The Impact of ICT in Higher Education

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Abstract— The influence of ICT (Information and Communication Technology) is very much high in the current world. In the present work we are focusing in only higher education in India to estimate the impact of ICT in higher education in terms of access and quality. The social and economic development of any country mainly depends and relies on the quality of education. Implementation of the ICT's within the higher education system has change the way of entire methodology of the education, particularly concentrating on the major factors of the equity, management, main stack holders, quality, pedagogy and efficiency. In the present work the challenges of uses ICT in higher has been elaborated. In the current scenario, every knowledge development institutions are introducing infrastructure of ICT as the major additive that combines the educational resources and campus within the frame. A few benefits of ICT utilization are the virtual classroom, connecting to e – resources like e – classrooms, e – books, e – contents, e – journals, implementation of e – courses and staff members creation of e – contents. Data Mining uses clustering, classification, Association, Regression, forecasting features extractions prediction in educational repositories helps to develop the models to effective decision making from the historical data. Data mining uses powerful approaches for extraction of hidden information from databases so that it can assist institutions to concentrate on the foremost data within the data repository. Lot of research work is going on to analyses the aspect of economies based knowledge by higher education organizations. The impact of ICT and globalization in higher education improvise the capability to covert the information into useful knowledge, value and skills; rejuvenate society and enhance the living standards to overcome the challenges for integrating ICT education for effective teaching and learning in educational system. Data mining assists to anticipate the future progression and behaviors, such that institutions follow them to make the best resolutions. In the present work new framework has been design for High education and the present paper also displays the challenges and opportunities mannered by ICT's integration within higher education in different ways.

Keywords— Accessibility, Data mining, Higher education, Information and Communication Technology (ICT).

I. INTRODUCTION

The use of ICT in higher education has gone in a rapid increase within the last few years in order to improvise the education quality for everyone by introducing the advancements in ICTs within the system of higher education in the current world. In the proposed work some factor are to be determine for economic growth and development. The facilities of Open and distance education facilities is becoming more important for remote area and people who are working.

Ringstaff and Kelley (2002), by intense research stated positive effects of technologies attempt the students to get self – motivated, improves self – research, self – possession and faith in oneself. Meanwhile, with the assistance of few more investigators (Coley, 1997; Mandinach & Cline, 1997; Russell, 1997) stated that the issues with the quick revision of technology and improper measures and the output from the research justifying the student learning with the technology are undeniable (Ringstaff and Kelley, 2002). Further, studies show that the learning and teaching will be affluent, more flexible and effective and motivated by improving the online articulation (Anderson, 1997; Budin, 1999; Education Information Centre, 1998; Glennan, 1998; Harasim et al., 1995).

Teacher personal traits are labeled in research on predictors of admirable teaching along with the use of computer. The aspects of numerous studies check out the predictors of the teachers capability to introduce instructions through computers, also contains the teacher gender, grades, years of working experience within ICT and ownership of computer (Becker, 1994; Marcinkiewicz, 1994; Ross et al., 1999; Smeets and Mooji, 2001). Instructors faiths and approach to ICT may impact the practice of teaching and consequently authorizes the students attitude pointing to technology (Akbaba and Kurubacak, 1998; Clarke, 1997; Fulton and Torney – Putra, 2000).

Numerous studies are encroached on the teachers to estimate their ease of handling the computers either for personal use or the practical use of teaching. These research (Lynch, 1999; Macmillan, Timmons and Liu, 1997; Bandura, 1997; Sandholtz, Ringstaff and Dwyer, 1997) states that instructors are averse to show their strength of proficiency on computers to the learners and least interested in computer utilization at full need, whereas the teachers utilizing the computers at fullest

are confident and ready to deliver the instructions relating to the computer knowledge efficiently (Galloway, 1997; Nash and Moroz, 1997).

The use of ICT and it's importance is effectively placed by the instructors on the efforts of the student. Latest research (Smeets and Mooji, 2001; Tolmie, 2002; Znadvliet, 1999) stated that improvements in the student productivity is impacted by the utilization of the ICT. Riel and Becker (2000) noticed that utilization of ICT within the experienced teachers are more connected to the students helping to develop latest methods and assists in learning with innovative thinking. Few studies observed that , the female pupils are less interested in computer education than of opposite gender pupils (Dix, 1999; Dix, 2005; Liao, 1999; OECD, 2006). Numerous studies stated that the interest of utilization greatly impacted the students (Christensen, 1998; Dix, 1999; Shade, 1994). Openness to computers realize the students and the teachers helps in maximizing the display of the ICT which impacts the students approach towards computer (Levine and Donitsa-Schmidt, 1998; Meredyth, 1999).

In order to enhance the higher education system, the ICT based computer education system assists in research, learning and teaching in the way of instructive methodologies and constructive methodologies of learning (Czerniewicz, Ravjee, and Mlitwa, 2005). Thus the policy makers, academicians, practitioners, are differentiated based on the educational status based in the role of technology in socio – technological processes. In this paper, the primary section states concisely about the current profile of the Chhattisgarh higher education system and its role in ICT within the higher education system is stated in the second part. The final and the last portion defines the issues in maximizing the ICTs role for the improvement of higher education in future.

II. RISE OF HIGHER EDUCATION IN CHHATTISGARH

The following ways ICT may be utilized in the education process:-

1. Informative tool: Vast amount of Audio and Video Lecture are provided to the student and learners like NPTEL etc and many online and certification course are available.
2. Situating tool: with the help of simulated software exposure in virtual life of student and real life of student is possible.
3. Constructive tool: Many tools are available for storing and retrieving the data from database and also to analysis the data and for prediction.
4. Communicative tool: It is used to solve the problem of communication in terms of time and spaces.

As per the ICTs, the classification of education is into three divisions:

Blended Learning stated for more than two (multiple) ways to learning. For example, learning through person to person, assessments through online and at full paced self-training.

E-Learning or Electronic learning allows higher participation and greater interaction is common word utilized to specify learning through computer and is termed as training through

online. E-Learning help major stockholders student, employees and government to save attendance, timing and travel time. E – learning assists to stipulate the content, feedback and dialogue within the internet. E-learning has the following advantages like it enhanced group collaboration, new educational approaches. E-Learning removes the concerns relating to socio – geographies within education for trainers and students.

Distance Learning:- Distance learning is also known as open education. This type of education are important for those students and people who perform in households or within the office premises and can be in touch with the assistance of email, video chat and electronic forums like Google Docs, Google Forms, instant messaging and different ways of communication that are based on the computer. As the world wide web and the internet are readily obtained from anywhere in the corner of the world and result in proper implementation of the learning systems through distance.

Main Stakeholders
   a) Students
   b) Employers
   c) Government

- 1 • **Students**
- 2 • **Employers**
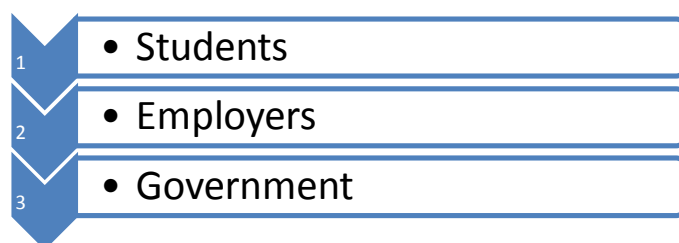- 3 • **Government**

Figure 1. Main Stakeholders of Higher Education

In higher education if ICT is not present then accountability of the learning and teaching depends in the instructor. Yet, by utilizing ICT the responsibilities of teaching and learning can be overcome the accountability transfer to manage the learning techniques to the students.

III. ROLE OF ICT IN HIGHER EDUCATION

Teaching innovatively in by dedicated approach to combine the latest methods and strategies of teaching within a classroom is helpful. Crossover learning considered as the major approach for the instructor to introduce and to reveal queries within the classroom and allow to learn to find the question on a field trip or museum visit, gathering evidence and notes and eventually express them in the classroom by individual or group answers. Argumentation training, assists the students to develop the ideas that relies on the individual learning. During an activity, unintentional and unplanned learning tends to develop incidental learning. The preaching from self-experience is based on the learning of the context. In the classroom session is stipulated to the confined space within the time limit. The other method is Computation thinking and it is effective method for solving problems and thinking, which helps in dividing the huge problems into small problems. The

last method discuss in the work is Embodied Learning and it includes interaction of the body with world of real or simulated learning process through attention towards the subject. These are the different method which provides the platform for different opportunities and avenues in teaching learning and evaluation. It also provides in-depth analysis of teaching learning evaluation in the different part of our country. Use of ICT in Higher education rapidly taking place all over the world. The opportunities for education equity and access can be categorized role of ICT in cultivation of higher education through quality training and encouraging programs for trending learnedness innovations.

In higher educational division, ICT presence is raising day by day. ICTs are termed to be important role for maximizing the equity and education access. For higher education and to impart the knowledge ICTs play a prominent role.. Government of India making and looking to develop numerous efforts to improve the higher education quality standards by issuing the stringent policy guidelines for the system in education and other actives which are important.

IV. PROPOSED AND SOLUTION METHODOLOGY

For improving the quality of teaching learning processing in india another important dimensions is ICT integration. The integration of ICTs help personal growth as well as developing knowledge based societies. State level institute will assist in improving the managerial and technical power with various collaborations and networks of ICT.
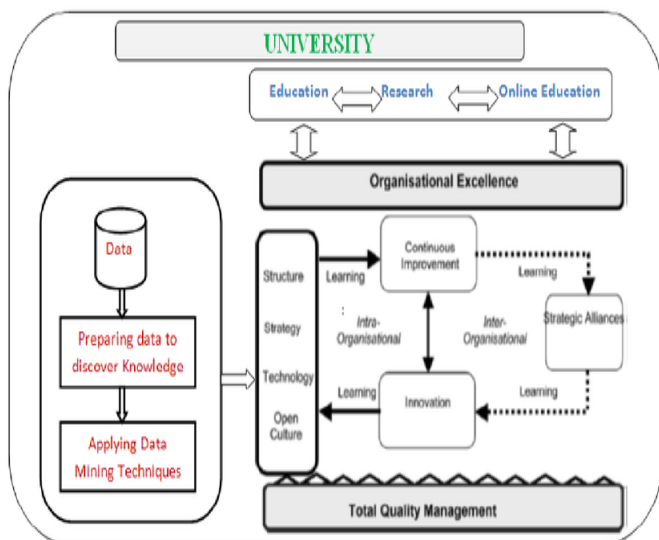

Figure 2. Framework for ICT Based Hybrid Framework for Data Mining Techniques (Courtesy:- www.google.co.in)

It is expected from the study that use of ICT in higher educational institutions of Chhattisgarh can have significant positive relationship on increased access, knowledge building, learning, performance, motivation classroom management and interaction, collaborative learning and satisfaction among students and teachers. It is likely that there would be significant positive effect of increased access, knowledge building, learning, performance, motivation classroom management and interaction, collaborative learning on satisfaction among

students and teachers of higher educational institutions of Chhattisgarh. The study is hopeful to confirm the convergence of opinion of students and faculties on various dimensions of ICT taken for the study.

➢ By the help of Data Mining Techniques we will try to show the technique that how it improved throughput of ICT Based Application in higher education.

➢ By the help of ICT Based Application we will try to show the technique that how it improved Employability in Higher education.

➢ By the help of Data mining ICT Based Application must be developed in such a manner so that it optimize the metric used higher education in any environment and it gives acceptable result.

➢ Complexity of the develop algorithm mush be compared with reference to time, space, and transition.

Teaching-learning and research in higher education can be improved by innovative and effective way of ICTs. The use of different tools for learning, ease of utilizing the tools of multimedia and simulation and instant access to information and data in more prominent way, regulates the education system easily available through processing of data. The feasibility of the ICT integration and innovations improves the content to learn through modern pedagogic way is high in the higher education system.

V. CONCLUSION

The quality enhancements of teaching and learning are only possible through the utilization of information and communication technologies (ICTs) in higher education systems (HES). Utilization of ICT enhances the learning process through classroom and eventually assists in E – learning. ICT utilization in the system gives e – learning facility by maximizing the teaching and learning process in the classroom. Now a day's teaching and learning methods are converted from traditional form to online and simulated virtual environments. Integration of ICT in education system can be done by many ways. Many private university and state level university are using ICT to enhanced distance learning. With the help of ICT the teaching community is ready to go to remote areas where people want to study but due to lack of faculties and facilities. The ICT also help learners to obtain qualitative environment of learning from every corner of the world. It is crucial for the trainers and the teachers to learn the new technologies and latest style of learning to give benefits of education to the learners. Successful utilization of ICT in any state if India to lead change is to entrust the teachers and backup them to support the students in learning instead of gathering computer skills and establishing software and equipment. Integration of ICT and Data Mining Technique which allows education to reach the students inform of information from the stockholder.

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