Eteaching/Epedagogy Threats & Opportunities for Teachers In Heis

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Abstract- Information and Communication technologies (ICTs) have not only changed the learning process for the students but also the teaching theories, models and practices. Teacher is now an eTeacher who is fully equipped with the knowledge and applications of different digital gadgets in preparing for lecture, delivering to students, as well as coaching, mentoring and facilitating purposes. Given these contemporary requirements from a teacher, he is no more a ‘sage on the stage’ rather a ‘guide on side’ allowing self-learning to the students. It is however; pinpointed by a huge body of research that adoption of ICTs by the teachers is neither effective nor quick due to several problems particularly in the developing countries like Pakistan. This paper is an effort to bring together the threats and opportunities for eTeacher and eTeaching especially in the higher education of the developing countries.

Keywords: ICTs, eTeacher, Virtual-class/campus, Blended-learning.

I. INTRODUCTION

ICT is the most fundamental of changes in education so far (Jager & Lokman, 1999). The phenomenal development of sophisticated communication technologies has pushed universities, companies and educational institutions to experiment with alternatives to the traditional classroom teaching methods (Favretto et al., 2003). The increasing speed and dissemination of ICT is already showing that our local universities and learning and research communities are no more strictly local rather they have gone global (Beebe, 2004). Integrating technology in teaching and learning transforms the teacher's role from being a "sage on the stage" to a "guide on the side", and student roles also change from being passive receivers of content to being more active participants and partners in the learning process (Mehra & Mital, 2007). Information technology has significant potential in education (Sirkemaa, 2001) because pedagogical improvement can be successfully achieved by using technology (Zaplaska, 2004), for example, in a very short time, technology has become integrated so quickly into our consciousness that we cannot fully absorb the full range of changes due to ICTs (Drucker, 2006). The teachers of 21st century have to update his/her knowledge for making appropriate use of new technologies either as a teacher in the classroom, or as an eTeacher or eModerator of open and distance learning (Blázquez & Díaz, 2006). The design of computer-based learning environments has undergone a paradigm shift; moving away from the instructions to promote technical rationality grounded in objectivism, to the application of computers for cognitive tools usable in constructivist learning (Young, 2003). In education, many factors complicate the process of innovation including technical, legal and social while education do not readily accepts change rather reacts gradually to these external pressures (Aaron et al, 2004). ICTs are changing not only the face of education but also the nature of work and the workplace. The knowledge revolution and globalization is making knowledge-based industries as successful ventures. Knowledge-based industries require an educated labor force of computer-literate individuals who themselves understand and can harness the power of ICT. In response to the demands for producing such a labor force, many countries have changed the objectives of their education system and have directed much of their attention to the development of ICT skills in schools (Ezziane, 2007). The teacher’s role has changed. The centre of gravity has moved from the passive acceptance of “well-cooked” teacher’s knowledge to active “self-cooked” inputs (Hvorecký, 2005). The pedagogical and socio-economic forces that provoke educational applications of ICTs include greater information access; greater communication; synchronous and asynchronous learning; increased cooperation and collaboration, cost-effectiveness and pedagogical improvement (Sife et al., 2007). Despite research and testimony that technology is being used by more faculty, the diffusion of technological innovations for teaching and learning has not been widespread, nor has IT become deeply integrated into the curriculum due to several problems like perceptual differences of users (Mehra & Mital, 2007). Given the differences of perceptions about ICTs, eLearning projects has become challenging therefore developers have to consider a variety of factors including multiple approaches and attitudes, project management techniques, user participation, user training, change management and the context within which the development and use of eLearning is about to happen (Nawaz & Kundi, 2010).

II. ICTS IN HIGHER EDUCATION

Computer technologies are a mainstream issue in higher education, for example, in the Western European context, it is now an accepted practice to integrate ICT in major logistical, organizational and educational processes of higher education (Valcke, 2004). There is no doubt that ICTs are seen as central to education in the 21st century thus, there are implications for educators in the communication aspects of the culture (Knight et al., 2006). For example, modern society is called the ‘broadband society’ that requires a substantial transformation of our experience of telecommunications based on these technologies allowing ICTs to be used everywhere, all the time and by everybody (COST Action 298, 2007). It is now
visible that most universities today offer some form of eLearning (Kanuka, 2007). ICT education is seen as "the dominant engine for productivity improvement and business opportunities" and "a key factor for generating future employment" (Hagan, 2003). However, educational cultures can pass through different phases of maturity regarding change, ready to move forward, backward, or maybe not at all (Aaron et al, 2004). ICTs encompass the effective use of equipment and programs to access, retrieve, convert, store, organize, manipulate and present data and information that has become increasingly important in tertiary education (Gay et al., 2006). As we enter the third millennium, education via the internet, intranet or network represents great and exciting opportunities for both educators and learners (Manochehr, 2007). Supporters claim that the use of information technologies in education will increase communication among students and teachers, provide access to resources that may otherwise not be available, and encourage "authentic" learning as students access "real-world" data not provided by textbooks (Aaron et al, 2004). The higher academic institutions of a country are pioneers in adopting and using ICTs (Roknuzzaman, 2006). In respect of teaching there is a growing pressure, in nearly all societies, to improve its quality, e.g. in order to deal with the challenges of mass education where the ratio of lecturers/tutors to students is worse than in the past and is deteriorating. Politicians, in particular, regard the new ICTs as a cheap and innovative device for the improvement of both the quality and the quantity of teaching. Taking a realistic view, teaching, whether it be face-to-face or e-learning, is not always numbered amongst the most beloved tasks in our universities consequences (Aviram & Eshet-Alkalai, 2006). Technology can be utilized in education in several ways. This continuum starts from information delivery and ends with cognitive tools. Information delivery means that technology is used primarily to access and deliver information that is categorized and stored into digital format. For example, a library system may be considered as an information delivery system. Cognitive tools refer to adaptive technology or systems that are developed to support and improve the learning process (Sirkkema, 2001). ICT is viewed, in this context, as a powerful tool for change, it is not only responsible for social change, it is also attributed powers beyond any other technology in the past (Sasseville, 2004). On the one hand, there have been huge investments by the educational sector on the establishment and maintenance of educational media for students. On the other hand, there has been very little and sporadic knowledge about the usage of such media in education (Arulchelvan & Viswanathan, 2006).

III. E-TEACHING

In politics, furthermore, there is hardly any doubt about the future necessity of specific ICT knowledge that a teacher has to possess in order to function in his profession. Instruction should be compulsory if a teacher lacks this knowledge (Jager & Lokman, 1999). Technology is much more than computers in the classroom. There are two types of eLearning: asynchronous or self-paced, and synchronous or instructor-led. The degree of interactivity, sophistication and expense is different in each of the types. E-learning is not traditional computer based learning (CBL). Neither is it downloaded to a hard drive like CBL; rather, it is stored on a server and accessed over a network by a web browser. E-learning programs are saved on the internet/intranet and can be accessed any time, anywhere, regardless of the computer platform, as long as the user has subscribed to an internet service provider (ISP) (Manochehr, 2007). ICTs have affected our life profoundly – one can work, do shopping and keep in touch with far-away relatives with an inexpensive personal computer. In education, ICTs have highlighted the importance of continuous IT education that makes it possible to use changing technology. Secondly, IT has introduced new tools for educators and students to be used in the learning process. Thirdly, there has been an explosion in teaching and learning with new technology. The pace of technological change continues as ever smaller, portable computers are being introduced that make it possible to connect anywhere and anytime. However, it can be argued whether technology is being utilized so that it facilitates learning in the best possible way (Sirkkema, 2001). Lecturers are able to break away from professional isolation. With ICTs, they can easily connect with lecturers from other countries and with sources of teaching materials.

1. With information more readily available learners are not dependent on lecturers and librarians for information.
2. ICTs are altering the functions of libraries and changing the role of librarians.
3. Researchers are no longer faced with a lack of information but a glut of information (Beebe, 2004).

ICT is generally perceived as a welcome addition to the arsenal of pedagogical tools and approaches in the classroom. Learning with technology is considered important because it is quickly becoming a common way of acquiring knowledge, but technology is always subservient to the learning goals set by the teacher (Sasseville, 2004). Over the years, educational technology is playing an important role in the innovation of education, providing both teachers and students with more options and flexibility in their teaching practices. With the Internet and computer technology available to most teachers, educational technology becomes increasingly indispensable in the field of education (Oh & Russell, 2004). Internet-based educational technology can contribute to substantial improvements in education. Digital content and networked applications will transform teaching and learning. The role technology (e.g., email or conferencing) plays in facilitating organizational learning is by enabling improved forms of communication and sharing (Laffey & Musser, 2006). ETeaching and eLearning has gone through several stages of development (Gray et al., 2003), for example:

1. In the 1970s and 1980s, it was referred to as Computer Assisted Learning, Computer Based Training or Technology Based Training. Pedagogically, early program
often involved electronic page turning and were didactic in approach – a form of transmitted knowledge.

2. By the 1990s this form of learning was beginning to be supplemented by the use of other media, particularly email and discussion groups. Although courseware continued to be used, this was accompanied by a discussion forum where participants could read and post messages, and involve in mutual support and debate. In a sense, this is a negotiated knowledge.

3. Modern VLEs comprise both course materials as well as the interaction through a range of communication tools. There are important changes taking place in web development that will affect the way in which it is used for teaching and learning. It is growing and now includes millions of pages, sites archives, portals and databases. Likewise, social software has emerged and making virtual learning a king of social and networked learning (Klamma et al., 2007). The new learning environment differs from the one we are familiar with; the teacher has to cope with many more uncertainties. The teacher cannot create new learning environments completely independently. He has to depend on all kinds of things like the technical infrastructure, timetables and the activities of other teachers. In doing so, the teacher losess a part of his autonomy and therefore, he is forced to collaborate with his colleagues in a totally different manner (Jager & Lokman, 1999). The new learning process brings up the following shifts:

1) from linear to hypermedia learning,
2) from instruction to construction and discovery,
3) from teacher-centered to learner-centered education,
4) from absorbing material to learning how to navigate and how to learn,
5) from school to lifelong learning,
6) from one-size-fits-all to customized learning,
7) from learning as torture to learning as fun, and,
8) from the teacher as transmitter to the teacher as facilitator (Dinevski & Kokol, 2005).

IV. THREATS & OPPORTUNITIES FOR TEACHERS

New things are intimidating and are causing resistance (Jager & Lokman, 1999). Designing and delivering e-learning is not simply a matter of selecting a tutoring team with subject matter expertise and/or technical skills, but is also choosing educationalists with pedagogical, information and communication skills that are required to manage and facilitate online learning (McPherson & Nunes, 2004). Many teacher educators and teacher education programs have been experimenting with the use of technology over the years. Despite their efforts, there are still challenges and concerns regarding teacher's ability to integrate technology into teaching and learning activities and their comfort in doing so (Oh & Russell, 2004). It can be also said that teachers are still in the process of evaluating the proper way of using information technology for teaching and learning and that this technology has not yet been completely integrated into their craft as other more traditional tools (Sasseville, 2004). Rapid advances in ICTs demand changes to our education systems (Knight et al., 2006). Technology is by nature disruptive, and so, demands new investments of time, money, space, changes in the way people do things, new skills and so on (Aaron et al., 2004). Thus, the marriage between education and technology has often been rocky (Buzhardt & Linda, 2005). While most educators appear to acknowledge the importance and relevance of Information and Communication Technologies within teaching, difficulties nevertheless continue to be experienced within the processes of adopting these technologies. Significantly, there is a gap between the valuing and relevance of 'new skills' and the extent to which they are practiced (Knight et al., 2006). It is apparent from this study that the availability of the technology itself will not instigate the aspired goals. Cultural and pedagogic change should occur for the technology to be implemented to its full effectiveness and achieve the goals it was designed to fulfil (Allan, 2007). ICT is not neutral but supported by an ideological complex that borrows ideas to present currents of thought as diverse as the globalization of the economy, the new information society, the end of national policy and the advent of world government (Sasseville, 2004). There is also great uncertainty among decision-makers and managers as well as among developers, trainers and learners: instructors find themselves confronted with a new role in which they are tutors and facilitators for learning processes. Software developers more and more have to go beyond the paradigms of their own discipline when designing and implementing learning software; they are in need to seek interdisciplinary exchange with teachers, authors and learners (Ehlers, 2005). Despite the best of intentions, many of these projects ultimately fail. There are many reasons for this: technology may not be the appropriate solution in the first place, projects may be poorly-implemented, equipment may be improperly used, there may be a lack of follow-up, stakeholders may not receive adequate training to support the program, or it may simply be difficult to create and sustain a project within a shifting social and political context (Wells, 2007). Teaching technologies offer pedagogical advantages which vary with specific contexts (Aaron et al., 2004). The research shows that teachers are not opposed to ICT integration; they're interested in effective ways to implement learning. The organizational context into which ICT is integrated is also a major impediment when it comes to changing the teacher's practice (Sasseville, 2004). There are documented differences between the success and failure factors in the developed and developing countries with regard to the development and use of eLearning in higher education institutions (HEIs). These differences are widely attributed to the demographic variations in the context of eLearning development and use. Unless these differences are skillfully identified and accommodated as such into the development and use models, eLearning efforts are reported to be caught in problems in the construction, use and progress of the eLearning environments in the institutions for teaching, learning and administrative purposes (Nawaz & Kundi, 2010).
1) Major Threats

Integrating technology into the classroom is not unanimously accepted among scholars and teachers and, according to some, it entails many dangers. For instance, computerizing education could limit the diversity of pedagogical approaches to the only model of academic efficiency and performance implicitly promoted by technology (Sasseville, 2004). Low collaborative activities and the significant preference of print over other forms of presentation indicate the prevalence of traditional dynamics of teacher-centered learning contexts where communication is uni-directional flowing from the teacher to the learner and learning materials are disseminated to the students in a print format (Allan, 2007). There are a number of challenges that face universities in developing countries as they seek to implement the e-learning systems. African universities which should be in the forefront of ensuring Africa's participation in the ICT revolution, they are themselves unable and ill-prepared to play such a leadership role. This is because of the information infrastructure of African universities which is poorly developed and inequitably distributed (Sife et al., 2007). Our world's culture is no longer only literary and artistic, it is also technologic and scientific. ICT is at the crossroads of these two aspects. Refusing this is condemning yourself to illiteracy, not being able to integrate yourself into today's world (Sasseville, 2004). It is important to acknowledge that quality of a learning process is not something that is delivered to a learner by an e-learning provider but rather constitutes a process of co-production between the learner and the learning-environment (Ehlers, 2005). However, despite the potential benefits of using technology in the classroom, some teachers were found to shy away from using it effectively or at all, which may bring into focus the role of teacher training programs not only in helping teachers use technology effectively but also to change some of their practices and attitudes towards teaching and learning (Bataineh et al., 2006). A researcher reports that investments in infrastructure and increased access to technology did not lead to increased integration, instead, most teachers remained “occasional” or “non-users” of classroom technology (p. 813). They state that limited time to learn and implement new technology was considered a serious barrier as well as poorly implemented professional development and defects in the technology itself (Cagiltay et al., 2006). In India, a survey revealed that new age technology teaching was partly intimidating. A large population found it easier to prepare lectures on transparencies rather than use the computer (Mehra & Mital, 2007) Technological change is not perceived as a collective experience - or an experiment in social change - but more of a personal challenge. Solutions to the problem of integrating technological innovations into the classroom are more related to the individual teaching practice. Teachers were reluctant to integrate technological innovations into their daily scholarly activities and, at least in Quebec, this situation has not really changed over the past few years (Sasseville, 2004). In spite of a unanimous agreement on the benefits of instructional technology there were doubts with respect to matching of their own personal teaching style with instructional technology (Mehra & Mital, 2007). There is a continuum of perceptions and attitudes of eLearning-users, with those who dislike information and communication technologies (ICTs) on one extreme and those who are their promoters on the other end while many groups can be located at different points between the two extremes. There is both difference of kind as well as difference of degree between the conceptions and behavior of users about the nature and role of ICTs in higher education. The research reveals that these differences of attitudes stem from the contextual factors relating to individual, group and organizational characteristics (Nawaz & Kundi, 2010).

2) Opportunities to Improve

Universities are now expected to contribute to society by widening access to higher education, continuing professional development, applied research, contributing to local economic impact, and improving social inclusion (Beebe, 2004). Instructors are feeling increasing pressure to use IT, but they commonly face several obstacles when attempting to use technological teaching techniques. Institutions of higher education must strategically develop IT integration plans that help overcome these obstacles, addressing the needs of diverse pedagogical agendas and multiple levels of comfort with technology. Barriers can make technology use frustrating for the technologically perceptive, let alone the many teachers who may be somewhat techno-phobic (Ezziane, 2007). The expanded use of computers in education continues despite research having failed to accrue definite benefits in learner’s performance. The main reason for finding no significant difference between the traditional education system and the system using technology is the instructional methods (Cagiltay et al., 2006). A large body of literature supports the idea that technology training is the major factor that could help teachers develop positive attitudes toward technology and integrating technology into curriculum (Zhao & LeAnna-Bryant, 2006). People acquire their technology literacy in two ways: formally through school programs or in the workplace, and informally, whether at home, from friends, or by themselves (Ezziane, 2007). Teachers are adapting their practice to the use of information technology but only to a certain extent. They are not willing to put aside or throw away years of precious experience simply to adopt a tool that is generally perceived as ill-fitted to the framework of their craft. Teachers are also refusing the very popular conception of professional merit by technological means. They do not want their competence as educational professionals evaluated merely by their ability to use the technology in the classroom (Sasseville, 2004). Teachers need training in environments that support technology integration in curriculum areas that can be replicated in their own classrooms not training that focuses on software applications and skill development. Teachers should possess and draw on a rich knowledge base of content, pedagogy, and technology to provide relevant and meaningful learning.
experiences for all students. Teachers need to identify needs, plan, implement, and assess classroom instruction through the collaborative use of technology and other resources. Teachers are moving beyond administrative uses of technology to instructional uses that enhance teaching and student learning (Willis, 2006). Understanding teachers’ perceptions of technology integration training and its impact on their instructional practice will help both the technology training programs and social studies (Zhao & LeAnna-Bryant, 2006). Developing and implementing a strategic plan that includes educational technology is often a difficult and complex process (Ford, 1996). A strategic plan for educational technology refers to both the technological infrastructure and the manner that educational technology will be adopted in the teaching and learning environment (Stockley, 2004). Taken together, our studies demonstrate that planning for the integration of teaching technologies can become more systematic through a variety of tools and techniques. As an intensely interdisciplinary activity, this sort of planning involves many players and processes acting simultaneously, interdependently. Any attempt to model it must envision a dynamic, even cyclical process of planning, implementation, evaluation and revision. This should not surprise us, because it mirrors education itself (Aaron et al., 2004). Technology integration training is effective at a basic level, but it alone cannot lead to higher levels of technology integration (Zhao & LeAnna-Bryant, 2006). ICT can be seen as a means to define oneself professionally. Teachers are seeing themselves, whether they like it or not, at the forefront of a new wave of teaching. The use of ICT, even minimally, is helping them build a positive self-image as professionals (Sasseville, 2004). Many exciting applications of information technology in classrooms validate that new technology-based models of teaching and learning have the power to dramatically improve educational outcomes. But, classroom computers that are acquired as panaceas end up as doorstops. Unless other simultaneous innovations in pedagogy, curriculum, assessment, and school organization are coupled to the usage of instructional technology, the time and effort expended on implementing these devices produces few improvements in educational outcomes - and reinforces many educators’ cynicism about fads based on magical machines (Mehra & Mital, 2007).

3) **Digital Literacy of Teachers**

The rapid development of digital technologies in the digital era presents individuals in the emerging information society with situations that require them to employ a growing assortment of cognitive skills in order to perform and solve problems in digital environments. These skills are often referred to as "digital literacy", which is presented as a special kind of mindset that enables users to perform intuitively in digital environments, and to easily and effectively access the wide range of knowledge embedded in these environments (Aviram & Eshet-Alkalai, 2006). There is no agreement among scholars on the definition and measurement of computer literacy. While some researchers define and measure computer literacy in terms of the number of computer courses completed, the amount of time spent on the computer, and having a computer at home, others consider the familiarity with computer terms, experiences, and ability. Computer literacy is also defined as understanding computer characteristics, capabilities, and applications as well as the ability to implement this knowledge in the skilful, productive use of computer applications to individual roles in society (Ezziane, 2007). In the same way that basic literacy has long been promoted as the key to closing the development gap between rich and poor, proponents of social inclusion through ICTs propose a focus on electronic literacy as a key to overcoming the digital divide. This reflects the argument that access to physical hardware is of little use if you don’t have the means to use it effectively and meaningfully (Macleod, 2005). Educators need to recognize the need to constantly update skills and knowledge, not only of their students but their own skills as well. These ICTs have the potential to significantly influence teaching practice, students’ learning and engagement in the learning process (Knight et al., 2006). Most teachers do not learn to use computers through coursework which seems to have little or no effect on pre-service teachers’ beliefs about their abilities or use of what they have learned in their actual teaching practice. Teachers use technology most frequently to prepare or supplement instruction rather than for purposes of instructional delivery (Bataineh et al., 2006). A number of communities have an interest in and perspectives on the relationship between people and ICTs. These include industry, academia, designers, policy makers and other institutions (COST Action 298, 2007). The functions attributed to the e-teacher, considered as a mentor, coach or facilitator, are multiple as others have previously identified. These can be outlined as follows:

1. **Management Function:** The teacher plans the teaching program, which includes objectives, timetable, rules and procedures, content development and establishment of the practical work and interactive activities.

2. **Intellectual Function:** This is the traditional teaching function. The teacher should know the syllabus and the particular subject which will inform the learning content.

3. **Social Function:** This is considered as the fundamental function in e-training; the teacher should create a comfortable learning atmosphere, interact with the students and follow their activities. The teacher should animate, motivate and facilitate feed-back. In order to fulfill this dynamic role, the teacher should design activities specifically for each objective and content, as well as motivating and encouraging the students.

4. In order to perform these functions, teacher training should focus on the development of skills like: Professional: knowing the material, the contents, activities, didactic methods and teaching plan, etc; Technical: although it is not necessary for them to be as expert as the support personnel, they should have basic skills which allow them to carry out their function appropriately, etc; and Personal: interacting, giving feedback, receptive capacity, initiative, creativity, empathy etc (Blázquez & Díaz, 2006).
Digital literacy is usually conceived of as a combination of technical-procedural, cognitive and emotional-social skills. For instance, using a computer program is conceived as involving procedural skills, as well as cognitive skills (i.e., the ability to intuitively decipher or "read" visual messages embedded in graphic user interfaces). With the increasing exposure to digital working and learning environments, digital literacy has become a ‘survival skill’ (Aviram & Eshet-Alkalai, 2006). eTeacher is required to perform computer-based mentoring, coaching and facilitating. Mentoring is a one-to-one relationship between a teacher and student in which the expert guides the novice by behavioral and cognitive modeling, academic and career counseling, emotional and scholarly support, advice, professional networking, and assessment. Coaching is observing learners’ performance and providing encouragement, diagnosis, directions, feedback, motivational prompts, monitoring and regulating learner performance, provoking reflection, and perturbing learners' models. Facilitating is providing technical, pedagogical, managerial, and social activities that maintain sustained and authentic communication between and among instructors and students (Blázquez & Díaz, 2006).

V. DISCUSSIONS

Pedagogical or intellectual roles are some of the most important for the e-Learning process (McPherson & Nunes, 2004). In ICTs, unlike most other subjects, teachers have to be prepared for the fact that some of their students may know more about the subject than they do (Cawson, 2005). Even though they will never replace teachers, computers can provide excellent and fairly inexpensive supplementary materials to enhance classroom instruction. Furthermore, computers have been found not only to promote visual, verbal and kinesthetic learning, higher-level thinking, and problem solving but also to offer immediate feedback, hands-on learning, and collaborative instruction (Butaine et al., 2006). Education systems need to draw on the collective intellectual capital of educators (Knight et al., 2006). In times of mass education, when the old ideal of research-based teaching (mind you: own research) is not always upheld, networked preparation of teaching is an appropriate and practical way of navigating the rocks of protected knowledge and sailing the vast seas of Internet information; although this collaborative approach requires new views on organisational behaviour and communication, in particular in cross-cultural settings (Aviram & Eshet-Alkalai, 2006). Over the past 25 years, models and approaches of computer and information literacy have started to merge. Looking back chronologically (over the literature), it is obvious that technology paradigm shifts changed not only the way of computing but also how the technology itself is perceived by society. Universities and even smaller departments within organizations found themselves able to afford dedicated computing power. Computer literacy emerged then as a means of making people aware of this technology (Ezziane, 2007). Teachers still believe that what really defines them is the ability to establish a bond between teacher and student; teaching is, first and foremost, the ability to use that bond to create a positive and productive way of learning. Human relations still remain at the core of their craft (Sasseville, 2004). However, the burden of bridging this gap between technology and teachers is placed squarely in the laps of teachers. They face the daunting task of not only using the technology, but also showing the expected benefits of its use. Thus, teachers “fear of technology” or lack of technological expertise is often linked to teachers’ use of technology in their classroom/instructional practices. Another barrier often cited is the contextual restraints of school settings which tend to hinder the implementation of any significant change. However, we rarely look to the specific technology itself and its usability as contributing to the lack of technology integration in classroom practices and instruction (Buzhardt & Linda, 2005). Teachers play a crucial role in the adoption and implementation of ICT in education; however, studies show that teachers lack the necessary ICT knowledge and skills (Allan, 2007). Thus, the transition from traditional instruction to online teaching is best accomplished by systematically addressing the needs of faculty (Phillips et al., 2008). A strategic plan that focuses on educational technology should be connected to both the institutional mission and vision, and that the plan should fit into the overall institutional information strategy, culture, values, and history (Stockley, 2004). Likewise, project management, instructional design, team-based course development and other academic and administrative techniques perfected in distance education environments, are crucial to the success of technology integration in a broader institutional context (Aaron et al, 2004). Moreover, having faculty and technology staff in constant communication about practices that result in less-than-desirable experiences has greatly improved the likelihood of having adequate lead-time to effectively adapt to new technological tools (Ezziane, 2007). Allowing for the above discussion it can be postulated that ICTs have to be absorbed by a teacher to become an eTeacher. This relationship between eTeaching and teacher is mediated by the traditional culture which hinders in adopting ICTs. However, this situation can be turned around by working on the programs for the digital literacy of the teachers using training and continuous technical support as the major tools for computer literacy. A Theoretical model of the digital threats and opportunities is given in figure 1 below.
VI. CONCLUSIONS

Given that most students almost anytime, anywhere can access various forms of information technology - MP3, cell phones, PDAs - it does not make sense to exclude this part of their experience and ability from the educational part. Together, these challenges to the instructor's monopoly on sources of learning can serve as a catalyst for an examination of pedagogy, perhaps moving practice from a didactic to a more collaborative approach (Aaron et al., 2004). Furthermore, teachers are constantly advocated and pushed to use technology by various agencies including media, educational government, professional associations, and parents (Zhao & LeAnna-Bryant, 2006). Thus, personal usage of ICT within student teachers own learning will form their models of teaching practices (Allan, 2007). The rapid growth of e-learning is occurring without our understanding the differences between how students learn in an online environment and in the more traditional setting" (Luck & Norton, 2005. However, technology training alone did not necessarily ensure that these teachers would infuse technology into their routine instruction and a radical change in their instructional practices would occur. However, they need to get technical and human resource support for continuous technology integration after the training (Zhao & LeAnna-Bryant, 2006). There is a need to equip pre-service teachers with not only the technology skills, but also the knowledge and skills needed to integrate the technology into the classroom (Moursund & Bielefeldt, 1999; Price & Herrera, 2002; Graham, Culatta, Pratt, & West, 2004). Otherwise, the result would be curricula that “teach people how to use specific types of technology, not how to solve educational problems using technology when needed and appropriate” (Chan & Lee, 2007). Teachers believe that they can control recent changes in education with knowledge accumulated over the years from their professional experiences. They perceive professional knowledge as a way to steer technological change in a direction they can understand and which they feel is beneficial to their students. Cost-effectiveness may be imperative, but the student is expected to be at the center of any kind of change, not technology. Choices are restricted to the classroom community (Sasseville, 2004). To effectively infuse technology into the curriculum, teachers need to participate in intensive curriculum-based technology training that move them beyond the attainment of basic computer skills to activities that teach them how to seamlessly integrate technology into the curriculum (Zhao & LeAnna-Bryant, 2006). The design and development principles need to be provided that align with teacher and instructors understanding of student requirements (Young, 2003). Successfully integrating them depends on identifying pedagogical goals and then planning for many decisions demanded by technological change (Aaron et al, 2004). Culture is another highly influential mediator where pedagogical model is also a part of the culture of the organization. It is thus expected that new tools and a new practice supports problem oriented project pedagogy or at least doesn’t contradict it. The most prominent and most difficult challenge is probably the need for a broad ownership of the implementation and its results. Without broad ownership among the potential participants in the implementation they are likely to ignore implementation of ICT or engage in opposing these projects (Nyvang, 2006). It should however, be noted that much more research is needed regarding teaching orientations, personal traits and the construction of online learning environments (Phillips et al., 2008).

VII. REFERENCES


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