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INFORMATION COMMUNICATION TECHNOLOGY: A CHANGE AGENT FOR EDUCATION

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Abstract - The digital media and information communication technology transformed all walks of life. The role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century. Education is the driving force of economic and social development in any country. Considering this, it is necessary to find ways to make education of good quality, accessible and affordable to all, using the ICT in education develops higher order skills. Through ICT provides enormous opportunity for all the teachers and benefit for every Indian learner. It is obvious that emphasis on ICT are the crying need as it act as an agent for education without compromising the quality. It is also necessary to sustain a high growth rate of our economy through the capacity building and knowledge empowerment of the learners and for promoting new upcoming multidisciplinary fields of knowledge. Education is very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The paper argues the role of ICT in transforming teaching and learning and seeks to explore how this will impact on the way programs will be offered and delivered in the educational institutions of the future.

I. INTRODUCTION

Computing and Information and Communication Technologies (ICT) have become common place entities in all aspects of life. Across the past twenty years the use of computing and ICT have fundamentally changed the practices and procedures of nearly all terms of endeavours within business and governance. Within education, computing and ICT have begun to a presence but the impact has not been as extensive as in other fields. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The use of ICT in education tends itself to more students – centre learning settings and often this creates tensions for some teachers and students. But with the world moving rapidly in to the digital media and information. The role of computing and ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century. This paper highlights the various impacts of computing and ICT on various levels contemporary education and explores potential future developments. The paper argues the role computing and ICT in transforming teaching and learning and seeks to explore how this will impact on the way programs will be offered and delivered, in the schools colleges and universities of the future.

Computing and ICT and the forces that have changed many aspects of the way we live. There have been number of factors impeding the wholesale uptake of Computing and ICT in education across all sectors. They have included such factors as lack of funding to support the purchase of the technology, a lack of training among establishing teaching practitioners ,a lack of motivation and need among teachers to adopt ICT as a teaching tools (Starre, 2011). But in recent times, factors have emerged which have strengthened and encouraged moves to adopt computing and ICTs in to classrooms and learning settings. As we move in to the 21st century, these factors and many others are bringing strong forces to bear on the adoption of computing and ICTs in education and contemporary trends suggest we will soon see large scale changes in the way education is planned and delivered as a consequence of the opportunities and affordance of ICT. We will see in education as computing and ICT act as a powerful agent to change many of the educational practices to which we have become accustomed. In particular, the paper will explore, the impact both current and emerging computing and ICT will be likely to have in coming years on what is learned, when and where learning will take place and how the learning occur.

II. ICT AS AN INNOVATION

Schools provide insight in to the issues surrounding ICT as an innovation. The teacher is central in the adaption and use of ICT. The impact of ICT on educational quality, on learning, and the differential benefits from these all flow from the way in which the technological is used. Educational institutions used it to support movement towards a variety of educational goals. These can be classified into:

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- ICT as the focus of the innovation
- Teaching and learning with ICT
- Educational management with ICT
- Extending the boundaries of the school.

III. ICT AS AN AGENT FOR EDUCATIONAL CHANGE

In the move towards an information society, the demands placed on education system will change, many have argued that there will be less need for formal education to transmit a fixed corpus of knowledge, and much more need for the development of met cognitive skills, the skills of evaluation, analysis, and problem – solving and learning to learn. It is anticipated that schools will more towards a more project work, with students taking more responsibility for their own learning and developing the kind of autonomous practices that will enable then to grow as lifelong learns. ICT is often seen as playing an integral part in this change, and it has been suggested that it may act as an agent or stimulus for the change.

IV. STUDENT- CENTERED LEARNING

Technology has the capacity to promote and encourage the transformation of education from a teacher directed enterprise to one which supports more student – centered models. Evidence of this today in manifested in:

- Moves towards problem – based learning
- Increased use of the web as an information sources, internet users are able to choose the experts from whom they will learn.
- The proliferation of capability, competency and outcomes for used curricula.

Students using ICTs for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools (Reaves & jonassen, 1996), student learn will continue to increase. The influence of the technology on supporting how students learn will continue to increase.

V. IMPACT OF ICT IN LEARNING PROCESS

Competency and Performance – based Curricula

The moves to competency and performance – based curricula are well supported and encouraged by emerging instructional technologies (Stephenson, 2001). Such curricula tend to require:

- Access to a variety of information sources;
- Student – centered learning settings based on information access and inquiry;
- Learning environments centered on problem – centered and inquiry – based activities;
- Access to a variety of information forms and types;
- Teachers as coaches and mentors rather than content experts; and
- Authentic settings and examples.

Information literacy:

Another way in which emerging computing and ICTs are impacting on the content of education curricula stems from the ways in which ICTs are dominating so much of contemporary life and work. Already there has emerged a need for educational institutions to ensure that students are able to display appropriate levels of information literacy, "the capacity to identify and issue and then to identify, locate and evaluate relevant information in order to engage with it or to solve a problem arising from it"(McCausland, wache & Berk, 1999). The growing use of ICTs as tools of everyday life have seen the pool of generic skills expanded in recent years to include information, literacy and it is highly probable that future development .

Any place and any time learning

Educational institutions have been offering program at a distance for many years and these has been a vast amount of research and development associated with establishing effective practices and procedures in off – campus teaching and learning use of the technology, however, has extended the scope of this activity and whereas previously off – campus delivery was an option for students who were unable to attend campuses, today, many more students are able to make this choice through technology – facilitate learning settings.

Students are starting to appreciate the capacity to undertake education anywhere, anytime and anyplace. This flexibility has heightened the availability of just – in – time learning and provided learning opportunities for many more learners who previously were constrained by other commitments (Young, 2012).

- Learners are free to participate in learning activities when time permits and these freedoms have greatly increased the opportunities for many students to participate informal programs.
- Learning at any time, teachers are also finding the capabilities of teaching at any time to be opportunities and able to be used to advantage. Mobile technologies and seamless communications technologies support 24 x 7 teaching and learning.

Factors in the adoption of ICT

The culture and attitudes of the organization play an important role in educational change with ICT, with particular

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importance also ascribed to individuals and groups within the school – the principal, the ICT specialist, and colleagues. These provided support in specific tangible ways but perhaps more importantly they can be pivotal in shaping a culture of innovation in which teachers can safely develop their use of ICT. Professional development needs to address especially pedagogy and attitudes, rather than simply on technical skills – changing attitudes may will be a long process for many teachers. It is tempting to view ICT as a single innovation, to be adopted once and for all. It is suggest that the process of change in the source of the creative educational thinking, sustaining creative educational practices will often call for a continuous cycle of innovation.

Ensuring Educational Quality:

Largely based on teacher opinion, of the potential of ICT to enhance educational quality; they also identified teachers with concerns about it leading to waste of student time and the encouragement of superficial work. This range of opinion reinforces that the educational impact of ICT depends largely on the use to which it is put. Where ICT is used to facilitate a student – centered approach, it is likely that this will promote inter alia the development of analytical and information handling skills. While they are important life skills, they may not be reflected in curriculum and assessment system, student – centered learning will tend to flourish on more fertile ground when there is harmony with such assessment systems.

VI. ICT IN TEACHING AND LEARNING:

EDUSAT will be used to share the available expertise through modular programs. This will be done by networking institutions, creation of virtual laboratories, creation of database, access to expert lectures and technological development in organizations. Teaching and learning can further be improved by replacing of conventional teaching instead of the usual age old method of chalk and talk for teaching by innovative methods like power point presentations and animations, modelling and simulations, video clips and using AV aids, LCD projectors etc,. This enhances the learning ability of the student and also helps the teacher to elaborate the difficult concepts effectively within a short time span. Computing and ICT in education change the view of learning from teacher centered to student centered learning system and the teacher are the facilitators, coachers and mentors were ICT Support the learning environment to student. At this juncture, some of the supporting environments are Tele – Education system, virtual Learning campus (VLC), Virtual libraries and digital learning, Distance learning and wireless connectivity(WIFI).

VII. CONCLUSION

Computing and ICT have become commonplace entities in all aspects of life. Across the paste twenty years the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavour within the all forms of educational institutions. In particular the paper has opined that ICTs have impacted on educational practice in education to date in quite small ways but that the impact will grow considerably in years to come and that ICT will become a strong agent for change among many educational practices. Adopting these activities and practices, the continued use and development of ICTs within education will have a strong impact on teaching- learning process. Finally, the education is becoming more and more important and this importance will continue to grow and develop in the 21st century.

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