Impact of Information and Communication Technology (ICT) on Higher Education with special reference to Self Financing Institutions

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Abstract
The use of Information and Communication Technology (ICT) in education is a new phenomenon. The advent of the internet and the World Wide Web has pressured new productivity and service in the field of education. It demands as well as expects best practice for endeavors in teaching, learning, research and administration. ICT is the integration of Computer and Communication technology used to process, store and disseminate information. The convergence of computer, communication and technology evolved as ICT, have attracted attention of academia to use it for innovative propositions. ICT is extensively used by higher educational institutions worldwide and are emerging as a part on-campus delivery as well as open and distance modalities of higher education delivery. The communication technology changes are becoming user friendly devices like desktop, palmtop, iPod etc day by day. ICT plays a great role in the emergence of knowledge based society in the 21st century. The main aim of this study is to elevate the importance, scope and methodology adopted by self financing institutions for computer based education.
Key words: Information and Communication Technology (ICT), Self-Financing Institutions and Higher Education

Introduction
Information and communication technology (ICT) has become part of everyday life for all sectors. ICT has brought major paradigm shift in education by imparting instructions, collaborative learning, and multidisciplinary problem solving and promoting critical thinking skills. The National curriculum framework 2005 (NCF 2005) has highlighted the importance of ICT in education. Government of India has announced 2010-2020 as the decade of innovation. ICT in higher education being used for developing course materials, developing content and sharing content. Communication between learners, teachers and the outside world, creation and delivering presentation and lectures, academics research, administrative support, student enrolment are also done with the help of ICT.

Higher education is a powerful tool in the development of a country. In India higher education plays a great role in building knowledge based society. The challenge for the 21st century Indian universities is in terms of access, equity and quality. The government of India has taken several initiatives during the 11th five year plan period to increase access to higher education by adopting state specific strategies, enhancing the relevance of higher education through curriculum reforms, vocational programs, networking information technology adoption & distance education along with reforms in governance.

After China & USA the Indian higher education system is considered as one of the largest system in the world in terms of number of institutions & third largest in terms of student enrollment. Due to increase in the private participation over the last few years, concern remains regarding the quality of education being imparted to students. The university grants commission being the governing body enforces its standards; advises the government and co- ordinates between the state & the center. Positive ICT policies and investments are clearly beneficial to HEIs, even though ICTs have not replaced classroom-based modes of learning or teaching. Undoubtedly, ICTs can provide greater

access for different target learners, and have become vehicles for enriched pedagogical experiences, particularly for distance educators and learners separated by time and space.

As of Feb. 2013, there are around 18 central universities, 145 deemed universities, out of 145 deemed universities, Christ University, Bangalore is one of the premier institutions which has adopted ICT in teaching, learning, research and administration since 2004.

Need for the study

The use of ICT in education will make a difference in improving the teaching, learning and research process through the systematic integration of the use of ICT into existing educational curriculum. Higher education systems have grown to a larger extent in the last few decades to meet the demands of quality education for all. This aspect has further gained its importance due to swift advancement in the information and communication technology.

Objective of the study

- To know the importance/use of ICT in higher Education
- Role of ICT in education at self Financing Institutions in the areas of teaching, learning, research and administration.
- To understand the benefits of adoption of ICT in Higher Education.

Methodology

A descriptive study was carried out based on primary and secondary data from various journals, websites etc.

Importance/Use of ICT in Higher Education Institutions

The trend towards a knowledge-based economy has emphasized the importance of universities as repositories of valuable human capital to help secure shares in the global market. The accelerating shift to high-technology and information technology economies requires sustained human resource development and training. Driven by globalization and pressures to teach and train knowledgeable, skilled and competitive professionals, universities face a huge challenge to increase access to higher education and improve the quality of higher education against the stark reality of decreasing resources. Fundamental to the creation of qualified human resources is an accessible, effective and efficient higher education system, particularly when governments are counting on university graduates to be competitive in creating wealth for their respective countries. Universities are compelled to be innovative and lead by example in using cutting edge technology to meet these expectations. ICT in higher education acts as a key to unlock the skills and knowledge of students by developing the competencies like

- Critical thinking
- Generalist (broad) competencies
- Gain expertise in learning
- Decision making
- Handling of dynamic situations
- Working as a member of a team and communicating effectively

ICT connects all the areas of curriculum. It enables the teacher to engage the class and focus on the student learning effectively. Innovative ICT practices in higher education focuses in four areas:

- Open and distance learning;
- Blended learning;
- Research;
- Administration and management.

Having worked in Higher education institution for a long time we recognize the importance of ICT in Higher Education in developing young people not just in terms of their achievement but also their ability to interact in today's society. Institutions, in recent years, have invested heavily in IT systems

to support not only their administrative function but also to enhance learning and have a positive impact on results.

'To treat IT in Higher Education institutions as anything other than an essential component of their success demonstrates a deep lack of understanding and commitment to the futures of young people today.' **Jeremy Meades**.
We personally believe that students progressing through the education system must develop relevant ICT knowledge both from a learning experience and as knowledge. So that when they enter the work force ICT literacy is second knowledge, it is what we expect of all employees now and in the future. ICT in education is important: learn for the future, not some nostalgic view of the past. **Douglas Poole**

'IT is a skill which is essential in the world we live in. Our pupils need to use the latest technology to offer them an effective education in the twenty first century.' **Jane Rosser**

'ICT is an integral part of modern life. It gives us almost instant access to facts, materials and services that could not have been conceived of even 15 years ago. It is vital that if India is to succeed as a nation our younger generation uses this '4th utility' to enhance their life chances by understanding the wide knowledge and opportunity that ICT brings. It gives the ability to collaborate at all levels, both locally and globally. We believe over many years that ICT brings to all in education the 3 **R's** – Raising levels of achievement for all, Reducing exclusion and Reducing the workload on teaching staff.'

Role of ICT in Self Financing Higher Education Institutions
ICT is said to be the game changer in the Self Financing Higher Education Institutions which strengthened the higher education system by becoming 'Knowledge super Power'. The innovative use of ICT has posed challenge of Access, Equity and Quality. Access: Availability of information and communication technology all over the campus. Equity: Equal opportunity for all sections of society to participate in higher education. Quality: Provision of suitable infrastructure, trained faculty and effective delivery mechanism in the University.
Self Financing Higher Education Institutions is following online registration. Each student need to register for the predefined/open courses. It is cumbersome task to register courses for different departments where the strength of the students in numbers is huge. There was need to automate this process and students should be able to registered without physically or available in the campus.
Web enabled software called Moodle Program are introduced based on open source technology for the benefit of students; teachers and researchers.   Teachers plan the course work for the students and other curriculum activities and post it on the web to enable the students to prepare on the topics before they come to the class. The course materials are posted in the Moodle program, submission of online assignments, online discussion of the topics assigned are some of the components made available through Moodle program to have the Continuous internal assessments over the students performance in order to evaluate their subject knowledge and the online grade sheets will be the final output of all students.
Certificate Courses are offered in each semester and the students can register with concerned subject which comprises of 45 hrs session which includes 15 hrs of virtual classes to enable the students to listen to the e-content and prepare themselves the material anytime anywhere in and the outside the University. Many students can register for one subject and the teachers can take any subjects in their specialized area. Subject expert will evaluate student performance based on the predefined examination schedule and the marks are awarded for registered courses. There are subjects which are totally research oriented wherein the student learns the subject through research and which is then guided by the lecturers through presentations.
ICT is taken to the classes in the form of presentations, videos, e-contents on the various topics in order to make the learning ease. To evaluate the subject knowledge the students are assigned to

group presentations at the undergraduate level and individual presentation at the post graduate level as one of the component of CIA (Continuous Internal Assessment) and the grades are assigned based on the innovative and effective use of ICT.

Digital Library has been made available for teachers, students and researchers to make use of the structured information for their learning teaching and research in order to improve efficiently and effectively the knowledge transfer process.

Training programs are conducted through video conferencing to the teachers to enhance their knowledge to take the subject and to use the ICT in the classroom effectively. Maintenance of attendance of staff and students, creation of question bank in order to reduce the burden of preparing question papers are done through question bank software, communication with other departments to connect with them anytime. Online repositories, journals, magazines also help in teaching learning and research in the university. The administration of students, staff are done through software and are monitored, guided for better performance and to have best practice.

List of Innovative programme/initiatives:
1. Online Data Availability
2. Reduce the complexity of Registration Process
3. Reduce the paperwork (going GREEN)
4. Open source platform
5. User-friendly

List of achievements of the programme/initiative:
1. Reduce the time Gap of registration process.
2. Online data availability
3. Reliability of student result
4. Instant result declaration.
5. Better networking with all departments.
6. Quick dissemination of information thereby quick decision making

List of Key challenges faced while implementing the programme/initiative and how they were overcome:
1. Lack of computer education in end user.
2. Non availability of recourses in context of rural students.
3. Co-ordination between academic departments.
4. Maintenance of software
5. Incorporation of amendment of rules because of interlinking of logics.

Benefits of adoption of ICT in higher Education
Use of ICT in higher education has speeded up the learning with lower cost. Mobile technology and digital natives are becoming boon in terms of fast and easier learning in the self financing higher education Institutions. The open source is most cost effective in teaching learning and research in promoting better and quality teaching and research. Data processing, searching text, linking researchers globally are some of the core benefits obtained with the help of ICT. ICT enables the computer users to run more complex programs and graphic-rich applications. These improvements, coupled with the expansion of broadband Internet connections, are providing for richer entertainment and learning environments, including virtual worlds and an increasing use of Internet telephony and video conferencing. ICT enables the stake holders in community engagement and service. The teachers are able to connect their subjects with the emerging contexts by introducing e-learning among the students. For better administration online instructions are supplied on a regular basis to all. By implementing the ICT in the campus there are many national and international collaborative researches have become possible in the Institutions. Integration of ICT has brought better

relationship between the higher education Institutions and the society by increasing the student strength and quality education, Institutions and the corporate which in turn increased the campus recruitment in placing the students in the various organizations and quality research and development.

Challenges

For successful functioning of ICT in higher educational scenario teachers need to face and accept major challenge of re-thinking and re-framing their roles and competencies from that of knowledge-generators to knowledge –facilitators, a step that essentially may call for a re-appraisal of the traditional role of teachers in India. Teachers should be competent enough to employ particular applications and be proficient with computers, be confident to integrate ICT into existing curricula that is completely information technology-oriented. A major concern is that the role of a teacher is reduced or eliminated instead the role of a facilitator has been given birth by the ICT. The students at times become restless if the technology used is not effective which may affect the students who are not comfortable and familiar with the computer technology. Most of the researchers tend to use the data already available instead of original work. Teachers should be more sensitized in upgrading their capabilities in using the technology to meet the future group of students.

Conclusion

In absence of ICT, most of the responsibility of teaching and learning lies on the teachers. However, with the help of ICT one can transfer the responsibilities to the students so that they can self manage. It helps to individualize the teaching or guidance method as per the student's need. It also boosts the confidence level and the self-esteem of the students who acquire the ICT skills through the process of being exposed to such kind of learning also puts forth the view that ICT-based registration, evaluation, and administration help to link different levels of information and facilitate an overall view of the whole educational setup.

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