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Implications of the Shifting Paradigms in eLearning for Developing Countries like Pakistan

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Abstract

This paper explores the multiplicity of paradigm shifts in eLearning applications of information and communication technologies (ICT) in higher education institutions (HEI) around the world. Education is reported as the biggest user of software products thus, intentional or unintentional, changes are occurring in user-perceptions, use, and use-environments. These are called ?paradigm-shifts? in the structure and roles of higher education. The advances in educational technologies (ETS) are pressing users to change not only in practice but also in conceptions, attitudes, and culture. These shifts are occurring from: 1. technocracy to democracy, 2. behavior to belief, 3. computerization to personalization and 4. from teacher to student-centered learning. Catching up with these departures warrant hectic efforts by government, HEI, and the university constituents: teachers, students and administrators. Developed and developing states are handling it differently due to the diversities of technologies available, professionalism, and variations in political, economic, social and cultural contexts.

Index terms— Globalization, Paradigm-Shifts, Objectivism, Constructivism.

1 INTRODUCTION

s the learning technologies are mushrooming and becoming more and more inexpensive and widely accessible, the modes of teaching, learning and education delivery are going through significant changes. There are paradigm shifts in different dimensions of eLearning and the environment around it. For example, the teacher's role has shifted from being 'a sage on the stage' to 'guide on the side' (Tinio, 2002;Young, 2003;Mehra & Mital, 2007). Modern eTeacher is mentor, coach or facilitator for the successful integration of ICTs into the pedagogy (Blázquez & Díaz, 2006). Likewise, contemporary students are called "Millennials, Electronic Natives, the Net Generation" who are grown up digital therefore possess absolutely new learning habits like independence and autonomy in their learning styles and multitasking due to the availability of new gadgets (Nawaz & Kundi, 2010c;.

ICTs are playing most influential 'catalyst' role ever recorded in the history of mankind. First computers and then communications (networking, internet, webapplications, and web 2.0) have transformed the whole world into a 'global-village' where everybody is virtually connected with everybody else as a 'world-citizen'. This has triggered the initiatives for the 'globalization' of economies, organizations, knowledge, and culture (Young, 2003). The shift from an isolated world to a 'universal-community' is however, not 'automatic' and mechanical, rather 'value-driven', requiring multiple intellectual, psychological, cultural and social changes in the existing mindset (Loing, 2005). There is diversity of factors which either support or block the change or shifting process. These factors relate to both the technologies as well as the characteristics of users, organizations, government and society as a whole (Nawaz & Qureshi, 2010b).

Traditionally, students used transmissive modes of learning, however, now there are shifts from contentcentered to competency-based curricula as well as departures from teacher-centered delivery to studentcentered delivery where students are encouraged to take on the driving seat for their own learning (Oliver, 2002). There are shifts

from objectivism to constructivism, technocratic to reformist and holist paradigms, and from instrumental uses of ICT to their substantive role (Aviram & Tami, 2004). The knowledge is becoming a central economic driving force, with the shift from the concept of 'information society' to that of 'knowledge societies' demanding the reevaluation of the existing traditional educational processes and the role and training of teachers in the light of emerging ICTs (Loing, 2005). These paradigm shifts are changing not only the way of computing but also how the society perceives technology itself (Kundi & Nawaz, 2010).

2 II. PARADIGM SHIFTS IN ELEARNING

The world has changed with the introduction of computer into human culture. Particularly, the birth of 'Personal Computer' laid a cornerstone for the solo flight of all individuals, organizations and nations into a new world of so far unimaginable digital gadgets. But the digital revolution just haunted the whole human race with the creation of 'Internet and WWW' (Nawaz & Qureshi, 2010a). Internet connects the entire world computers into a single network where users can navigate across the computers and databases hooked on the network. The science of connectivity is progressing and increasingly making the whole world a 'global-village.' Globalization is the creation of global economy and society with common goals and interests

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therefore every country must prepare to become a member of global village (Nawaz & Kundi, 2010c).

Given that the entire world can talk to each other at anytime, from anywhere, and with very inexpensive tools and equipments, the concepts of globalization and global economy have got popularity among the world citizens, multinationals and governments. However, "if you look at the opportunities and the threats which exist in the context of globalization, information technology can become a tool of either decreasing the inequalities that already exist in the world or increasing it (Hameed, 2007)." Thus, there are issues to be handled by the nations, when joining the global economy and community. These issues are brining a change in the way people used to live, organizations used to do their business and governments used to administer and serve the masses (Nawaz et al., 2011b (Tinio, 2002). The implications of globalization for higher education are multiple and diverse and constantly debated by education policymakers, scholars, professionals and practitioners worldwide. Governments are no more the only source of higher education and the academic community has no more monopoly over educational decisions **??**UNESCO, 2004). Research tells that dissemination of ICT is making our local universities and learning and research communities global (Nawaz et al., 2011b).

Similarly, ICT is not neutral rather grounded in an ideological complex stemming from diverse ideas of globalization, information society, and "end of national policy) and the advent of world government (Sasseville, 2004)". Globalization, dated back to about 1980, is the multiplication of economic links between countries through trade of ICT, mobility of capital, commodities and international labor (Krishna, 2006). The knowledge revolution combined with economic globalization has created conditions in which countries that have focused on knowledge-based industries are earning more benefits (Nawaz & Kundi, 2010c).

Globalization and recent developments in the international delivery of higher education have generated a number of new terms including 'borderless', 'transnational', 'transborder' and 'crossborder' education. Borderless education refers to the blurring of conceptual, disciplinary and geographic borders traditionally inherent to higher education (UNESCO, 2004). In a general context of globalization, shrinking time and space in our societies, instant communication all over the planet with a fast increasing number of Internet users now reaching the billion, the universities of all countries are confronted with huge challenges, both external and internal (Loing, 2005;Qureshi et al., 2009).

4 ii. Digital Revolution

The very concept of globalization emerged as a result of digital technologies (Mujahid, 2002). ICTs have revolutionized all types of organizations particularly, the education systems, which began changing with the advancements in ETS. eLearning evolved along with the progress in the digital gadgets for ePedagogy, eLearning and eEducation. The knowledge is becoming an economic force, with the shift from the concept of 'information society' to that of 'knowledge societies' demanding the world-citizens to reevaluate the educational processes, role of teachers, and nature of their training in the light of emerging ICT (Nawaz et al., 2011a).

Educators and students are now supported with online data sources through Internet wherefrom learners can access mentors, experts, researchers, professionals, business leaders, and peers across the world (Tinio, 2002). Internet is creating a new set of relationships and places at the global level to struggle for resources, power and information (Macleod, 2005). If HEI want to attract students and scholars at global level, they have to improve their delivery modes and working structures (Baumeister, 2006). Learning can never be managed rather it can be facilitated (Dalsgaard, 2006). Since education requires inputs for the fast changing work environment, it becomes imperative for the faculty to use digital tools like databases, statistical tools, library databases, internet, office tools, websites, online games etc. to enhance outcomes (Sattar et al., 2011).

The research tells that technology-integration is not a purely technical endeavor it is rather situated in the context of social, cultural, political and economic factors (Macleod, 2005). The existing method of knowledge processing needs to be revised to take into account the shift in market and increasing global competitiveness

in higher education (Baumeister, 2006). The latest type of computer program is the 'social software' which helps creating effective distributed teaching and research communities. Social software supports constructivist pedagogy where students are empowered to self control their learning (Mejias, 2006;Klamma et al., 2007). The researchers point out that technologyparadigm shift has changed computing and user perceptions about it (Kundi & Nawaz, 2010).

The change in teaching, learning and education management is not just technical; it has rather transformed the whole scenario of education in HEI. The tenets of globalization in the background of global underpinnings which influence the technology-users not only the way they work rather their perception of pedagogy, learning and education delivery has gone through metamorphosis (Sasseville, 2004;Loing, 2005). Dinevski & Kokol, (2005) summarize these paradigm shifts from one point to another as from:

1. one-size-fits-all to customized learning, 2. absorbing material to learning how to navigate and how to learn, 3. instruction to construction and discovery, 4. linear to hypermedia learning, 5. teacher-centered to learner-centered education, 6. school to lifelong learning. 7. the teacher as transmitter to the teacher as facilitator. 8. learning as torture to learning as fun, and, In this scenario, the eLearning developers have to go beyond the limits of their own discipline when designing and implementing eLearning and arrange interdisciplinary exchange with all the stakeholders (Ehlers, 2005). Thus, paradigm shifts in education and training "are on their way (Baumeister, 2006)." Wims & Lawler (2007) suggest that if used adequately, ICTs can assist a pedagogical shift resulting into a constructive educational interaction between teachers and learners. There is need to implement a wider range of teaching and learning strategies based on a techno-constructivist paradigm that is aligned with the skills needed for an information society (Nawaz & Kundi, 2010c).

5 i. From Technocracy to Democracy

The higher education is moving away from an 'elite system to a mass education system' and that is evident from the increasing number of students around the world (UQA, 2001). Modern higher education is now riding on the horse of ICT and can perform new and broader functions in the favor of society at national and international levels, for example: identify the preconditions for development; provide Education for All; produce graduates to provide leadership roles in education as researchers, teachers, consultants and managers for public and private sectors; enhancing educational management, and finally, HEIs can go beyond their traditional models of work to new formats of learning, teaching and research (Sanyal, 2001;Macleod, 2005). Thus, eLearning and digital literacy have the potential to shift power bases for developing countries from elites to masses **??**Sattar et al., 2010).

6 a. Pioneering Role of HEIs

Higher education is at the top of the education pyramid and determines to a large extent the state of education affairs in a country, especially its quality. As such it has a responsibility towards the whole education system as it has for the whole of society (Sanyal, 2001). In the background of globalization and knowledge economies, higher education in its knowledge producing and disseminating function, is recognized as an essential driving force for national development in both developed and developing countries (UNESCO, 2004). Universities are now expected to contribute to society by widening access to education, continuing professional development, applied research, contributing to local economic impact, and improving social inclusion (Beebe, 2004). The higher academic institutions of a country are pioneers in adopting and using ICT (Roknuzzaman, 2006). b. Education For All (EFA) One of the biggest expectations from eLearning is about its ability to offer equal education for everyone. For example, the eCourses have the power to reach any corner of the planet and deliver same high-quality education everywhere (Hvorecký et al., 2005). Thus, technological, economic, and social changes of the past decades have made education for all (EFA) more significant than ever before. The HEIs are making efforts to bring educational opportunities to all and provide learners with knowledge and skills for evolving workplaces and sophisticated living environments, and to prepare citizens for lifelong learning (Haddad & Jurich, 2006;Garcia & Qin, 2007). c. Life-Long Learning (LLL) Thurab-Nkhosi et al., (2005) defines eLearning as "the appropriate organization of ICTs for advancing student-oriented, active, open, collaborative, and lifelong teaching-learning processes." The difference between "traditional and current educaiton" is that formerly people were used to "Learn at a given age" while current education is for "Lifelong Learning" (Amjad, 2006). The European Commission defines lifelong learning as "any learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective (Davey & Tatnall, 2007)."

7 d. Bridging the Digital Divide (DOI)

The issue of 'digital-divide' is commonplace and a plethora of addresses, reports, policies, and plans information from those who do not (Drucker, 2006). Today is a world of many divides, where digital divide is worsening other economic and social divides (Hameed,

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Implications of the Shifting Paradigms in eLearning for Developing Countries like Pakistan village are not neutral rather contain ideological 2007). The term is used to describe the gap in technology resources, information, and education (Wells, 2007). It also refers to the divergence between individuals, communities, cultures and nations at socioeconomic levels in terms of access to ICTs and internet (Moolman & Blignaut, 2008). Access and digital divide have always been an issue for eLearning in many countries (Koo, 2008;Nawaz & Kundi, 2010c). attest its importance (Macleod, 2005). Though number of computers is increasing, the digital divide continues to separate communities into those who have access to ii. From Behavior to Belief The emergence of educational technologies is pushing academicians to construct alternative theories for learning (Oliver, 2002). The paradigm shift in HEIs refers not only to departure from the traditional pedagogy, learning and education-management to modern; it also characterizes the changes within the eLearning environments (Young, 2003;Baumeister, 2006;Ezziane, 2007). This dimension of paradigm shift is described in terms of the progress from old-ICTs to new-ICTs in three stages of traditional-eLearning, blended-eLearning and contemporary virtual-eLearning. The technological advancements in eLearning are linked with the theories of learning like behaviorism, objectivism, constructivism, and cognitive and social constructivism **??**Kundi & Nawaz, 20010c).

9 a. Objectivism and Behaviorism

Historically, computer-based learning has been built around the realist/objectivist notions of knowledge with the assumption that reading, watching videos or controlling a button on these digital gadgets constituted 'active learning' but experience testifies that these models have failed to bridge the gap between theories and practice (Young, 2003). In this mode, learning is achieved through the "instructor presenting the learner with the required stimuli along with the required behavioral responses within an effective reinforcement regime. The degree of learning is assessed through observable measures such as tests, assignments and examinations (Ward et al., 2006)." The objectivist teaching gives complete control of materials to the teacher who manages the pace and direction of learning thereby making learning a sequential process where there is a single reality about which the "learners display an understanding through declarative, procedural and conditional knowledge (Phillips et al., 2008)."

10 b. Constructivism

With the emergence of collaborative technologies, it has been recognized that behaviorist models do not fit with contemporary teaching and learning environments, therefore current research is focusing "to develop models of constructivist computerbased instructional development (Young, 2003)." Constructivists contend that ICTs should not be guided by a technologically deterministic approach rather in the context of social, cultural, political and economic dimensions of using technology so that by facilitating the development of electronic literacy, culturally relevant online content and interfaces and multimedia, the process of social inclusion can be achieved within developing countries (Macleod, 2005). The effectiveness of the behavioral approach is questionable in areas that require comprehension, creativity and 'gray' answers (Ward et al., 2006;Nawaz, 2011).

11 c. Cognitive constructivism

The cognitive constructivism gives priority to the cognitive powers of an individual. For example, the 'learning-style' of every learner indicates his/her cognitive trends. The developers of eLearning face the challenges of producing systems, which accommodate individual differences such as nationality, gender and cognitive learning style (Graff et al., 2001). The ICTs can play a supplemental as well as central role in learning by providing digital cognitive or adaptive tools or systems to support constructivist learning (Cagiltay et al., 2006). The design of computer-based learning environments has undergone a paradigm shift; moving students away from instruction that was considered to promote technical rationality grounded in objectivism, to the application of computers to create cognitive tools utilized in constructivist environments (Ezziane, 2007).

12 d. Social Constructivism

In contrast to cognitive-constructivism, 'socialconstructivism' emphasizes 'collective-learning' where the role of teachers, parents, peers and other community members in helping learners becomes prominent. Social constructivists emphasize that learning is active, contextual and social therefore the best method is 'group-learning' where teacher is a facilitator and guide (Tinio, 2002). Social constructivists explain the technology-adoption as a process of involving social groups into the innovation process where learning takes place on the learners' experiences, knowledge, habits, and preferences (Bondarouk, 2006). In contrast to traditional classrooms where teachers used a linear model and one-way communication, the modern learning is becoming more personalized, student-centric, non-linear and learner-directed (Nawaz et al., 2011a).

13 iii. From Computerization to Personalization

When ICTs emerged, their primary use was the automation of individual and organizational jobs therefore no consideration of the user personalized relation with technology or customized use of it. It was not simply possible

because technology did not allow that so whatever technology could do was great. So there was computerization or digitization of the individuals and organizations and not otherwise (Sirkemaa, 2001)

14 a. Computerization of Individuals and Organizations

Traditionally, the view of technology was 'instrumental' and not 'substantive' in the sense that computerization was considered as a neutral process with no implications for humans and therefore society at large (Young, 2003). This was true because the technologies were primitive in terms of providing such work environments which could inspire broader level applications. Thus, before the emergence of new social technologies, the ICTs were not capable to be used for broader and instant social interactions therefore; most of the applications remained instrumental and not liberal and substantive (Sattar et al., 2011).

Given the availability of varying digital gadgets, there is no need to fit with a single learning-model for all rather, new technologies are friendlier and customizable (Dinevski & Kokol, 2005) such as, 'personalization and adaptation' technologies. It is observed that in future, these technologies will progress toward the idea of expanding learning-facilities for learners of all ages and stages (LaCour, 2005). In the contemporary research on eLearning applications in HEIs, the adaptivity and personalization are perceived as the key issues of eLearning solutions (Klamma et al., 2007). The significance of personalization and adaptation technologies is evident from the fact that every user has different demographics, perceptions, theories and learning styles therefore cannot be happy with a single model of technology when it comes to its use **??**UNESCO, 2004 **??**UNESCO, , 2007;;Nawaz, 2011).

15 b. Personalization and Adaptation of ICTs

Personalization and adaptation technologies are that group of ICTs, which are used in the design and development of 'end-user-computing' to make the environment user-centered. Adaptation is the process of modifying the learning environments so that to support the learning processes effectively (Sirkemaa, 2001). While personalization technologies range from allowing the user to simply display his name on a Web page, to advanced navigation and customization according to the rich models of user behaviors (Dinevski & Kokol, 2005). It is generally recognized that effective and efficient learning need to be individualized, personalized, and adapted to the learner's preferences, competences, and knowledge, as well as to the current context. Adaptive learning systems keep the information about the user in the learner model and thus provide adaptation effects on the digital environment (Klamma et al., 2007;Nawaz, 2010).

16 Personalization Technologies

The theory and dynamics behind personalization is simple and its implementation is almost straightforward however, it requires highly sophisticated technology, for example, portal systems are built from the ground up to provide a personalization framework, which is smart enough to link each user's attributes with the appropriate information and resources for that user (LaCour, 2005). Through personalization, the learning organizations can help learners to become more familiar and comfortable with new technology features (Dinevski & Kokol, 2005). For instance, the personal uses of ICTs in teachers-training will construct teaching-models (Allan, 2007).

17 Adaptation Technologies

Adaptation happens in two ways: adaptation to the user's behavior (changing the system tools for user) and adaptation to the client device (changing the system tools for each other). The first type of adaptation means that the system should know what the user expects. In this case facts about the user are gathered and analyzed so that users can be grouped according to agreed criteria (Sirkemaa, 2001). The second type of adaptation refers to the portability of the platform, and is manifested in the flexibility to move and produce content to different hardware platforms and user devices. For example, the same content might be accessible with a desktop computer and a personal digital assistant (PDA) (Nawaz, 2010). iv. From Teacher to Student a. Student-Centric ePedagogy Teacher-centered and whole-class instruction is no longer the dominant teaching method (Jager & Lokman, 1999). As learning shifts from the 'teachercentered model' to a 'learner-centered pedagogy' the teacher becomes a facilitator, mentor and coach-from 'sage on stage' to 'guide on the side' where a teacher's primary task is to prepare the students in "how to ask questions and pose problems, formulate hypotheses, locate information and then critically assess the information found in relation to the problems posed (Tinio, 2002)." For example, new hypermedia applications are offering individualized learner-centered education delivery systems (Spallek, 2003) emphasizing the learning with technology because it is quick way of acquiring knowledge (Sasseville, 2004).

However, practically, there is also counter evidence to the idea of student-centered pedagogy too, for example, a research shows that ePedagogy facilities has hardly affected the actual teaching approaches. They are dominantly teacher centered and little attention is paid to the full exploitation of communication facilities and interaction. The only pre-dominant role of ICTs is in facilitating the information and administrative processes

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Implications of the Shifting Paradigms in eLearning for Developing Countries like Pakistan (Valcke, 2004). Anyway, ICTs, if used correctly, can assist in adopting a more people or learner-centered and dialogical approach to education. These technologies can encourage and support a meaningful two-way, informational communication between teachers and learners (Nawaz et al., 2011b).

19 b. Student-Centered Learning-Environment

The learner-centered approach derives from the theory of constructivism, which argues that knowledge is neither independent of the learner nor a learner passively receives it, rather, it is created through an active process where a learner transforms information, constructs hypothesis, and makes decisions using his mental models or schemas based on experience of the individual, which also assist learners to ultimately give meaning and organization to individual experiences (Tinio, 2002). The use of ICT in education offers more (i) (ii) student-centered settings, which are constructivist in nature due to their provision and support for resourcebased, student centered settings and by enabling learning to be related to context and to practice (Oliver, 2002). As the Web has afforded new ways to network people dispersed across a broad, educators have learned a great deal about the ability of the Web to nurture, foster, and enable community (Glogoff, 2005).

20 III.

21 IMPLICATIONS FOR HEIS

Given the multiplicity of shifts, individuals, groups, organizations and countries are making all out efforts to become compatible with the emerging educational environments. However, their efforts are bearing varying results due to their differences in availability and access to ICTs, plans and policies for adoption, problems in the process and measures being taken to handle the barriers and find the way through (Loing, 2005). Given this, the quality and tempo of change is different from developed to developing countries and then within two regions. The advanced states have comparatively lesser issues of making infrastructure and technology available while developing courtiers have severe problems in creating a nation-wide digital infrastructure. The impacts of digital divide are wider and deeper in developing states that definitely need a powerful infrastructure to at least fill the 'hardware-divide' (Nawaz, 2010).

There are differences in both theories and practices between the advanced and less advanced regions. For instance, "contextual differences include more rigid bureaucracies in many developing countries, coupled with problems such as foreign-exchange shortages and the erratic supply of infrastructure services such as electricity **??**Walsham, 2000:107)." There are also mixed results about the success and failure of eLearning projects in different HEIs in the developed and developing countries. Researchers are reporting both positive and negative attitudes of the users along with a variety of reasons for their attitudes. However, there are common threads across all the cases. For example, instrumental use is rampant across the globe with more substantive moves in the developed world and excessive instrumental applications in the developing countries (Kundi & Nawaz, 2010).

Furthermore, despite the efforts over the last decade, there is lack of knowledge about how to make eLearning accessible. The reasons to this are that the existing research has more investigated about 'why eLearning should be made accessible rather than exploring about how the users are interpreting and executing eLearning to create an accessible environment. At the same time, there is lack of any comprehensive conception of what the best practice is and what factors affect that practice within higher education (Seale, 2006). It means that most of the research is focused on the instrumental uses of eLearning rather than substantive applications (Mehra & Mital, 2007;Nawaz & Kundi, 2010c).

Pragmatically, there are both common and unique issues being faced by the developed and developing world (Tinio, 2002, Hameed, 2007). Common issues mostly relate to the user characteristics, training, satisfaction, motivation and computer literacy. While uniqueness of the same issues in developing countries is that they are more intense, widespread and intricate. Likewise, developing states have to face the unique barriers relating to the political, economic and technical conditions of their countries (Qureshi et al., 2009).

22 a) Common Concerns

Although the ICT resources are different in developed and developing countries, "a number of common themes can be identified which concern all the countries **??**Walsham, 2000:105)." For example, in the background of the development and use of eLearning environments, the same type of users (teachers, students and administrators), similar objectives and therefore most of their problems are also the same with, off course, differences in number and intensity of the issues. For example, user-demographics matter in the success of any eLearning project no matter whether the project is initiated in a developed or developing environment (Nawaz & Kundi, 2010a). Furthermore, user-participation, user-training, user-satisfaction, the problems of technical support and support staff and creation of 'information-culture' among the users are also the common challenges faced by the HEIs around the world (Nawaz, 2011).

An analysis of the world eLearning experiences in HEIs clearly shows that teachers' overall attitude is almost similar around the world, meaning that there is still a big gap between the theory and practice of instructors.

For example, "many of the current VLEs provide no more than a drill-and-practice approach to learning. The technologies are simply being used to replicate the traditional 'chalk and talk' ways of teaching and learning (Drinkwater et al., 2004)." The research in both the developed and developing states give evidence about the common problems of eLearning in HEIs. For example, it is reported over and over that teachers believe that traditional face-to-face learning is the most powerful and graceful method of delivering knowledge contents. At the same time, research also reports that teachers feel intimidated with the intervention of computers into their privacy, which has existed for centuries (Nawaz & Qureshi, 2010b).

23 b) Unique Issues of Developing Countries

ICTs are being integrated into the teaching, learning and administrative practices of HEIs around the world. Both instrumental and substantive uses are underway both in the planning and implementation of eLearning projects in both the developed and developing worlds (Nawaz & Kundi, 2010c). Instrumental use is more popular and broadly applied in the developing countries while developed states have crossed the initial instrumental uses of ICTs and now working on the integrative and liberal applications of eLearning tools. Thus, the uniqueness of the problems for developed and developing states is primarily in terms of instrumental and substantive uses of ICTs in HEIs (Nawaz, 2011).

In the background of developing countries, the problems exist both at the development and use levels. The developing states are using 'borrowed models' of eLearning from the developed world, which are proving ineffective due to the contextual differences. Asian Development Bank (2005) notes that "while South Asia is the most illiterate region in the world, Pakistan is among the most illiterate countries within South Asia (ADB, 2005)." The users' demographics and work environments are different in different countries therefore; a framework which is successful in one country cannot give the same results in another country if the other is different in terms of people characteristics and the broader context within which the eLearning will work (Nawaz & Kundi, 2010b).

IV.

24 CONCLUSIONS

The journey from technology based learning to modern collaborative virtual education is conceived of many ups and downs (Qureshi et al., 2009). There have been changes in all dimensions of higher education during the technological transformations of individuals, groups and organizations. The roles of teachers, students and education administrators have gone through metamorphosis. Teachers has shifted from being 'sage on stage to guide on side', students are getting more independent than teacher-centered learning and administrators are using computers handle educational data and decision making (Nawaz et al., 2011b).

A researcher notes that "the enterprise and flexibility are the key values needed for universities to succeed in the rapidly changing culture of higher education system (UQA, 2001)," where technology does not drive education rather, educational goals and needs drive the use of technology (Tinio, 2002). In both the developing and developed world most of the teachers believe that learning should be designed and delivered in tune with the learner and environmental requirements (LaCour, 2005). The universities must focus on providing state of the art technologies to their constituents (Junio, 2005): teachers, students and administrators by initiating digital opportunity initiatives to 'bridge the digital divide' (Hameed, 2007) within universities and broader sections of society.

Traditional learning materials are typically too general to cover a very wide range of purposes, so personalization can be the most important added value that eLearning can offer to adjust to various working conditions and needs of students who have differing interests, objectives, motivations, "learning skills and endurance (Klamma et al., 2007)." The educators express that learning has to be offered in a usercentered model based on the user learning-styles (LaCour, 2005). However, for this purpose, the current teaching force needs to be trained and constantly supported by specialists for technology integration (Zhao & Bryant, 2006). Training in technology-integration will enable teachers to teach learners in not only 'how to use a particular digital gadget' rather how can they solve their educational problems with ICTs (Nawaz, 2011) [1] [2] [3]

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[2] MarchImplications of the Shifting Paradigms in eLearning for Developing Countries like Pakistan © 2012 Global Journals Inc. (US) b) Dimensions of Paradigm Shifts in HEIs

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Figure 1:

a) Factors of Paradigm-Shifts
i. Globalization

Figure 2:

Millennial teachers: Student teachers as users of Information and Communication: A New Zealand case study.

Figure 3:

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