



## ORIGINAL RESEARCH PAPER

Computer Science

### ICT4D – HIGHER EDUCATION

**KEY WORDS:** ICT, Teacher, Students, Education Institutes

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#### ABSTRACT

The purpose this paper, aim to introduce role of ICT in higher education, based on the study of national and international research. It help in to initialize related measuring and demonstrating the effective use of ICT for education, with regard to teaching, learning, quality and accessibility, enhancing learning environment, to enhance the scholastic performance by simulation, that will contribute to authentic learning environment. In digital world, role of ICT play very important role in education system and importance continue to grow and develop in 21<sup>st</sup> century. Without innovative ICT policies many developing countries will left behind to provide good education facilities to their society. In education sector, ICT has becomes critical part of learning process for the Universities' or Institution's students both inside and outside the classrooms setting.

#### INTRODUCTION:

In recent decade system-wide policies and substantial resource have been directed toward enhance the use of ICT in the learning context. As we know that ICT have becomes a common place of our daily life. Due to ICT practice and procedure changed not only education system but also in business and governance.

With help of ICT education system, complexity changed, that became more student catered learning setting.

As we already know that, world moving rapidly into digital media and information, the role of ICT becoming more and more importance and this implies continue to grow and develop next century.

According to Daniel (2002), ICT4E have become building block of modern society.

As we already know field of education has been affected by ICT, which have un-doubtly affecting teaching, learning and research. ICT play very important role in teaching learning process, quality & accessibility of education, learning motivation, ICT & learning environment and enhance the scholastic performance.

In this digital world basic education is essential for an individual to able to access and apply information. This can help to improve and develop the quality of education by providing circular support in different subject area. To achieve it, these objective, teacher need to introduce ICT in classroom, teacher should believe effectiveness of technology; also believe in the use of technology that will not cause any disturbance and finally teacher should believe that they have control over technology.

With help of ICT, teacher generate meaningful and engaging learning experience for their students, students enjoy learning and independent enquiry which is innovative and appropriate use of ICT can foster.

Therefore we can say ICT, is future teaching learning process in education system.

ICT not only enhance the teaching learning, but also help in the delivery of education, so that learner access knowledge anytime and from anywhere.

ICT also help to student to learn, because process are learner

driven and not by teachers. And it will improve the quality of learning.

ICT enhance the education and quality of the education, so that students appreciate it, due to it, they can understand education anywhere, anytime and anyplace.

With help of ICT, easy access to learning just browse e-book, sample examination paper, researchers, professional and peers all over the worlds. It will enable education that will ultimately lead to the demonstration of education system. Especially in developing country like Ethiopia, effective use of ICT for the purpose of education has potential to bridge the digital divide.

It also help, in process of teaching and learning changed, by adding elements of vitality to learning environment including virtual environment for the purpose. It is potentially powerful tool for effective education environmental opportunities.

With help of it, complex processes easier to understand through simulation that, again, contribute to authentic learning environment.

ICT is transformation tools, which when used, can promote the shift to a learner centered environment.

ICT especially computer and internet technologies, enable new ways of teaching and learning rather than allows teachers and students to do what they have done before in better way.

So ICT is facilitator of active learning and high order thinking.

#### Literature Review:

Developments about and widespread use of Communication and Information Technologies (ICT) influence all fields in life, one of which is education. Countries see ICT as potential tools for change and innovation in education (Eurydice, 2001; Papanastasiou & Angeli, 2008) and, thus, make investments in ICT. For instance, Turkey spent about \$400 per person, and allocated 11.7% of its budget to ICT. However, this rate is lower than those of Europe and Central Asia, which allocate 22% of their budget to ICT, but higher than the rates in developing countries (World Bank, 2007). In other words, although a considerable quantitative increase has been observed in personal computer and Internet use in Turkey, the rate still has not reached the rates in developing countries. Moreover, according to a research carried out by the Turkish State

Institute of Statistics (2008), while 3% of 21 million primary school graduates are Internet users, 69% of 3.5 million university graduates use Internet.

Turkish Ministry of National Education (MNE) make attempts to disseminate ICT at schools as other countries do to overcome educational problems and to enable innovation in education. According to the objectives of Lisbon

Submit in 2002, European Union has been preparing to make a shift to information-based economy and community and to develop digital literacy (Commission of European Communities, 2000). Therefore, the MNE attempts to set

up computer labs and to provide Internet connection at schools. Statistically, the schools with Internet connection in 2005 rose from 40% (World Bank 2007) to 68.1% in 2006 (SPO 2008). In addition by 2001 67% of 520 thousand amounted to 604,000. Finally, in 2008, approximately 87% of 45,973 schools in formal education have Internet connection (MNE, 2008a, 2008b). Conclusively, it is aimed that 96% of students will have access to the Internet at schools in 2010 (SPO, 2006).

Both developed and developing countries adopted ICT investments in accordance with their policies in order to increase quality in education, to provide work power, and to educate individuals who have proficiency on ICT (Tondeur, van Braak & Valcke, 2007). While ICT investments for educational innovations and developments have an important potential, it is neglected that there are teachers who will use it in the classrooms as a part of the curriculum (Cohen & Ball, 1990; Vacc & Bright, 1999; Niederhauser & Stoddart, 2001). However, how these teachers perceive these reform efforts is closely related to certain variables such as belief and experience, level of knowledge, attitude toward ICT, educational applications, achievement expectations and learning-teaching approaches. (Schug, 1998; Smerdon, Cronen, Lanahan, Anderson, Iannotti & Angeles, 2000; Kozma, 2003; Lim & Khine, 2006; Thomas & Stratton, 2006). As a result, integrating ICT investments with school curricula requires that teachers' knowledge, level of use and attitudes towards those technologies are determined and guided.

### Problem Statements:

Whenever ICT applied in higher education institution, then number of existing problem in higher education institution. Some of them are given below:

- I. To introduce modern information technology to non-engineering department is so difficult and slow.
- II. Unwillingness of teacher to use of ICT in their professional activities especially in class rooms and practical rooms.
- III. What problems should be solved to enhance teacher's effectiveness in the use of ICT.

### Proposed Solution

The teacher who are teaching in higher institution, including the use of electronic education resources. To improve the order of motivation of ICT use by teachers, it is necessary to create such working environment or conditions in universities for the teachers to be willing and able to apply computer literacy to their teaching.

To understand the level of ICT in any education institution, here some questionnaire has been developed that provided facility where is improvement or training need in which area, which type of training, and who will be concerned to take training.

### Here, are some thematic area of questionnaire:

- I. The use of ICT in education activities
- II. The use of ICT in scientific research
- III. The use of ICT for further education and professional growth
- IV. The understanding of ICT in education and computer literacy

Based on above thematic areas, creates questionnaire and based upon questionnaire, measure the percentage of use of ICT to enhance higher education in specific college or stream or department.

With help of it teacher could make their lecture in more effective by using multimedia & on other hand the students were able to capture the lesson taught to them easily.

It will creates such type of environment, so that student feel better, no boring session for them, to make the classroom more interesting, the teacher also retained in their mind for a longer span which supported them during the time of examination.

With help of digital technologies, education can have significant effects both on student's attitude and their achievement.

Now a days educational space of higher education in the institutes or universities, is in the state of significant modernization which is embodied in growing differentiation of education opportunities using more flexible educational communicational mechanism increasing complexity of technological, organizational and cross-cultural relation under the influence of globalization.

By using modern standard of education that is based on a combination of achievements of pedagogical and information technologies.

To improve the quality of educational services, teacher who are teaching in higher institution – use in their teaching activities of electronic educational resources, presentation, video lecture, video conferences, educational resources with remote access and others.

Each of above resources that is used for teaching has its advantages and improve the efficiencies of the educational process.

### CONCLUSION

The important component of ICT is information that will use in educational process of higher education institute. So, therefore, it is necessary of every teacher/faculties that belong to any discipline to be able to prepare and deliver lecture, colourful, informative, interactive, more over, it saves both teacher and student times.

Allow to facilities to student to work at their own pace, allow teacher to work differently and individually with students giving the opportunities to monitor and evaluate the learning outcomes.

Therefore, ICT in higher education, help in formation of informational and educational environment of universities or institutes, through communication technologies, that play a crucial role for the development and self-development of teachers as well as the improvement of their educational activities, pedagogical creativity and ICT competence.

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