CHALLENGES OF DIGITAL LEARNING FOR DISTANCE UNIVERSITIES OF PAKISTAN

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ABSTRACT

Distance universities of Pakistan are now trying to reshape their system of instruction by moving towards digital learning. This movement towards digital learning has many challenges ahead for academics and administration of these distance universities. Therefore the main focus of the present study was to explore instructional and technical challenges of digital learning for academics and administration of these distance universities of Pakistan. Study was qualitative in nature based on phenomenological design. The study was delimited to Allama Iqbal Open University and Virtual University from Islamabad region as these universities are providing a distance mode of learning on a large scale throughout Pakistan. The population of the study was comprised of 31 academics from the Faculties of Education and 2 ICT directors, 2 library incharges from the administrations of these distance universities. A Sami-structured interview was conducted with the participants consisted of 12 questions. The results of the study identified challenges for digital learning, including; needs of diverse online learning resources for distance learners, training of academics on the development of e-content, lack of access to digital technologies and the costs incurred. Various recommendations are offered to overcome digital learning challenges of these distance universities in Pakistan.

Keywords: *Digital Learning, Challenges, Distance Universities*

INTRODUCTION

Distance universities in Pakistan are now trying to have a paperless learning environment for distance learners. The reasons behind that new technology provide fast link and communication system, as digital learning empowers the distance learners and increase their learning outcomes through digital technologies. It was reported by Roy and Farmer (2013) that learning is now not only considered to be given through only traditional textbook method and correspondence. The advancements in ICT have demolished the barriers of physical distance and other drawbacks associated with distance education. Many institutions now are trying to deliver learning material online because this type of instruction is considered more cost-effective and reliable. The primary reason behind it that most education and training providers are shifting to the knowledge media as it save costs, provide fast links and better communication. As mentioned in the literature digital technologies make possible the digital learning through extensive use of tools, online

resources and techniques. These may include the Internet, e-mail, Smart Phones and other mobile devices, cameras, video games and what are recognized as Web 2.0 technologies, e.g. blogs, wikis and social set of connections (Hague & Williamson, 2009). The main technologies that support communication between teacher and students are e-mail, web based sources, learning management systems (LMS), and online chats (Harasim, 2000).

In Pakistan, open and distance education system has progressed since establishment of Allama Iqbal Open University (AIOU). Digital learning resources of this university includes e-journals, e-magazine, online courses, e-textbooks, HEC digital library (e-library), thesis, dissertations, CDs, Open Public Access Catalogue (OPAC), online call service, SMS service to students, podcasting, now e-tutorship and Moodle and other techniques are going to be used to sustain an easy access to knowledge to everyone, anytime and everywhere within and outside the University. The other distance mode learning institution is Virtual University that uses, free to air television for broadcasting its lectures and communication between students and instructors through the Internet. The Virtual University provides a mixture of video lectures, reading material, audio, video tutorials and online learning for conveying knowledge. According to Inglis, et. al (2003) multimedia and Web-based material may be judged by some teachers as better because they offer a much more diverse range of presentation options.

However distance universities in Pakistan are facing many challenges in successful implementation of digital learning that are mostly related to infrastructure, instructional and technical skill. The study of Sife, et al (2007) reported that challenges in developing countries are lack of knowledge and negative thoughts towards Information Communication Technologies, insufficient assets for staff growth and improper infrastructure, inadequate of skilled personnel and shortage of organized advancement towards ICT execution. The study of Surry, et al (2005) further added that incorporation of teaching equipments in instruction can have many obstacles e.g. infrastructure for technology, capability of pupils, technology approval and enthusiasm of teachers for their use. Without proper implementation technology cannot give benefit to anyone even of its highest benefits. Moreover, earlier studies (Swarts & Wachira, 2010; Kajuna, 2009; Ndume, 2008) reported that most of the academics and distance learner have lack of basic skill for using latest digital devices and some students have android and laptops; however they lack the capability of their effective utilization.

The findings of these studies demonstrated that the technology challenges consist of deficient mechanical and educational staffs with suitable expertise of technology utilization, uncooperative attitude, energy shortage as well as high cost of internet connection and small internet pace, requirement of e-content to meet up users' hopes

particularly to several public and private educational institutions. Most of distance learners of Pakistani distance universities come from rural areas. According to the study findings of Bates (2005) many distance universities are still using print as the medium of instruction because the students have no access to technology. Universities find it difficult to provide digital content to rural and urban area students equally. As technology is useless as people have no proper knowledge to use them effectively for their educational purpose. There is also gender discrimination in technology use, mostly females in many countries use not as much of technologies as compared to male students. These are the challenges for distance universities to successfully implement digital learning for these distance learners.

Along with these all, less reasonable and enough Internet connectivity is one of the challenges of digital technology for Pakistani distance universities that is hindrance in its implementation. The quicker internet connection is vital for distance universities to sustain digital instruction and knowledge. Internet connection in Pakistan is higher as compared to other countries. The geographical distribution in Pakistan also demands high speed connectivity of the internet to support distance learners from remote and urban area students equally. Study of Chapman, et al. (2004) found that in developing countries access to the internet is very costly. It is very hard to make sure the access of every distance learner to the online learning. Along with this, educators require technology and instructive proficiency to exercise technology in their teaching. There is also a less relevant technological proficiency on the progress of e-content by the training staff which is challenge for execution of digital learning in distance universities. Although some of staff members have essential technology information, but this knowledge is inadequate for these members to effectively use technology. Proficiency in digital learning for instructors is vital for its efficient execution (Tarus, 2015).

The study of Salmon (2000) further demonstrated that shortage of help and guidance for the instructor or academic is a restraining reason in execution of online instruction of distance universities. Without effective training and skills any kind of initiative is aimless and unsuccessful. As well as e-content development is another challenge for instructors and administration of distance universities as most instructors do not have competency to develop e-content for distance learners. Along with this maintenance is also required for these learning resources. According to Bates, T (2006) it is a challenge for distance universities to manage and organize new developments in teaching and learning process, especially for dual mode institutions distance education has been a separate activity. Despite of the many benefits of digital technologies for distance universities, there is still a lack of proper setup for execution of digital learning and this make impossible for any distance institution to take full benefits of technology. The findings of prior researches (Chapman, 2004, Tarus, 2015, Surry, 2005, Bates, 2005) in related literature demonstrated

challenges of digital learning for distance universities. However, these researches were related with financial and technical challenges for distance learners and administration of distance universities. There are fewer studies related to digital learning challenges for instructors and administration of distance universities. Therefore the present study mainly focused on instructional and technical challenges for instructors and administration of the distance universities in Pakistan.

Objectives of study

➢ To examine the perceived reasons for using digital technologies in distance learning.
➢ To explore the challenges of digital learning for distance universities of Pakistan.

RESEARCH METHODOLOGY

The research was qualitative in nature based on a phenomenological design. The study was delimited to Allama Iqbal Open University and Virtual University as these universities are providing a distance mode of learning throughout the Pakistan. The target population of the study was 31 academics from the Faculties of Education; 2 ICT (Information and Communication Technologies) directors, 2 library incharges were also taken from administration of Allama Iqbal Open University and Virtual University (N=35). The Academics from VU (virtual university) were 5 including 3 males and two females, 26 were from AIOU including 10 males and 16 females. Whereas from administrative staff, 2 ICT directors and 2 library inchages were taken from both of these universities equally that were all males.

Research Instrument and Validation

For qualitative data collection semi-structured interviews were conducted with all interviewees separately, built around 12 questions. Content validity was done to validate the research instrument. Five experts in educational technology were invited to categorize each question according to the objectives of the study in the following way: 1-least relevant, 2- relevant, 3-need deletion and4-most relevant

Opinions of the experts were sought and in the light of the guidance question 13 was deleted from interview questions. The detail of content validity is given below:

Table 1 Content Validity of Research Instrument

S. #	Category	No. of experts	No. of items	I-CVI
1	Interview	5	12	.87

DATA ANALYSIS

For the data collection researcher visited to interviewees individually. Interviewees were informed before conducting interviews through emails and telephone calls. Probing questions were also asked for further clarification. All interviews were recorded by voice recorder. To analyse the qualitative data inductive analysis was done by applying themes and codes according to the work of Deveci and Yigit (2015). Therefore the raw data was emerged in codes by excluding unrelated data. Those codes than merge in themes and each respondent were also given code, e.g. R2, which mean respondent encoded by number 2.

Results

Data related to reasons of using digital technologies in below table included two themes, cost effective and improved services system. Four codes which were discussed under themes including: save printing charges, less postal charges, time saving and up-to-date information. In below table ''R'' indicates the respondent whereas ''f '' represents frequency which is the most similar responses across each question from respondents.

Table 2 Reasons of Digital Learning

Themes	Codes	Respondents	f
Cost Effective	Save Printing charges	R3, R4,R1, R5,R30,R11,R3	7
	Less Postal Charges	R4,R2, R7,R25,R22,R6	6
Improved Service System	Time Saving	R1, R4, R2,R25,R13	5
	Up-to-date Information	R3,R2,R14,R25,R23,R21,R3	7

Theme: 1, Cost Effective. Digital learning can be a better replacement of print based learning system, both for universities and students. R3 explained that ''approximately four million rupees university spend annually on printing of textbooks and this can be saved if all learning materials provided to students on their Smartphone''. Digital learning also saves postal charges of university.R2 explained that ''postal charges of university can be saved though online updating students at their homes instead of informing them through postal services''. In addition James and Allan (2004) stated that internet as compared to correspondence is less expensive which also allows students fast interaction with instructors than correspondence by letter. However, there is the considerable cost of equipment, its maintenance and replacement.

Theme: 2, Improved Services System. Digital learning enables improved services system for universities and students both. R1 explained that ''most of students complain about late

delivery of their books and this problem can be solved if universities provide them e-content service at their homes''. R3 explained that ''university can deliver content related information to the students of remote and urban areas equally''; R2 clarify that ''large no of students can get access to online learning material at the same time''; R4 ''it can be helpful for job holder students to attend their online lectures instead of attending face-to-face workshops lectures''. Moreover, online learning materials can provide students' latest information related to their study. R2 explained ''latest and up-to-date materials can be provided to students thorough online learning system''; R3 ''students can be globally connected with educational experts through online links and can get information from them''. However, here is a considerable demand on staff time to undertake updating.

Challenges of Digital Learning

Data related to the challenges of digital learning for university administration were collected under three themes and six codes. Themes included: required competency, diverse ICT resources, accessibility to technology and codes were comprised on technical and instructional skill, skilled faculty, tools and resources for learning, digital divide and affordability of technology.

Table: 3 Challenges of Digital learning

Themes	Codes	Respondents	f
Required Competency	Technical and instructional skill	R1, R3, R4,R32,R21,R11	6
	Skilled Faculty	R3, R2, R4, R1,R6,R8,R9	7
Diverse ICT Resources	Tools and resources for learning	R1, R3, R4, R2,R33,R22	6
Accessibility to Technology	Digital Divide	R3, R2,R21,R30,R28	5
	Affordability of technology	R1, R4, R25,R11,R7,R18	6

Theme: 1, Required Competency. Training is compulsory to integrate competency in academics to use ICT tools during their instructions to students. The review of ideas collected under the above theme showed that respondents consider that basic training is required to use ICT tools. Respondent 4 explained ''teachers lack the information to give instructions to students in online programs''; R1 further demonstrated that ''teachers and students have less knowledge how to use the latest technology tools''. According to Drotner (2013) training of teachers and students in basic for the fruitful outcome of any teaching and learning activities to develop new skills, to work in a new educational environment in any institution. R3 explained ''most of students who come to the library

even do not know how to operate the computer system''. This is what the Heng, (2009) explained it that awareness of technology use is critical for use of technology in education.

Along with training, more skilled staff that has more experience and skills in relevant field also required to help teachers to efficiently use already existing resources. R2 explained that ''more skilled faculty members are required for e-content development and to effectively use existing resources of university for instructions''. Levy and Roberts (2005) stated that new specialists need to be multi-skilled in learning technologies. R4 explained that ''there is a need to have skilled faculty that can efficiently use technology and also know how to maintain these resources because maintenance of these resources is also necessary along with the use of these resources''. Maintenance and development of ICT tools and software require specialist knowledge and a high degree of input from developers, testers and other skilled staff and most of institutions are facing it as a challenge to have services of enough IT staff (Bachan, 2011). R3 further explained that ''definitely university have to support students of all levels, which demands form administration to have ICT professionals that can effectively hold up learning of students with latest technologies whether they are studying at university or at homes''. R1 explained that ''there is a need for professional staff to provide instructional material to all level students to ensure quality of anytime and anywhere learning''. Catherall (2005) also added that, there is requirement of technical expertise for distance universities to prepare and operation of software to have at least on-campus expertise.

Theme: 2, Diverse ICT Resources. The review of codes collected under this theme demonstrated that the majority of respondents are of point of view that diverse ICT tools are required for large no of enrolled students. R3 explained that ''more dedicated channels of Radio and TV are need to be launched to provide instructions to students related to their different subject content''; R1 ''there is need to have more well equipped ICT labs for students in all departments so that those students who come to library can go to their relevant departments for their study work''. R4 explained ''university is trying to have online teaching and learning system and this demands to have diverse physical and online learning resources to facilitate on- and off-campus teaching and learning''. Along with demand of latest ICT tools for digital learning university has to digitalise already existing learning materials in digital format. R2 gives an explanation that ''more and latest ICT tools are required for converting of printed material, especially library printed learning materials into digital, so that students can use them without visiting to library''; R4 ''university is now trying to record lectures for students so that students can attend their lectures at home without attending face to face workshops lectures and this definitely need proper ICT tools for their recording and delivery process''. Supporting the students

digitally, demands of many ICT tools and services that include e-publishing, e-learning, portal, system architecture and other user facilities (Scupola, 2009).

Theme: 3, Accessibility to Technology. The review of opinions collected under this theme showed that respondents are of point of view that one challenge of digital learning is a digital divide of technology access. R3 explained that ''most of students even do not have mobile phones which a challenge for university to digitally support their learning''; R2 demonstrated that ''it is very difficult for the university to equally provide content information to a large number of enrolled students and most of them do not have internet connection''. High cost of technology is one of the reasons for lack of accessibility to technology. R1 explained that ''internet connection in Pakistan is high and it is unaffordable for most of students to use the internet for their learning''; R4 expressed that ''to have a connection between students and university it is necessary to have a fast internet connection and most of students do not use the internet for their learning because they cannot pay for it''. R2 further explained that ''high speed internet connection is required to support large no of enrolled students, which definitely a challenge for university to such high speed connection on reasonable cost''

Findings

The major findings of the study are given below:

➢ According to the administrative staff of the distance universities, mostly of academics do not have sufficient information and or knowledge about ICT use during their instruction to the distance learners.

➢ Distance learners mostly do not have access to technology and those who have do not know how to use them accurately.

➢ Diverse online learning recourses are required for an increasing number of students from all disciplines and it is also a challenge for universities to ensure the quality of these online learning resources and to provide students reliable services from the universities.

➢ For increased flexibility in students' learning instructional material on portable devices is required. Along with this it is a challenge for administrative departments of the universities to provide technical facilities in workshop centers to those distance learners who come to attend their classes in these center.

➢ It is difficult for administrative departments of distance universities to support the learning of a large number of students in which most of them even do not have an internet connection.

➢ Online learning required more ICT professionals for effective development and distribution of e-content to students from all study disciplines.

DISCUSSION

Based on the findings of the study about reason of digital technologies use in distance learning, it can be said that digital technologies are significant for distance universities as it offers more time and cost saving as compared to traditional or blended system of instruction. Digital learning can improve services of universities through a wide coverage of an efficient delivery system. It can overcome the shortage of the teaching faculty of the distance university. This is what the Littlejohn (2005) demonstrated in his study that digital learning provides students with liberty to reproduce upon and incorporate the latest information into their present insightful of novel ideas and the power of mutual dynamic learning. Findings about challenges of digital learning for distance universities are also relevant to the study of Sife, et. al (2007) who found that challenges of digital learning for distance universities in developing countries are lack of training on use of ICT tools and resources for e-content development, high cost of technology, slow internet connections, lack of ICT professional in these distance universities and required quality assurance of online services at large scale.

Distance universities in Pakistan still do not have complete proper online learning environment, which demands from these distance universities to have proper planning and online learning resources for digital learning implementation. Similarly the study of Tarus (2011) found that distance universities in developing countries requires a long time frame, large number of resources and well equipped infrastructures and internet connectivity. One of the major challenges of digital learning for academics and administration of distance universities is that most of distance learners do not have access to technology, especially in rural areas learners do not even have an internet connection. Similarly the study of Bates (2005) found that many distance universities are still using print material as the medium of instruction because the students have no access to technology. The study also revealed that for successful implementation or execution of digital learning in the distance universities can be possible through efficient utilization of technology, e.g. effective use of existing learning resources of these universities, lowering the cost of technology, developing a positive attitude towards technology and the use of those resources or technologies for distance learning that learners have in their hands.

CONCLUSIONS AND RECOMMENDATIONS

The findings from the interviews indicate challenges at three broad levels. Firstly, in the provision of quality learning materials secondly, internet access for students, especially in rural areas and thirdly, in the development of skills with academics and students to use new technologies effectively.

In the light of this, it is possible to recommend:

➢ There is no way any university can arrange for internet access, especially in rural areas. However, universities can share together in setting up local '*hubs*' where students can look into to access online resources. The universities may set up well equipped small campuses in every region that may digitally supported by main university campus to facilitate the instructors and students.

➢ Academic staff need support as they develop electronic learning materials, as well as in knowing how to develop the skills for providing electronic feedback and support to students. This must be tackled at two levels; firstly, there is the need for what might be called a technical IT skills and these could be provided by skilled technical staff. Secondly, technical staff and academics can also be provided with audio video devices from the university, e.g. multimedia, webcam, etc. so that they can use them during their teaching hours.

➢ Decisions need to be taken by universities on the types of equipment and platforms to be used. However, much of the new technology relies on cloud storage and transfer. This is not available easily in many areas of Pakistan. Portable devices with Wi-Fi can be provided to students with all installed instructional materials or these materials can be provided anytime when required for the students.

➢ It is essential that students have the basic skills in areas like word processing, spreadsheet management, internet searching. Basic training on use of ICT tools should be provided to academics and learners at all levels. Refresher courses and workshops for use of digital tools should be made compulsory. However, it may be necessary to offer well presented, rigorous support sources for students early in their academic careers.

➢ An early step can be taken by starting to develop online learning materials on university web sites. All departments of these Universities should encourage sharing their study material on their library website, so that distance learners from any department of these universities can take help from these materials during their academic work. However, these must be of top quality and not just electronic copies of lecture notes.

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