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PERSPECTIVES OF ICT IN TEACHING AND LEARNING

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Abstract:

ICT is a powerful and widespread tool and strategy aimed to use the emerging technologies in teaching and learning process. Use of technology is the key element and driving force to enhance the quality of education system in present scenario. ICT, apart from upgrading the quality of education system, can mitigate the shortage of qualified teachers. NAAC launched revised Assessment and Accreditation framework in July 2017. It represents an explicit paradigm shift making it ICT enabled, objective, transparent, scalable and robust. Revised guidelines are a step towards extensive use of ICT, confirming scalability and robustness. ICTs are used for increasing motivation and offer a possibility for learning new skills and competences. ICT has transformed the traditional way of teaching and learning into a flexible teaching and learning method. It eliminates the geographical barriers, time and other constraints and promotes lifelong learning. As per the recommendations of the National Knowledge Commission (NKC), India should have 1500 universities. However, at present there are only 818 universities which is just half of the number recommended by NKC. The central funding on education is less than 1% of our Gross Domestic Product (GDP). According to given FICCI report, India should need an additional capacity of extract 25 million new seats to achieve 30% Gross Enrolment Ratio (GER) and this will require extra amount from the Government up to the tune of 10 lakh crores by 2020. At present the budgetary allocation for education fund would be insufficient to meet the additional requirement of universities system. Therefore a strong need of Information Communication and Technology (ICT) based learning and teaching not only to provide quality education but also to make the challenge of 30% GER in the country. This paper examine the various issues related to ICT based teaching and learning, outline the benefits and provide suggestions to address the challenges in using ICT for teaching and learning purposes, finally focusing on ICT enabled accreditation process.

Key words: ICT (Information and Communication Technologies), NAAC (National Assessment, and Accreditation Council), Quality, Education, GDP, NKC, GER

Introduction

Information and Communication Technologies (ICT) is an emerging field that plays an important and crucial role in augmenting the facilities in teaching and learning process. ICT provides an opportunity for enhancing quality of education system by providing an increasing access to technology and knowledge. ICTs are a different set of technological tools and resources to create, distribute, store, bring value addition and manage information [1]. The development in ICT can be seen and traced in a wide variety of forms like land and mobile telephone, multimedia, radio, cable TV, computers, Internet, wireless technology, optical fibers and satellite connectivity and so on. Wide variety of ICTs are now available to address the various service needs of communities across different sectors. There is a rapid global economic movement through the use of ICT in various segments of the country. The

advancements in ICT and its usage have amply demonstrated the immense potential and opportunities to the people and those who govern them to utilize it in their ever increasing quest and pursuit for socio-economic and cultural development in a better, more meaningful and sophisticated manner.

Education is considered to be the driving force for economic and social development in any country. In this context, it is necessary and important to find out various means to make good quality education easily accessible and affordable to all, in a cost effective and convenient manner, using the latest technology and varied online resources that are available. Information and Communication Technologies (ICTs) encompasses a diverse set of technological tools and resources that are used to communicate, create, distribute, store and manage a huge amount of information related to each and every aspect of life.

Around the globe, currently, there is a growing tendency to use ICT in teaching and learning process. The last two decades have witnessed a revolution caused mainly by the rapid and fast development of information and Communication Technology (ICT). ICT has changed the very dynamics of the various industries simultaneously influencing the way people interact with each other and work in the society. Internet usage at home and work place has grown exponentially by many folds. ICT has the built in and inherent potential to remove the barriers that are causing the problems of low and poor rate of education in any country. It can be used as powerful tool to overcome the issues of cost, less number of teachers, and low quality of education apart from overcoming the time and distance problems.

India has a billion-plus population of which a high proportion is youth and hence it has a large potential for formal educational system. The demand and need for education in developing countries like India has increased like anything, since education is considered as an important bridge to foster social, economic and political mobility of its people.

There are many different kinds of ICT products that are available in the market having relevance to education are teleconferencing, email, audio conferencing, television lessons, radio broadcasts. Interactive radio counselling, interactive voice response system, audio cassettes and CD ROMs, MOOCs, You tube, TED talks, etc. These have been used in education for different purposes. In this context, an attempt is being made to examine the various issues related to ICT base teaching and learning, outline the benefits of and provide suggestions to address the challenges in using ICT for teaching and learning purposes.

ICT in teaching and learning process

Information and communication technologies are considered to be a vital factor in achieving sustainable development of education. Education for the emerging societies requires ICTs to facilitate large-scale learning needs for social and economic development. Information and communication tools deal with the creating, acquiring, sharing, delivery, support, and recognition of knowledge. ICTs are hence the means to provide an access to all stakeholders and engage them in the continuous learning that becomes necessary for successful participation in the societal development. ICTs have thus become a critical tool for any professional

training aimed specifically towards the cause for accomplishing an advancement in a specific segment. Technology today plays a crucial role in modernising global education system. Across the globe, Mobile devices like Mobile Phones, PDAs and Tablet PCs are found to be emerging as a powerful pedagogical innovation in teaching and learning process. These devices aid in effectively delivering the multimedia based educational content and also facilitates the easy interaction among teachers and learners for sharing of information with in no time in a collaborative experience.

The evolution of ICT has a profound effect on teaching and learning process. Most of the developed and developing countries use ICT tools almost in each and every activity. Advanced technology and communication tools greatly enhance the process of teaching and learning, provided the teachers are equipped to use them properly. ICT is useful for teachers by providing effective teaching in a versatile, flexible and convenient way. These tools provide a customized learning environment to each and every user. The knowledge revolution has a major impact on learning and teaching. This impact of the ICT on learning can be approached in different ways. Various types can be contemplated: computer assisted learning, web-learning, computer-classes, online training, distance education, eLearning, virtual learning, digital training, mobile learning, u learning etc.

Some of the main driving forces for improved learning environment are derived from the introduction of new Information and Communication Technology (ICT) tools, which are under intense development. New methods forenhanced communication, collaboration and knowledge transfer, MOOCs (Massive Open Online Courses), Moodle (Modular object oriented dynamic learning environment), Ubiquitous and wearable computing for seamless and everywhere accessibility to computer resources, Creation of user environments with multimodal Human Computer Interaction (HCI), Increased possibilities for lifelong and continuous learning, independent of time and physical space constraints and possibilities to adapt and/or develop new pedagogical and learning methods with respect to learning material, learning modes.

Benefits of using ICT in teaching and learning

There are many distinct advantages of ICT in education including increased access, flexibility of content and delivery, improve the transparency and responsiveness, provide quick guidance, more interactive, explorative, simple, clear and easy to understand, higher quality of education and new ways of interaction, offer the opportunity for more student centered teaching, provide greater opportunity for teachers and students to communicate and collaborate, give greater exposure to vocational and other workforce skills for learners, provide an easy approach to learn latest and multiple technologies delivered by teachers, create greater enthusiasm and interest for learning, provide latest and new sources of information and knowledge, prepare students to face the real world challenges, provide the learners with open online educational portals where they can learn and also evaluate their knowledge, provide learners with additional resources to assist resource-based learning, development of a new learning and increased portability of training.

Our country is also using the most powerful combination of ICTs such as free and open software, communication and satellite technologies, native language interfaces, easy to use, clear and simple graphical user interfaces, digital libraries, etc. with long term plan to reach most of the remote villages. Community service centre have been started to promote online learning all over India.

ICTs have the built-in potential to innovate, accelerate, enrich and inspire students in participating active learning. A good deal of research across the globe has proven the advantages offered by ICT based learning. In order to achieve the goal of universal primary education, as stated by Kofi Anan [2], the former United Nations Secretary General, we must ensure ICTs unlock the doors of our education system. ICTs provide greater opportunity for students and teachers to adjust learning and teaching to individual needs. In order to promote increased learner engagement and to make learning more relevant ICTs can be integrated into education.

Suggestions to address the challenges in using ICT

There are many challenges in using ICT for teaching and learning process. The most important factors impeding the access to ICT are lack of infrastructure, poverty, lack of computer literacy and language

barriers etc. The employment of ICT is dependent on many social factors including education, geographic location, mobility and social class. Availability of infrastructure, electricity and transport may also influence the use of ICT. Using ICT requires training, education and affordable access to the technology. Access to and use of Internet has important economic, educational and social benefits. The impact of IT on society has not been uniformly beneficial and the technological divide or digital divide is being increasingly felt. Most of the people are not aware of the benefits of using ICT and language is also main obstacle to the use of ICT for non-native speakers of English. One of the main barrier in using ICT is the limited or absence of native and community related content in local languages.

As the technology in ICT sector changes rapidly, there is an increased demand for more advanced skills i.e., there is a need for continuous up gradation of skills. One of the strategy adopted to increase the access to ICT in rural areas is by the development of public access centers like telecenters, libraries, internet centers, kiosks, cyber cafes etc., providing improved access to ICT and training them to use ICT. Successful technologies must be scaled up to reach more number of people through affordable and feasible channels. Relevant tools and information must be provided to address the needs and demands of teachers and learners. Multimedia content must be developed to provide information by both spoken and written means in local, national and international languages to help physically challenged people. Make sure that all stakeholders are involved in designing and developing the latest technologies. Many types of telecommunications like TV and radio broad casting, PCs, Internet and e-mail services must be used share and disseminate information/knowledge. Traditional methods of teaching must be supported by ICT usage. Teachers must encourage the students for using ICT and must play the role of facilitator. MHRD has to work hard to increase the awareness on availability and application of various e-resources and digitization of higher education upgrades in user-friendly manner. Drives to increase ICT literacy awareness has to be undertaken with active participation of public [3]. ICT should be made mandatory in all activities of schools and colleges including teaching, learning, admission, and examination and evaluation process.

NAAC revised Accreditation Process:

The quality of education provided in many Higher Educational Institutes is a matter of great concern. Among the 140 universities accredited by NAAC, only 32% are rated as "A" grade. Out of 2780 colleges accredited by NAAC only 9% are rated as "A" grade. It is noted that, among all accredited institutions, 68% of universities and 91% of colleges are rated average or below average as per NAAC specified quality parameters [4].

NAAC released the Revised Assessment and Accreditation Framework in July 2017, making the entire process ICT enabled, objective, transparent, scalable and robust, which is advantageous to both NAAC and the institution to be accredited and all the documents can be submitted online only, there is no need of sending hard copies.

NAAC described a three levels ICT enabled accreditation processes, with Student Satisfaction Survey and Data Verification and Validation [5]. This process is ICT enabled means, most of the process will be online only, except the fine one day onsite review. In future even this visit may also be replaced with virtual tour and video conferencing. In level one, the institution has to submit the Institutional Information for Quality Assessment (IIQA). Once this IIQA is accepted, institutions can submit their data

online in the formats provided for Self Study Report (SSR). At level two, data submitted in the SSR will be subjected to an online assessment process with Data Validation and Verification (DVV). Institutions having secured 30% on the quantitative metrics are eligible for onsite peer review in level three.

Conclusion

The demand for access to higher education has increased with the rise in living standards and the trend towards a knowledge based society. At the same time rapid developments in information and communication technologies (ICT) have created innovative opportunities to enhance the reach and quality of education. ICTs are known to be playing a vital role in all aspects of life. The role of ICT in education is becoming more and more important and this importance will continue to grow and is bound to expand in our country as with any other country. Therefore, integration of ICT in education can vastly improve the quality, efficiency and effectiveness of education at all levels and is expandable to many numbers of users desirous of seeking knowledge at ease and convenience. If the ICT based learning and teaching is implemented with clear cut guidelines and with quality standards in Indian Higher education system, the country can meet the required GER of 30% by the end of 2020

References

- [1]. Suman Jain "ICT and Women Empowerment – Some Case Studies from India" Delhi University.
- [2]. www.un.org/millenniumgoals
- [3]. Dr. Girish Kousadikar "Role of ICT in Higher Education", New Man International Journal of Multidisciplinary studies", pp 85-87, ISSN 2348-1390.
- [4]. mhrd.gov.in/nep2016
- [5]. www.naac.gov.in/docs/RevisedAccreditationFrameworkJuly2017.pdf
- [6]. www.ficci-hes.com/

