Impact of Advancement of Modern Information and Communication Technologies for Qualitative Teaching, Learning and Evaluation

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Abstract—Higher education systems have grown exponentially in the last five decades to meet the demands of quality education for all. This aspect has further gained momentum due to swift advancements in Information and Communication Technology (ICT). The last two decades have witnessed the inclusion of developments in ICTs in higher education systems around the world. Even then the challenge to develop a higher education system that is flexible and dynamic so as to holistically integrate the technology in the management and delivery of learning programmes is daunting. Involvement of ICTs in different dimensions of the Indian education system is taking place at a fast pace.. However, the quantitative expansion appears to have been achieved in being able to reach out to large numbers, yet the qualitative revolution vision due to introduction of new services and better quality teaching with learning materials, has not been quite visible. The time is right to push the driving forces hard as it is expected that implementation of initiatives to integrate ICTs bring about improvement in teaching, learning and evaluation and quality education through ICT would be realized

Index Terms— ICT, Education, Quality Teaching

I. INTRODUCTION

Higher education in India is passing through a phase of unprecedented expansion, marked by an explosion in the volume of students, a substantial expansion in the number of institutions and a quantum jump in the level of public funding. The enormity of the challenge of providing equal opportunities for quality higher education to ever-growing number of students is also a historic opportunity for correcting sectoral and social imbalances, reinvigorating institutions, crossing international benchmarks of excellence and extending the frontiers of knowledge. This aspect has further gained momentum due to swift advancements in Information and Communication Technology (ICT). Demand for skilled and competent labour is ever increasing in the contemporary globalised society. Competition in every sector ranging from access to quality in higher education has emerged as determining factor of economic growth and development. In order to increase the access to higher education and improving its reach to the remotest parts of the country contribution of open and distance learning facilities is on increase. In addition, it is catering to lifelong learning aspirations and that too at affordable cost. The last two decades have witnessed the inclusion of developments in ICTs in higher education systems around the world. Even then the challenge to develop a higher education system that is flexible and dynamic so as to holistically integrate the technology in the management and delivery of learning programmes is daunting.(Neeru Snehi,2009). Involvement of ICTs in different dimensions of the Indian education system is taking place at a fast pace. Use of audio visual aids, radio, TV to support education and dissemination of information for national development is not new. The use of satellite in education started as Satellite Instructional Television Experiment (SITE) in 1975-76. This led to the establishment of CIET-SIET studios for production and transmission of school oriented programs, initiation of the country-wide classroom of the UGC with CEC as the nodal agency by creating educational media resource centers (EMRCs) and audio-visual resource centers (AVRCs) in several universities. Presently these programmes are continuing as Vyas Channel supported by the CEC and various EMRCs, Gyandarshan II of the IGNOU, Open School and NCERT broadcast channel. EDUSAT was conceptualized to meet the communications

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requirements of the education sector. The Eleventh five year plan has further giving impetus to use of ICTs in education by setting up a National Mission in Education through ICT. In this regard, use of ICTs would contribute significantly to enhance the access and quality of education but at the same time it may generate situations, which warrant attention. For instance to promote technology driven education and open and distance learning the country launched a dedicated satellite EDUSAT on September 20, 2004. It was expected that EDUSAT would bring both quantitative and qualitative revolution in education. However, the quantitative expansion appears to have been achieved in being able to reach out to large numbers, yet the qualitative revolution vision due to introduction of new services and better quality teaching with learning materials, has not been quite visible. (Bhatia, 2009)

NATIONAL MISSION IN EDUCATION THROUGH ICT

A National Mission in Education through Information and Communication Technology (NMEICT) was launched to cover 378 universities and 18,064 colleges, with the aim of digitization and networking of all educational institutions, develop low cost and low power consuming access to ICT, making larger and width available for educational purposes. Expected outcome of the Mission was supposed to be e-book including digitization of video contents of teaching-learning materials, EduSat Teaching Hub, 2,000 broadband internet nodes in 200 central institutions, satellite interactive terminal for network connectivity to all 18,000 colleges. The National Knowledge Network (NKN) was also simultaneously launched to cover 1,000 institutions besides providing digital campuses, video-conference classrooms, wireless hotspots, laptops/desktops to all students of professional/science courses, and Wi-Fi connectivity in hostels. A sustainable progress in this direction has been made, but much more needs to be done.

NATIONAL EDUCATIONAL RESOURCE PORTAL

One of the major lacunae in our system is the insufficient networking and poor data base on the Indian Higher education system and non-availability of one window information of available human resource. A National Educational Resource Portal needs to be created and the data of all the educational institutions of the country should be made available on the portal and this should be made mandatory. This would be the first step towards national networking of universities and colleges. Use of ICTs can break down some of the barriers that lead to underachievement, student disaffection and educational

exclusion. (UGC XII Plan, 2011).Such a portal will be a source of information on:

i. Human resources available in the Indian institutions of higher education;

ii. Availability of experts in various fields for teaching, examinations, research collaboration, industrial consultancy;

iii. Transparency of activities, display of new initiatives, innovative ideas – for sharing and mutual benefits;

iv. Posting of model teaching and research programmes and the syllabus followed in the various institutions;

v. Display of the examination systems, academic, administrative and examinations reforms initiated;

vi. Model guidelines for the Choice-based Credit System (CBCS); and

vii. Display of needs and vacancies of all educational institutions both in staff positions and the vacancies in several programmes offered.

E-RESOURCE AVAILABILITY

Conventional teaching-learning processes are undergoing a paradigm shift. Focus of instruction is now on education programs/ practices that promote competency and performance. Such curricula tends to require access to variety of information sources, information forms and types; student centered learning settings based on information access and inquiry; learning environments centered or problem-centered and inquiry-based activities, authentic settings and examples; and teachers as coaches and mentors rather than content experts (Oliver 2002).The concept of consortium subscription E-resources funded by the UGC through INFLIBNET now needs to be extended to all the state universities as well as the centrally-funded institutions during the 12th FYP. The present restriction on funding of INFLIBNET for subscription to some of E-resources such as Science-Direct, through partial payment and part of print journals subscription by the universities should be removed and it should be fully funded in 12th FYP. The key to high quality teaching and research essentially depends on the access to latest information which should be available to a teacher. The launch of the scheme N-LIST for access to E-resources by colleges on monthly contribution of 5,000/- did not have an encouraging response. The issue with the institutions is not the shortage of fund but there is an inherent lethargy in the system that causes under- utilization of such schemes of the Government. Hence, as a one-time measure, this offer should be made initially for 2 years on trial basis, free of cost, and then subsidized subscription be introduced. The target should extend and cover all colleges under Section

12B, which are expected to touch 20,000 during 12th FYP. The availability of the E-resources & E-journals of INFLIBNET (Now by NKN) should also be extended to all colleges under Section 12B at nominal payments or even full support from the centre. Since the private sector universities and colleges are increasingly getting established, all the E-resource facilities may also have to be extended to them on a "Consortium based subscription model" to enhance overall quality education to students. Thus ICT in education improves teaching learning process, provides the facility of online learning to thousands of learners who can not avail the benefits of higher education due to several checks, such as, time, cost, geographical location, etc.(Manisha & Anju,2014).

II. CONCLUSION

Diffusion of ICTs in Indian universities and colleges would respond to the twenty-first century demands. The contemporary higher education systems are aiming for acquisition of ICT skills as part of the core education system, provision of infrastructure/ fully equipped labs, professional assistance and other support needed to enhance quality of education. Application of ICTs in managing higher education institutions and use of the technology to homogenize quality of education in the highly diverse scenario across the colleges and universities established in the country would benefit many students. The arguments against the introduction of ICTs have pointed out that ICTs would benefit the urban and already advantaged sections of society at the expense of rural communities. The situation of limited budget allocations, which were barely enough to meet the salary expenditure leading to developmental activities taking a back seat, is improving. The time is right to push the driving forces hard as it is expected that implementation of initiatives to integrate ICTs bring about improvement in higher education organization and quality education through ICT would be realized. There is need to strengthen the UGC with additional technology-savy staff at all levels especially at the levels of Section Officers and Education Officers, besides bringing in e-governance and Information and Communication Technology (ICT) as an end to end solution to facilitate paper-less administration and transparency.

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