Perception of Student Teachers on Web driven Teacher Education Program

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Abstract: The Education needs to be revamped to bring it to the state of active and joyful learning in multi-cultural context of Globalization. The technological innovations and interventions through satellite have made the whole globe a village likes and wherein every part of the world through inter and intra networks. The present world can be best described as a knowledge society. To meet the increasing demands of growing population of the society, it is necessary to utilize the potential of Information and Communication Technology in pedagogy. The accumulation of knowledge in the cyber age is as significant as the dissemination. Increasing demands of the Technology and high influence of the technology has made Education compatible with the basic needs of the society. New electronic gazettes have come in the market every day and new generation is also crazy to adopt new technology. This shifting from necessity to ferocity has lead to enhance compatibility of the teachers to cope with techno influenced generation. Hence it is very essential to build capacity of teacher so that they can contribute to the society by making teaching effective. In this paper, authors have tried to present perception of student teachers towards the adapting new technologically driven Education.

Keyword: *E-learning, ICT, Student teacher, Web enhanced Teacher Education*

I.   Introduction

Education is one of the fastest growing economic and social sectors in the world, and the use of new technologies is an integral and driving component of its growth. E-learning is not the end of classroom training, in fact, classroom training will be redefined to focus on those aspects of learning that are best accomplished when there is requirement for person-to-person interactions, identifying opportunities for improvement, team efforts, evaluative tasks, and the participation of experts with the group. "E-learning is the development of knowledge and skills through the use of information and communication technologies (ICTs) to support learning-interactions with content, with learning activities and tools, and with other people" (Rossiter, 2002).

II.   E- Learning

E-learning can raise the level of education, literacy and economic development. This is especially true for countries where technical education is expensive, opportunities are limited, and economic disparities exist. The existing methods which are predominately based on the rote learning, lectures and reproduction of information needs to be replaced by interactive modes of teaching which would focus, on Learning skills like independent Thinking, problem solving skills, planning and execution of projects etc.

E-learning defined as the use of digital technologies and media in the teaching-learning process. It can range in complexity from the simplest developments, such as availability of lecture notes in electronic format, to podcasts, online real-time teaching. E-learning may include the use of web-based teaching materials and hypermedia in general, multimedia CD-ROMs or web sites, discussion boards, collaborative software, e-mail, blogs, wikis, computer aided assessment, educational animation, simulations, games, learning management software, electronic voting systems and more, with possibly a combination of different methods being used. E-Learning is associated with such expressions as 'online learning' or 'virtual learning' (Fee, 2010). The teacher's role will be one of organizing learning environment for the students. The teacher's role is to generate thrust for learning among learners.

III.   Present Scenario of Teacher Education in India

The students of the present generation are well ahead in adopting technology. Over and above this there is great influence of media in day to day life. The lack of proper guidance, motivation and attention from the parents as well as teachers may ruin their potential. Country's future depends upon the future of the youngsters which in turn is dependent upon the quality of teaching.

According to Dodia (2012) and Swamy (2012), school teachers are not acquainted to use email, internet to collect information to enhance teaching learning process. They do not have knowledge about subject related educational software, ICT based tools & materials. They do not maintain continuous, positive, constructive feedback to encourage student's participation in ICT based activities, and cannot maintain healthy & social relations with other teachers and students for academic Discussion.

The National Policy on Education (1986), National Policy on Information and Communication Technology (ICT) in School Education (2011), National Curriculum Framework for Teacher Education (2006), The UNESCO ICT Competency Framework for Teachers (2011), UNESCO (2009), National Knowledge Commission (2009), Federation of Indian Chambers of Commerce and Industry (2009) gave lots of emphasis on development of ICT enabled teaching at all level of learning from primary to higher Education.Teacher education needs to orient and sensitize the teachers to distinguish between critically useful, developmentally appropriate and the detrimental use of ICT. In a way, ICT can be imaginatively drawn upon for professional development and academic support of the pre-service and in-service teachers (NCFTE, 2009). UNESCO (2009) hasemphasized to adopt virtual learning environments (VLEs), which incorporate collaboration and communication tools, web-based tools in teaching and learning. It also recommended to develop course materials using combination of face-to-face and computer based approaches. Thus, Professional development of Pre-service as well as In-service teacher is very essential with the ICT enhanced education.

This technology invites learners to be more independent and the curricula to be more dynamic. Teachers need to complement their content and pedagogy expertise by utilizing online facilities. Use of ICT effectively requires a change in classroom practice rather than mere acquisition of technical skills. Teachers need to familiarize themselves with possible approaches and application of ICT. Today's Student teachers must be a representative of tomorrow's school. ICT skill is the pre-requisite of the techno savvy skills and skill and knowledge of hardware and software is essential to become techno-savvy teacher.

IV.   Paradigm Shift of Teacher Education through ICT

IT driven educations has changed the methods of content generation, content storage, content packaging and content delivery and has offers a new paradigm of education (Takwal, 2003). The 21st century is characterized with the emergence of knowledge based society wherein ICTs play a vital role. The National Curriculum framework 2005 (NCF, 2005) has also observed major paradigm shift is characterized in terms of imparting instructions, Collaborative learning, multidisciplinary problem solving and promoting critical thinking skills. There is a decentralization of the knowledge source. There is need to impart training about ICTs to teacher both at the pre-service level and In-service level. Students have accessibility to the plethora of information from the internet and intranet but they need to learn to analyze information and master new knowledge domains in an increasingly technological society. They will need to be lifelong learners, collaborating with others in accomplishing complex task, and effectively using different systems for representing and communicating knowledge to other.

Education is a lifelong learning. Modes and medium of Collaboration between Teachers and the Student is changing. But the ultimate goal of the learner has not changed that is Wholistic development of child. As per the Psychological dimension modes of learning may differ. Constructivism advocates that reality does not exist out there objectively rather it is constructed by the human beings subjectively. It is not predictable in total rather most of it depends on the human interaction with the situation resulting into human perception (giving meaning), which in turn draws the picture/image of reality. According to Patel et, al. (2011), the move towards constructivism from Objectivism have been pushed by the emergence of universal connectivity through ICTs as mentioned below Diagram 1.
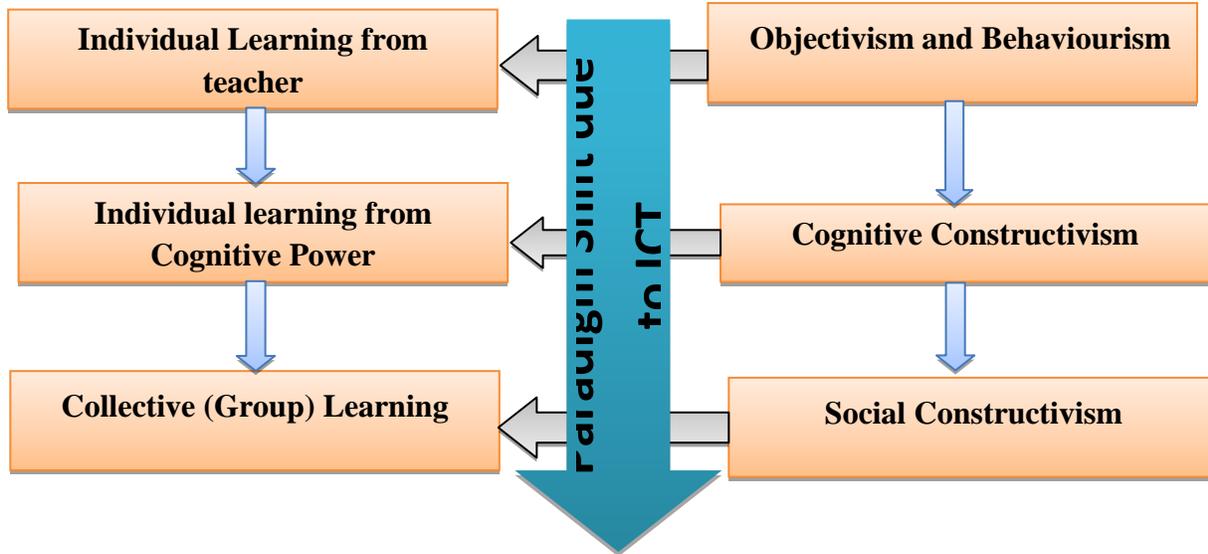

Diagram 1 Paradigm Shifting through ICT

Resource: Patel et, al. (2011)

The challenges before teachers are to understand and use the potential of relevant technology to improve the development of higher order thinking skills and knowledge creation. ICT cannot simply be dumped on existing system. When this approach is taken, it is almost inevitable that computers will remain in classrooms unused, misused or under-utilized. The development of technical skills alone would be a potential benefits to quality learning that the technology promises. In a cyber-age, both teachers and students need not only to know where to locate information appropriately and efficiently but also to be able to make critical judgments about its validity and reliability.

The different modes of integrating ICT in pedagogy are discussed below.

Levels of integrating ICT in Teaching Learning:

There are several levels of integrating ICT in teaching learning from the very basic to the very advanced based on the level of interactivity. Here they are mainly categorized as per the level of interactivity involved in asynchronous, synchronous, web 2.0 tools.

- *Asynchronous Learning modes and the characteristic features:*This form of learning is in the more traditional sense of the word. It involves self-paced learning, CD-ROM-based, Network-based, Intranet-based or Internet-based. It may include access to instructors through online bulletin boards, online discussion groups and e-mail. It may be totally self-contained with links to reference materials in place of a live instructor.

- *Discussion Forums/Groups:*A discussion group is a compilation of conversations that occur over time. Other name for discussion groups are message boards, bulletin boards and discussion forums. A discussion group might start out as a question from an individual. Discussion groups can be very well used with a group of people taking the same course or similar tasks. A discussion group is a very efficient way to provide expert answers to a large group of people. A single answer to a common question can benefit many.

- *Learning Management Systems*: A Learning Management System (LMS) manages the process of learning. There are various LMS products available in the market that manage learners, provide reports, and manage access to self-paced courses and/or instructor-led courses. It provides support of library or media elements, templates, document management, knowledge capture, and information portal and search tools.

- *Synchronous Learning modes and the characteristic features***:** Synchronous learning is done in real-time with a live instructor facilitating the training. Everyone logs in at a set time and can communicate directly with the instructor and with each other. In synchronous e-Learning mode teachers conduct classes over the Internet and is present face to face with learner. The synchronous technologies provides scope to the learner to interact with peers and experts.

- *Virtual Classroom:*A virtual classroom duplicates/ simulates the capabilities found in a real classroom. A virtual classroom provides a learning space to meet teacher and learner. All students who are enrolled for a particular class sign their user Id and enter a virtual classroom. Teacher in online learning environment can use variety of technologies like audio and video conferencing, slide presentation with audio, shared white board and application sharing. Just like real classroom situation student can ask question to the teacher by virtually raising their hand. Depending upon the

level of students in a subject area teacher can organize quiz. Teacher can give projects and assignments where students can work in groups online.

- *Arranging Audio and Video Conferencing:*There are two ways for arranging audio conferencing one by connecting computers via internet which is commonly known as voice over IP or IP audio conferencing and another way is by phone conferencing where people dial the same number to participate in an audio conference.Similarly video conferencing can also be implemented in two ways one by connecting computers with digital camera via internet and another way by special video conferencing devices that connect over internet or using phone lines.

- *Chat:*With the help of chat several learner at a time can communicate with each other. Each participant types in the message or comment while other can view the name of the person and their comments.

- *Shared Whiteboard:*A shared whiteboard lets learners communicate by typing comments, drawing, highlighting and pointing. A shared whiteboard is a common feature within virtual classroom software packages.

- *Application Sharing:*Teacher can demonstrate how to use software applications to remote learners with application sharing. A teacher can also let the learner take control of the application to practice performing tasks.

- *Instant Messaging:*Instant messaging is similar to chat but it provides additional feature. With instant messaging, one can keep a list of people with whom one might like to chat. The list will indicate if they are online, offline, available for chat or busy. These features make instant messaging an excellent tool for learning from peers.

These tools are not developed for educational purposes, which mean that a directed effort is necessary to develop educational social software tools to support education activities.

V. Changing Scenario of the Learning with Special Reference to Web Enhanced Teacher Education

The use of information and communications technology (ICT) in education is a relatively new emerging phenomenon. Educators, researchers and thinkers have started researching and experimenting the challenges of using ICT since 1980s with varied success in the areas like Multimedia Instructional System, Multimedia Information Package, Computer assisted Instruction, Computer based Instruction, Computer based interactive Multimedia, Multimedia, Animated Demonstration, Audio-Video Instructional Package, CD-ROM to deliver Learning resources, etc. The internet, Mobile technology and the World Wide Web have opened a door in the direction of e-learning, Web based learning, Virtual learning, Hypermedia. There is Importance of Web enhanced Learning with respect to Student centric designs, Learner autonomy, Active participation, Knowledge generation, learning in the wider social context etc.

1. learner-centre, flexible designs: Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their student centered environments (Oliver, 2002). The current trend in e-Learning is to provide cognitive tools, which can be adapted for intellectual

partnerships among teachers and students and facilitate critical thinking and higher-order learning (Young, 2003).

2. Teachers direction, decisions &Learner autonomy: Traditional teaching learning process is more teachers centric. Today's teachers are more autocratic thus scope of students' expression is very less. With the effective use of different tools of ICT, scope of interaction with classmate and teachers may open a door to express them. This may reduce the shyness of the student also and makes student autocratic and self learner.

3. Active participation in learning: Students are frustrated due to heavy classroom activities, homework, school activities and formative as well as summative evaluation which sometime makes them passive. Use of advanced technology like Synchronous learning, Asynchronous learning, E-learning, M-learning, Web based learning makes learning effective and interesting. Through online learning and instant messaging and easily accessible internet, students can take help of classmates in developing assignments, activities, homework, etc. Such effort of blending education and entertainment leading towards EDUTAINMENT makes learner active, positive and compatible.

*4. Learning in the wider social of classroom context:*Now a days, learning is not restricted to the four wall of the classroom. Stage of Formal Education has exceeded to online education. With the influence of High bandwidth internet, Web 2.0 Tools and Social Networking, learning outside classroom is made possible, where students share their ideas, discus educational threads. So there is paradigm shift to wider social context from classroom (Patel, 2011).

5. Knowledge as given and fixed knowledge as it is evolved & created: Knowledge is not something as fixed, static or confined in books but as something being constructed through various types of experiences. It is created through discussion, evaluation explanation, comparing and contrasting i.e., through interaction (Oliver, 2000).

The above Importance of Web enhanced Learning gives a way to adopt it in teaching learning to make Education more Comprehensive. Thus it is very essential to know the Perceptions of the Student teachers with reference to Web enhanced Learning.

VI.   Objectives of the Study

To Study opinion of the student teachers with respect to Web driven teacher education program

Population and Sample:

All the 180 B. Ed. students at the Department of Education, Faculty of Education and Psychology, The M. S. University of Baroda, from the batch of 2012-13 constituted the sample for the study.

Tool: Questionnaire was used for data collection. it contained only open ended Questions covering different aspects of Web driven education like Educational Website for teachers, expectations from the educational site, Utility, safety measures, difficulties, purpose of educational website, mechanism for the interaction among teachers, online orientation for teachers, use of internet for educational purpose etc.

VII.   Result and Discussion

In order to know their opinion about web based learning following questions were asked to the students teachers and the analysis of responses is presented below:

When asked whether there should be separate educational website for teachers? Then 90% student teachers agreed for separate educational website for serving different Educational purposes like Sharing resources, Academic Information, Online Collaboration, Online form Submission, update of information, learning etc. and 10 % were of the opinion that there is no need for separate site just because of Open accessibility of the learning resources, information and Hacking Problems and misuse of their information on the site.

When asked whether there should have been any mechanism for the interaction with teachers outside the Classroom? Majority of the student teachers (96 %) agreed to it and there should be other external interaction system required for interaction among teachers, students and others. Some of the respondents suggested use of Facebook, LinkedIn, Orkut, Google+, Communities etc. Chatting as mechanism to Discuss, and give feedback as external.

When asked about Educational Website and their expectations, majority of the respondents restricted themselves to accessibility of Materials like notes, lesson plan, chatting etc. few respondents responded beyond these as Information access, Events, Curriculum, Teaching methods, learning resources in the form of Word, Powerpoint, Audio-video in multilingual form etc.

When asked what way educational Website be useful to you? Respondent responded that it is useful to them for the following purposes:

- Chatting
- Knowledge Enrichment
- Referring Books and Learning Resources
- Access of Information
- Guidance from others
- For Solving Problems'
- For the Project work
- Research Purpose

When asked what kind of feature do they expect in Educational website, respondent suggested that it should have features which are useful for the development of Skills, Accessibility of the information, User friendly, having Safety measures. It should provide information which are authentic, multilingual, understandable, applicable etc. The information be upgraded periodically, with proper linkages, Subject wise information of the resources, News etc. It should have Features to upload and Download Data, Accessibility to Activity, Games related to education etc. and also provides Features of Problem encounter, Video Chatting and Online Information on methods teaching, new approaches and Strategies to enhance learning. The features expected can be grouped under different headings likes:

- Feedback and Suggestion Box
- Learning Resources in various forms
- Activities like Game, Puzzle solving, Quiz etc.
- Dictionary , Wikipedia, Encyclopedia is needed
- Online Forum in form of Chatting, Video Conference,
- Video Chatting,
- Common wall where everybody can upload their views
- Question- Answer Session etc.

When asked which safety mechanisms you expect from educational Website? Majority of the respondents suggested Password Protection, Virus Protection, Issue of Downloading, Authenticating Information, and Issues of Hacking. Internet Speed was a major issue according to them; other safety measures they expect were restriction of access of information, ID proof, and Fake accounts, etc.

When asked about for what purpose you would prefer educational Website? The majority answered for finding Job, getting Guidance, referring educational material.

When asked whether there should be Online Orientation/ guidance for Practice teaching? Then majority of respondent said yes, it be camped face to face guidance, with while 10 % respondent prefers online guidance/ Orientation with face to face interaction.

When asked which type of Difficulty you have faced while using Website? The difficulties highlighted were accessing information, Browsing website, locating information, downloading information, basic functioning, Time constraint, unavailability of information, Hanging, Password Protection and Membership required etc.

Uses of Internet facility for educational purpose, varied answers were obtained. The time spent on internet for educational purpose varied from 5 days in a week to one hour a week or or whenever they have Project work/ Practice teaching. It means use of internet for educational purpose is not a regular feature.

There is little doubt that today's prospective teachers will be expected to teach with technology in the classrooms of tomorrow. However, the resources available to teachers in terms of hardware, software, networking, and professional development vary greatly at school level and even Students are prominently influenced by the Social media especially Social networking Sites. Hence, it is imperative that teachers become directors of their own learning with regard to using information technologies in the classroom as well as interact outside classroom. "The use of computers to assist learning also enables the formation of social contacts that would otherwise be impossible in learning. Students from widely dispersed groups are able to form online groups."(Downes, 2004).

Therefore it is crucial that teacher preparation programs should develop the cognitive, social, and physical environments that will help students feel efficacious and in control of learning to teach with technology. It can be seen from the analysis of reflection on web enhanced teacher education that student teachers do feel that present teaching learning requires to have additional source for constant help from experts, peers, colleagues and students. But there are various issues with regard to authentic of information and security of the information on the website. From student teachers point of view such websites would facilitate their work as teachers by being in touch with likeminded people and it has its own advantages as compared to other social sites.

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