

ICT Enabled Learning Process and Potentials: A Brief Analysis

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Abstract

Indian education system is one of the ancient most education systems in the world. Cherishing a long history of centuries, it was transformed drastically during colonial era. Since independence Indian universities have been working relentlessly to grow at par with global standards. This paper intends to make a brief enquiry into the balanced role of teachers/mentors and technology in the process of holistic education from a critical perspective. Study tries to make an analytical evaluation from three divergent perspectives of the issue. First is the student viewpoint second is perspective of the teacher/mentor community and third is the economy/employer point of view.

Keywords: Education, Technology enabled teaching, Smart classrooms, Role of Teachers, SWAYAM.

1. Introduction

Indian education system is one of the ancient most education systems in the world. Cherishing a long history of centuries, it was transformed drastically during colonial era. Since independence Indian universities have been working relentlessly to grow at par with global standards. Different commissions over the years played vital roles in this process of transition as well as development. Introduction of technology proved to be a fruitful leap in this regard. National Knowledge Commission recommended better and feasible usage of information technology in education sector [1].

Information gathering which was once a herculean task now turned to be a fingertip game easily played by the kids of digital era. In this world of information explosion and technology detonation, classroom teaching and learning poses great threat before teachers/mentors as well as universities. This paper intends to make a brief enquiry into the balanced role of teachers/mentors and technology in the process of holistic education from a critical perspective. Study tries to make an analytical evaluation from three divergent perspectives of the issue. First is the student viewpoint second is perspective of the teacher/mentor community and third is the economy/employer point of view.

2. A Theoretical Analysis of ICT Enabled Learning Process and Potentials

2.1 Higher Education Sector: Current Scenario

There are 903 Universities, 39050 Colleges and 10011 Stand Alone Institutions listed on AISHE web portal and out of them 882 Universities, 38061 Colleges and 9090 Stand Alone Institutions have responded during the survey. 285 Universities are affiliating i.e. having Colleges [2]. Indian higher education system started using technology lately only after implementation of liberalization in the country. Since 2000 technology became an integral part of Indian higher education stream. Integration of IT in the school and higher education syllabus was first step by the government in the direction [3]. Adaption of IT enabled teaching solutions opened a wide door to the vast spectrum of knowledge. Introduction of smart class rooms was a major visible innovation during this period. Acquaintance with computer technology and education in smart classes transformed Indian younger generation from the conventional book knowledge to a new era of digital knowledge. Wider arena and knowledge explosion changed the students' perspectives on education. Along with student expectation, demand of employment market and the economy also witnessed remarkable changes.

The year 2014 marked a revolutionary change in Indian arena with coming of smart phones. Smart phones made knowledge procurement rather easy for the students and provided them with finger tip information. Spread of visual communication made class room teaching a more challenging task. Smart phones which are internet facilitated provided any information at any point of time stretching the knowledge procurement hours beyond daylight. Early days of library and class hours timing now became a mere old story. Class room needs of the

students changed much, compelling the system and teacher to move on. Teachers shifted from the age long knowledge provider role to that of a facilitator and guide before students.

University students of the present or the so called digital natives are mentored mostly by teachers from a senior generation for whom technology is an acquired knowledge. Technology, to which students are used to, may not be known to the mentor/teacher which in turn creates an unfathomable communication gap between the two. Students of the digital era seldom consider teacher as the sole source of information, instead they turn to outside source for the same. Most of the students of the current academic scenario are digital literate possessing skills over many of the electronic and digital gadgets. They seek a facilitator in the teacher to enable them search better. Planning utilizing and sharing the procured knowledge, in a productive way demand presence of teacher in this era of digital learning. Technological knowledge level going at par with subject knowledge or even more is appreciated by the student community. Students in the higher education sector who are still in the formative stages of their EQ find trouble in managing the information reaching them from divergent sources. Lack of proper facilitators with sufficient digital and technical knowhow pose a big threat to Indian education system.

Students in this era of digital communication face the challenge of developing social responsibility. Information in the finger tips reduced the efforts of acquiring knowledge. This acquired knowledge need to be applied in a productive manner for the benefit of the society and economy. Teacher as a facilitator becomes relevant in this process of knowledge application. Knowledge procured need to be segregated and discussed in a balanced way in the class rooms enabling students to be better learners. Analyzing all the information under the guidance of a teacher in a proper class room atmosphere empower the students to make the best use of information in their hands. Application of acquired knowledge can be made only with proper and timely intervention by a teacher /mentor.

Present day class rooms pose a challenge before the teaching community. Teacher with a less technical and digital knowledge finds the scenario highly challenging. Learning environment in the previous decades is entirely different from that of today. Teachers who learned from books find it a difficult transition to digital knowledge. Teachers who were once the sole source of information turned to be mere spectators while the students consider internet as their most update teacher. Students familiar with visual learning pose a threat before the

teacher who teaches from text book. Student community enjoying and enabled with multiple sources need not be as easy as the early generations to handle. Acquiring digital skills and enhancing one's potential in this area becomes essential for subsistence. Teachers need to be transformed to be facilitators and guides for students in their formative years. This realization is essential in the system while drafting the role of teacher and student in the whole process of education. Lack of proper planning with this vision, pose a big challenge before Indian education system. Teacher attitude towards ICT in developing countries like that of ours need to be changed. ICT is not a part of academic culture in our system which hinders teachers from getting a closer look at it [4].

Economy's and employers' demand has changed much over the decades. In the new era of science technology and information the economy and employment market is in search of digitally learnt employees. They need employees with high learning potential who can always update themselves with the changing technology. Potential employment seekers should have this capability of life – long active learning capacity to compete in this ever changing world. Skill development is more appreciated rather than book learning and high marks in the current job market. In the changing job scenario ICT enabled education becomes an essential part of classroom learning.

2.2 Educational technology and Technology in Education

Educational Technology and Technology in Education are two entirely different aspects determining and defining the character of modern education. While educational technology denotes various pedagogical and instructional aspects in the teaching learning process technology in education denotes use of innovative technologies for imparting knowledge. Education in the contemporary society intends to provide the learner with four major skills of Conceiving, Communicating, Collaborating and Creating (4Cs) [5]. Maintaining quality of education along with providing life skills, demands optimum use of all available pedagogical methods and technological innovations.

Learner-centered education is advocated by most of the modern educationists and pedagogical schools. Learner centered education enhance student participation in the teaching learning process shifting them from the role of passive listener to active participant. Learner adaptability to the technology makes the whole teaching learning process more interactive and inclusive. This in turn helps the students to achieve the 4Cs at a faster pace.

Tools ranging from personal computers and laptops to projectors, smart boards, tablets, notepads and smart phones enable on line learning and take academics beyond class rooms and class hours. Teacher/mentor need to be highly competent to these technologies and divergent gadgets which are changing at a quick pace. Studies held among the student and teacher communities regarding their use of online sources and gadgets revealed a relatively high use of smart phones and other gadgets by students in comparison to teachers [6].

2.3 ICT enabled learning Vs Quality in education

Vacuum created between the teaching and learning community as a result of the existent digital divide need to be addressed by the system through a creative approach. Teachers/mentors need to be encouraged to have a positive encounter with innovative online sources and websites. Problems faced by the teaching community in dealing with new generation gadgets can be listed out and tackled through providing trainings at regular intervals. Authentic websites and academic portals should be made part of the syllabus to ensure availability of correct sources for various concepts and subjects. More interactive tools can be incorporated in the syllabus to enhance student participation in the class room learning. ICT enabled and supported group activities should be made a part of the curriculum. Better instructional designs can be provided to ensure a long lasting impact on the learners. With all these better and more fruitful use of ICT can be ensured among both teacher and learner community.

Yet another question arising in this context is that of quality in education. Quality in education is quite relevant as the students of Indian universities are to compete in the global job market. World has now turned to be a global village where competition is at universal level. Our education should empower and enable the students to compete with the students of world universities. Quality of education becomes even more important in this context. Quality in education can be maintained through continuous and comprehensive monitoring and evaluation of the mechanism by competent authorities.

Continuous and comprehensive monitoring of academic data available to the teaching learning community, rating of available data, restricting spread of bogus and biased data, creation and updating of knowledge/data repository at University and institutional levels etc: are certain measure which could be followed to ensure quality in this era of digital multi faceted education.

2.4 Role played by different National and International agencies in implementing ICT enabled Education

Several of the national and international agencies lay special attention on implementation of ICT in higher education. United Nations Organization through its divergent agencies plays vital role in drafting international policies on ICT enabled education. Gyan Darsan launched in 2000 and Gyan Vani under the auspicious of IGNOU and IITs were initial steps taken to increase use of ICT in Higher Education Institutions [7]. E-Gyankosh, a knowledge repository was also a notable initiative under IGNOU in 2005. The National Programme for Technology Enhanced Learning was also a joint initiative by IITs and IISc in 2001.

In 2009 National Mission on Education through Information and Communication Technology was established to ensure a closer monitoring of ICT usage. The Mission envisages the potential of ICT enabled learning in the enhancement of learning outcomes since the XI Five Year plan period. The Mission highlights two major aspects to better the use of ICT in education. One is to provide connectivity to ensure access to the student community from different areas and second aim is content development for the purpose of learning [7]. The Mission has its objective of spreading digital literacy to empower teachers. Further the National Mission aims to reduce the digital divide between urban and rural learners by providing low cost connectivity.

SWAYAM platform is indigenously developed by MHRD and AICTE with the help of Microsoft to propagate learning. Study webs of Active- Learning for Young Aspiring Minds (SWAYAM) is an instrument for self actualization providing opportunities for a life-long learning. Here learner can choose from among thousands of courses irrespective of his or her basic qualification, and material conditions. Thus SWAYAM takes continuing education to the door step of every one [9]. In India Massive Open Online Courses (MOOC) is provided through SWAYAM portal under the initiative of MHRD, government of India. Professors and faculty of Central Universities, IIMs and IITs are offering these courses rendering opportunity to all to rise themselves to new horizons of knowledge. Thus ICT took education from ivory towers to thresholds of all households ensuring equity of access to all.

United Nations Organization put forward plans and policies over the years with special focus on developing economies to enhance their use of ICT in education. UN aims to bridge the gap between developing and developed economies. This further empowers the learners of

developing economies and enhances their employability at a global level. In the present world scenario of international relations and a global job market these policies of UN in the area of ICT enabled education deserves special mention. In the Qingdao Declaration on education, UNESCO guides international efforts to help countries understand the role such technology can play to accelerate progress towards Sustainable Development Goal (SDG4) [10]. UN hosts international Conferences on ICT enabled education, initiated the Mobile Learning Week, gives input for Open Education Resources (OER) and whole heartedly takes a very holistic and comprehensive approach towards ICT enabled Learning. UN keeps that Technology enhanced learning ensures better exchange of ideas and thus creates a better living space. United Nations Organizations reveal its belief that quality education will provide peace, sustainable social and economic development and intellectual dialogue [11].

3. Conclusion

Indian education System is on the verge of a drastic change at different levels. ICT enabled education at higher education level plays a key role in this transition process. Potential threats faced by the education system of the country includes lack of appropriate infrastructure facilities, lack of availability of trained teachers, lack of access to ICT at rural level, lack of awareness regarding the potentials of ICT among the student community and the general public, and lethargy in incorporating ICT enabled teaching methods in the syllabus/curriculum. Policy drafting need to be reviewed and reformed to be inclusive enough beyond political agenda for a better tomorrow.

National Mission and other national and international agencies play a vital role in designing ICT enabled education. Several programmes have been initiated by the central government and other governmental organs to ensure smooth running of ICT enabled learning process in the country. Still more measures are yet to be taken to ensure proper implementation of ICT enabled education in the country. ICT at global level envisages lifelong active learning with special focus on those who are not able to enroll for higher education. In India this goal is to be achieved through the SWAYAM portal. Yet lack of awareness among the general public regarding availability of such courses and opportunities still pose a challenge which need to be addressed in a positive manner. Information about these should reach the common man for

more beneficial outcomes. Social online media and electronic media can be used for popularizing such initiatives by the government.

Lack of awareness regarding ICT is more visible among rural population in India. To explore this un used talents among the underprivileged groups or the marginalized groups ICT enabled learning should be propagated evenly. Inequity in this regard should be reduced to minimum by introducing a digital literacy Mission. Digital literacy Mission can take basic computer learning to remote areas and thus including the under privileged categories also in the process of development. Through this the nation can up lift itself to the goals of United Nations Organizations of life-long learning.

4. References

1. *National Knowledge Commission 2009.*
2. *All India Survey of Higher Education 2017-18*
3. *XII Plan, Planning Commission of India*
4. *Anita Rastogi & Smriti Malhotra ICT Skills and Attitude as Determinants of ICT Pedagogy Integration, European Academic Research, Vol. I, Issue 3/ June 2013 Issn 2286-4822.*
5. *M. Z. Ismail & M. Balakrishnan, ASIE Instructional Design Model for the 21st Century Learning: An Integrated Approach In Instructional Designing For Teachers. Saarbrucken, Deutschland. Germany: Scholar's Press. Pub., 2016.*
6. *Federica Oradini and Mark Clements SMART Teaching in New and Old Classrooms, Gunter Saunders, IAFOR Journal of Education Volume 5, Issue 1, Spring 2017.*
7. *Uttam Kr Pegu, Information and Communication Technology in Higher Education in India: Challenges and Opportunities, International Journal of Information and Computation Technology. ISSN 0974-2239 Volume 4, Number 5 (2014), pp. 513-518*

8. *NME ICT 2009, National Mission on Education through ICT, www.sakshat.ac.in and <http://www.education.nic.in/dl/Mission Document.pdf>*
9. *Swayam.gov.in*
10. *Qingdao Declaration, 2015: Seize Digital Opportunities, Lead Education Transformation*
11. *<https://en.unesco.org/themes/ict-education/oer>*