mohd. Qamar Saleem and Mrs. Fatema Q. Saleem Faculty of AIAPCE were the coordinators of the valedictory function.

### **NAAC Golden Jubilee Seminar on 'Quality Enhancement of Teacher Education**

A two-day NAAC sponsored Golden Jubilee National Seminar on 'Quality Enhancement of Teacher Education in India: Recent Trends and Challenges' was organized by IQAC, Nikhil Banga Sikshan Mahavidyalaya, Bishnupur, Bankura, West Bengal, recently. The event was attended by nearly 200 participants including Principals, Teacher Educators, Research Scholars, Student from different parts of the country and the pupil-teachers from different regions of West Bengal. The Seminar was graced by inaugural speech by Prof. Shyamal Santra, Hon'ble Minister of State, Department of Public Health Engineering and Panchayat and Rural Development, Govt. of West Bengal as well as Patron-in-Chief of the seminar. He visualized on the theme of the seminar in relation to its access and qualitative improvement of Teacher Education in India. He focused on the initiatives of the state Govt. to establish the training institutes in different Blocks and Model Colleges in different Districts of the state as well as in the country. Training Degree is mandatory for the appointment of teachers at the Primary and Secondary School Level and Public-Private Partnership (PPP) mode is essential for the expansion of educational facilities in Higher Education, he viewed in his inaugural address. Dr. Bhim Chandra Mondal, Principal of the College delivered the welcome address by putting stress on qualitative improvement of Teacher Education through its Qualitative Enhancement. According to the Principal Quality Enhancement in Teacher Education is a burning issue which can be mitigated

through improvement in classroom transaction, curriculum development, and role of the teacher, role of the community and the stakeholders of education.

Prof. Gayatree Goswamee, Professor, Department of Education, Gauhati University, Assam extended the seminar as Chief Guest by highlighting on the Quality Enhancement in Teacher Education through different exemplar model in the country. Prof. K C Sahoo, Head, Department of Education Vinaya-Bhavana, Visva-Bharati, Santiniketan, West Bengal as Guest of Honour addressed the seminar by stating the position of Teacher Education in India is in a critical juncture for which the policy perspectives should be activated for Qualitative Improvement of Teacher Education Institutions. Vote of Thanks was proposed by IQAC Co-Ordinator, Sri Diptiman Ghosh.

The technical session was chaired by Prof. K C Sahoo, Head, Department of Education, Vinaya-Bhavana, Visva-Bharati, Santiniketan, West Bengal. Prof. Gayatree Goswamee delivered lecture on 'Teacher Education in India' as the Resource Person and Chief Guest of the seminar. In her lecture, she stressed on the balance between knowing and doing with a shift from knowing to constructing knowledge and emphasis on knowledge sharing, action research, use of ICT, examination reforms, etc.

Next session was chaired by Dr. Bhim Chandra Mondal, Principal. In the session, Prof. K C Sahoo delivered his lecture on 'Changing Role of Teachers in Teacher Education' as the Resource Person cum Invited Speaker of the seminar. He focused on the importance of teachers in the modern educational practices by concluding his lecture that good teachers are those who are good human beings and lifelong learners in producing the competent individuals for sustainable development of the Nation. The Session was concluded by vote of thanks extended by Dr. Kalpataru Mondal, Assistant Professor cum Organising Secretary of the Seminar.

One of the Parallel Sessions was chaired by Prof. Kalyani Sahoo, Principal, Nandalal Ghosh B T College, West Bengal and Co-chaired by Sri Sumit Dutta, Psychologist. Discussion was on 'Teacher Education in India: Challenges and Measures'. The presenters highlighted the challenges such as Access, Equity, Excellence, Quality Faculty, Assessment and Accreditation, Autonomy and

Accountability, Governance, etc. with the measures to be under taken for Qualitative Enhancement of Teacher Education in India. Principal, Prof. Kalyani Sahoo chaired by lecture on 'Quality Concerns in Teacher Education'. She focused on the major areas of Quality Concerns like Teaching-learning and Evaluation, Research, Development and Extension, Infrastructure and Learning Resources, Student Support and Progression, Organisation and Management, etc. In addition, Sumit Dutta, Psychologist as Co-Chairperson also highlighted the issues concerning Quality Teacher Education with a big stress on inclusive education.

Next Parallel Session was chaired by Prof. K C Sahoo, Head, Department of Education Vinaya-Bhavana, Visva-Bharati, Santiniketan, West Bengal and Co-Chaired by Dr. S Maxwell Lyngdoh, Head and Associate Professor, Centre for Career Development, Martin Luther Christian University, Shillong, Meghalaya. Discussion was on 'Shifting Trends of Teacher Education from Quality Assurance to Quality Enhancement'. Prof. K C Sahoo stressed on natural balance of teaching-learning process for Qualitative Enhancement in Teacher Education system. He addressed the seminar by emphasizing on the pedagogical aspects of Teacher Education. Dr. S Maxwell Lyngdoh as Co-Chairperson addressed the seminar by expressing his concern on Pedagogy in its wider perspective not only sticking to the classroom practices but also to the other aspects of the teaching-learning process.

During next session, Prof. K N Chattopadhyay, Department of Education, The University of Burdwan as Resource Person cum Invited Speaker of the Seminar delivered his lecture on 'Teacher as Reflective Practitioners'. The session was chaired by Dr. Bhim Chandra Mondal, Principal of the College and he concluded the session by addressing recent policy perspectives of Teacher Education in India.

Further, the session was chaired by Prof. Gayatree Goswamee, Professor, Department of Education, Gauhati University, Assam and Co-Chaired by Dr. Sraddhanjali Pradhan, Department of Education, Tezpur University, Assam. In the Session, paper presenters presented their paper on various subthemes of the seminar. The queries put forth by the participants were discussed and the session was concluded with the vote of thanks by Dr. Nityananda Karmakar, Hof the Department, B.P.Ed. Department of the College.

The valedictory session was addressed by Sri Sumit Dutta, Psychologist and extended his speech by focusing on the development with self-confidence, commitment and dedication on part of the teachers will be a parameter for Quality Enhancement in Teacher Education. Dr. S Maxwell Lyngdoh has delivered the summary of the proceedings of the two days seminar. Dr. Sraddhanjali Pradhan, Department of Education, Tezpur University, Assam addressed the valedictory function of the Seminar by emphasizing on the importance of Access, Equity and Excellence for Quality Enhancement in Teacher Education. Dr. Bhim Chandra Mondal, President of the event extended his Presidential Address by focusing on the quality parameters in the field of Teacher Education as a part of Higher Education through effective monitoring mechanism and Governance for Sustainable Development of the country. Organising Secretary, Dr. Kalpataru Mondal proposed the vote of thanks. He visualized on the importance of creative talents, work culture, research culture, professional ethics of teachers, active participation of students are essential for Institutionalization of Quality Teacher Education in India.

The session was lastly graced by few words from both of Prof. Gayatri Goswamee and Prof. K N Chattopadhyay. They stressed on the quality infrastructure, location of the institution, quality faculty, govt. policy, marketability of jobs, job security and job satisfaction, financial problems, privatization, governance, etc. at the end moment of the Seminar. The session was ended with the vote of thanks by Dr. Bhim Chandra Mondal, Principal of the College cum Organizing President of the National Seminar. The certificates of the participants were distributed by the resource persons and parcel of the said NAAC sponsored National Level Seminar. The whole programme was nicely anchored by both Miss Bidya Roy and Sri Sanjay Bhunia, Assistant Professors of the college.

### **National Seminar on Quality Parameters in School Internship Programme**

National seminar on Quality Parameters in School Internship Programme was organized at

D.M. College of Education, Moga (Pb) recently. The Seminar was sponsored by College Development Council, Panjab University, Chandigarh. About 100 participants participated in the programme along with the members of teaching and non-staff members. The inaugural function was graced by Sh. Krishan Gopal, Vice President, D.M. College Management Committee as Chief Guest. On the occasion, Dr. M L Jaidka, Principal of the College delivered the welcome address.

Dr. Gurmit Singh, in his Keynote address mentioned about the major role of central bodies, ICT and role of schools for maintaining quality in school internship programme. Educating all children will depend not only on ensuring that teachers have the necessary knowledge and skills to carry out their work, but also that they take responsibility for seeing that all children reach high levels of learning and that they act accordingly. Prof Jaspal Singh described that teacher education is the backbone of society. The management of quality of teacher education is a great challenge for the policy planners in the changing scenario, Dr. Sandeep Kataria described that teacher education reaches out to the student teachers by providing the relevant knowledge, attitude and skills to function effectively in their teaching profession. It serves to equip the student-teachers with the conceptual and theoretical framework within which they can understand the intricacies of the profession. Its aim at creating the necessary attitude in student-teachers forwards the stakeholders of the profession, so that they approach the challenges posed by the environment in a positive manner.

The technical session was chaired by Dr. Surjit Singh Daudhar Ex-Principal of DIET, Moga. Dr. Rachpal Singh, as the first speaker of the session highlighted the present position of schools and allotment of periods to the teacher trainees during school teaching practice. Dr Ajay Rana highlighted on making teaching practice more effective. Dr. Parmodh Bala highlighted the use of teaching skills. Dr. Surjit Singh Daudhar present the report of the Seminar and Dr. Rajni Uppal, Assistant Professor proposed a vote of thanks. □