STUDY ON INSTRUCTIONAL PARADIGMS OF VIRTUAL EDUCATION IN PAKISTAN: A LEARNERS' PERSPECTIVE

Dr. Irshad Hussain
Department of Education, The Islamia University of Bahawalpur, Pakistan
irshad.hussain@iub.edu.pk, irshad_iub@yahoo.com

ABSTRACT
The present study is aimed at examining instructional paradigms of virtual education in Pakistan. The population of the study consisted of learners from Master of Business Administration (MBA) Program at Virtual University (VU) of Pakistan. The researcher adopted convenient sampling technique and collected data from 600 learners through five-point (Likert scale) questionnaire. He analyzed data through mean scores and percentages. The study concluded that the VU of Pakistan followed learner-centered instructional paradigm. It exploited its Virtual Television Network supplemented by the internet for online instructional delivery. It involved learners by offering them activities comprising of case studies, assignments, and projects to promote confidence among them. The instructional paradigms reflected resilience but appeared to develop confidence by increasing performance of learners. However, the study reported some problems like electricity failure, social isolation, and lack of time management ability which affected their studies.
Keywords: instructional paradigm, virtual education, professional skills, interactive learning environment, synchronous learning, asynchronous learning

INTRODUCTION
Conventionally, teaching appears to be a process of transferring subject knowledge and information in face-to-face/classroom situations. Hussain (2008) described it as an art of crafting novice minds of students by helping them learn life skills. Crafting novice minds is not a simple task rather it demands professional skills relying on various instructional paradigms. Apparently, an instructional paradigm consists of various strategies, techniques, and styles of teaching. An instructional paradigm facilitates students' interactions to support & enhance their passion for learning, cognitive abilities, and encourage them for developing knowledge through research and reflective practice (Bronak, Sanders, Cheney, Riedl, Tashner, & Matzen, 2008).

The use of emerging instructional technologies generated new educational settings and replaced classroom instruction by 'virtual education' environments (Hussain, 2005). Virtual education is an innovative instructional paradigm mediated by modern technologies. It focuses on intentional acquisition of knowledge, skills, attitudes and competencies (Hussain, 2007a) in distributed learning environments (Dede, 1996). Virtual education appears to embrace innovative instructional strategies and styles of teaching as well as learning. Undoubtedly, it is promoting access to higher education and transforming the world into a knowledge society: knowledge for all and all for knowledge. It is based on active learning (Hussain, 2007b) paradigm and participatory approach to make students aware of their learning which takes place through interactions and reflections. It welcomes self-motivated and learning oriented students who participate in instructional process through constructive, collaborative, intentional and reflective (Jonassen, 2006) activities.

LITERATURE REVIEW
Virtual education seems to be taking place in interactive learning environments by using innovative and technology based instruction. Learners can actively participate in the process of knowledge building through information processing, its sharing, and learners' interactions & reflections in innovative and novel ways and/or styles. These interactions may be synchronous as well as asynchronous but develop critical thinking and analytical skills through reflective practices. The virtual learners constitute a community of diversified potential and therefore, have different learning styles. They adopt learning approaches according to their interest and aptitude. However, they prefer reflective practice and questioning technique which have greater impact on their learning (Meyer, 2004) in virtual environments. Learners may accumulate knowledge and develop confidence through questioning in interactive virtual learning environments. They involve themselves in dialogue and activities for understanding and accretion of new knowledge (Garrison, Anderson, & Archer, 2001). Participation in such situations may enhance their previous knowledge by raising their level of thinking in new directions. However, previous knowledge, learning styles & aptitude, preference, and experience of learners may help them learn through virtual education. That's why Bruner's (1996) advocacy that the previous knowledge is improved and enhanced through discussions within groups appears appropriate to pave for knowledge creation in virtual learning environments.

Knowledge creation and its dissemination appears central to all kinds of educational & academic endeavors and

virtual education accomplishes in collaborative learning environments (Hussain, 2005). Virtual education apparently plays dual role: firstly, knowledge generation & its dissemination and secondly, skill development to cater for the professional needs of 21st century's learners. Therefore, it adopts different instructional paradigms to realize its promise of preparing individuals to live and work in competitive age. It is generally assumed that virtual learners are adults (Rashid, 2003) and they have a life full of experiences. They also have some experience of using modern technologies which helps them enhance their learning (Hussain, 2008) through virtual education. Virtual education is a modern approach of imparting education even in developing countries. It is using information and communication technologies for promoting wider access. Among others, internet appears an established vehicle of virtual education because of its wider availability, affordability, acceptability and usability even in developing countries like Pakistan. Virtual learners seem to be using it eagerly. Mummert (2002) revealed that 80% of the internet users preferred to have correspondence via internet. In addition, Hussain (2005) found that virtual education provides opportunities of competency based education for enhancing performance of the learners.

Education and training is completed through interactions between instructor and learners and among learners. Tu (2000) viewed interactivity to be vital to the process of learning and its level (Muirhead, 2001) impacts on the quality of computer-mediated [virtual] instruction. It seems to be crucial for effectiveness of instructional process and Ko & Rossen (2004) asserted that instructors and students can enjoy enhanced and frequent interactivity for effective communication, sharing their learning experiences, and collaboration on research projects through online [virtual education] courses.

Apparently, the effectiveness of a course offered by virtual university depends upon its contents and delivery mechanism. MacKinnon (2002) described it as a challenge for instructors to design courses alike that of face-to-face courses in terms of their learning objectives, contents and assignments, and student learning outcomes. Such interactions may be established among learners themselves, between learners and textual material, and learners and learning materials assigned for preparing assignments. The same was supported by Bannan-Ritland (2002).

In virtual education, interaction and interactivity can take place by active involvement of learners in learning process. In this regard, the study of Townsend, Campbell, Curran-Smith, McGinn, Persaud, & Peters, (2002) affirmed enhanced interactivity of learners when they were involved in communication with their instructor instead of working in small groups on collaborative projects. It was due to grading their participation in posting questions or discussing case studies in virtual communities. Similarly, the study conducted by Larson (2002) reported increased interactivity in an online [virtual education] course on marketing on frequent instructor led discussions.

However, virtual learners in Pakistan face some problems which need to be addressed for enhancing the efficiency and effectiveness of virtual education in the country. Hussain (2005, 2007) found that virtual learners face some physical problems like blurred vision, headache, giddiness, and drowsiness. Similarly, the study conducted by Hussain & Rahmani (2009) depicted that virtual learners in Pakistani context faced problems associated with infrastructure including electricity failure and lack of its back-up. The learners reported their study difficulties and anxiety & depression because of such problems. The study also revealed some problems associated with their posture: backache due to long sitting for using the computer and fingers' joint pain. Some other problems like technology literacy, bandwidth of the internet, access to the cable network, and job assignments appeared to be the difficulties of virtual learners in Pakistan.

In spite of all the problems mentioned above currently, virtual education is accelerating with a great momentum; accommodating diverse students' body in different disciplines and courses. It appears to be a great blessing for the students of Pakistan particularly for those professionals who need a degree but can't study on campus. It mainly uses internet as instructional vehicle; however, other communication technologies like satellite television, video & teleconferencing, and compact diskettes are jointly used for its purposeful accomplishment. The Virtual University of Pakistan is pioneer public sector institution offering various academic programs across the country through innovative instructional paradigm.

VIRTUAL EDUCATION IN THE WORLD

The virtual education is an established mode of education in developed countries and it is getting popularity in developing countries like Pakistan. It promotes extensive opportunities from K-12 to higher education level. According to Watson & Kalmon (2006) there were 24 state-led virtual schools and 12 states in the process of forming these institutions in United States by this year including Florida Virtual School (FLVS) and Michigan Virtual School. DiPietro, Ferdig, Black & Preston (2008) mentioned that adaptation of face-to-face instructional practices for online settings appeared to be the reason for such expansion of virtual education. The expertise in

content development, communication skills, and instructional design were mainly focused. Similar is the case with college and university education in the USA and other developed and developing countries of the world. Regents College of New York State (www.regents.edu) affirms itself as America's First Virtual University. However, the main virtual universities include National Technological University (NTU) (www.ntu.edu): co-operative effort of 50 major universities, University of Phoenix which is a private virtual university (www.uophx.edu), The Western Governors University (WGU) which is a consortium (www.wgu.edu), California Virtual University (CVU) (www.california.edu) and Concord University School of Law (www.concord.kaplan.edu)

In Korea, the Korean government launched a two-year Virtual University Pilot Project (VUTP) and 65 universities and five companies participated in the project. By 2002 there were 15 Virtual Universities in Korea. Similarly, the Korean University Alliance for Cyber Education (KUACE (http://www.kuace.org) was established in 2001 for capacity building to offer virtual education programs and more than eighty higher education institutions joined it (Jung, 2002). Likewise, in United Kingdom the International Virtual University (www.ivu.org.uk), Clyde Virtual University (www.cvu.strath.ac.uk/) and Virtual University of Edinburgh (http://vue.edu.ac.uk/) are offering lifelong learning and non-traditional programs in the Great Britain.

The Edith Cowan University (www.cowan.edu.au/) is an evolution of an existing university into Virtual University in Australia. India is also promoting education through Virtual Universities. India's first virtual medical university the Medvarsity (http://www.medvarsity.com/) was established in 2000. It offers courses in collaboration with distinguished medical institutions like Royal College of General Practitioners and Apollo Hospitals Educational and Research Foundation to meet the International Standards. Similarly, the Tamil Virtual University (TVU) (http://www.tamilvu.org/coresite/download/tvu_rti_hdbk.pdf) was established in 2001 to address the educational needs of those who live outside the Tamil Nadu.

The Thailand ASEAN Virtual Institute of Science and Technology (AVIST) (www.avist.org/) is Consortium which aims at promoting education in the country. The African Virtual University (http://www.avu.org/) in African countries and the Virtual University Park with the Joint-Congress (http://www.szvup.com/Html/englishh/83264822729835.html) is disseminating education in China. The practice of earning a degree from a virtual university is in a state of wider acceptability leading towards establishment of new virtual universities and offering programs/ courses through virtual mode.

VIRTUAL EDUCATION IN PAKISTAN

The Virtual University of Pakistan is a pioneer in introducing and imparting 'Virtual Education' in the country. Established in 2002, it is providing education of international standards to all individuals of the country. It is empowering learners for challenging tasks by offering market-driven skill-based programs. It exploits a mix of modern educational technologies for instructional delivery to bring about socio-economic change in the country. It extends interactive learning environments by adopting Hybrid instructional paradigm which is based on modern information technologies (Toor, 2005). Internet appears to be the main pillar to supplement the instructional paradigm. Alongside Internet Technology, Virtual Television Network is bridging-up the distance between the learners and their tutors and the varsity.

Virtual education requires active involvement of the learners; therefore, activity-based contents are prepared. Hussain (2007a) stated that visionary and skilled educationists & active educational practitioners design & develop specialized courses. Generally, higher education institutions appear to focus on instruction and instructional paradigm according to the learners' psychology. Rashid (2003) assumed such learners to be adults and therefore, Virtual University of Pakistan follows andragogical approach in designing, developing and delivering the instructional materials (Hussain & Rahmani, 2009) to its learners. The university prepares its courses in English language; however, the medium of instruction is bi-lingual (Urdu and English). Toor (2005) stated that the Varsity broadcasts recorded lectures through its virtual television network. Students can interact with their instructors via internet during and/ or after the lecture from their homes, work places or classrooms at any of the virtual campuses. These lectures are available at the Varsity website and can be downloaded using university web accounts. These lectures are also accessible for the students & faculty of the formal universities.

The university hosts its Learning Management System (LMS) by providing the facility of Moderated Discussion Board (MDB) for the students. They may also send their queries via –e-mail to their respective instructor(s). The university has established linkage with private institutions constituting its 'Private Virtual Campuses' (PVCs) throughout the country. These campuses extend campus like facilities and students learn and interact in classrooms with a sense of belongingness.

OBJECTIVES OF THE STUDY

The study was conducted with the objectives:

a). to identify the practices of designing instructional materials in Pakistan
b). to examine the instructional paradigms of virtual education in Pakistan
c). to identify the problems faced by virtual learners in Pakistan

RESEARCH METHODOLOGY

The study was conducted with the main focus on evaluation of learners' reflections on instructional paradigms of virtual education in Pakistan. The study adopted survey approach of descriptive research for data collection. The population of the study consisted of learners of Master of Business Administration Programme of the Virtual University of Pakistan. The researcher adopted convenient sampling technique and administered research tool on 648 students. For data collection one research tool-Questionnaire on five points rating (Likert) scale was developed to elicit the opinions of the respondents. The research tool was developed to cover the basic components of instructional paradigm such as development of course contents and their presentation format & style(s), mechanism of instructional delivery or information dissemination, interactions of learners, learning activities prepared and offered to learners, involvement of learners in learning process and problems of virtual learners.

The researcher validated the research tool through its pilot testing at private virtual campus in Bahawalpur. The finalized research tool was administered on the respective sample through academic coordinators of the Private Virtual Campuses of the Virtual University of Pakistan. The response rate was 92.60% (as 600 responses complete in all respects were received). The data were coded and analyzed through Ms-Excel in terms of percentage and mean scores. The scale values assigned were highest 05 strongly agree (SA) to lowest 01 strongly disagree (SDA).

RESULTS OF THE STUDY AND DISCUSSION

The data collected through the questionnaire was analyzed in terms of percentage and mean scores. The results of the data analysis are presented in the tables given below.

Table 1. Opinions of virtual learners about course contents and their presentation

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Development of Course contents and presentation						
Clear objective	166(27.7)	343 (57.2)	4 (.7)	18 (3.0)	69(11.5)	3.8
Relevant content	157(26.2)	333(55.5)	3 (0.5)	38(6.3)	69(11.5)	3.8
Clear concepts	167(27.8)	339 (56.5)	2 (0.3)	32 (5.3)	60(10.0)	3.9
Logical sequence	189(31.5)	324 (54.0)	3 (0.5)	31 (5.2)	53 (8.8)	3.9
Informative	196(32.7)	327(54.5)	3(0.5)	29 (4.7)	45 (7.5))	4.0
Activity based	177(29.5)	349 (58.2)	2 (0.3)	12 (2.0)	60 (10)	4.0

Course contents and format & style(s) of their presentation are considered to be the path leading towards achieving objectives of the course(s). The researchers identified practices of designing and developing instructional materials through reflection of the respondents. Table-1 reflects the opinions of virtual learners about designing and developing course contents and styles of their presentation.

Majority of the learners was of the opinion that objectives of courses were clear and understandable (84.9% and mean score 3.8) for their maximum realization. The clear objectives helped them move in right academic direction and they aimed at their high achievement through appropriate learning activities, interactions and reflections. The university designed to offer relevant contents of instructional materials (81.7% with mean score 3.8) for achieving the objectives of course(s) and ultimately that of the programme(s). The contents of instructional materials were self-elaborative offered in different forms and formats. The virtual learners were said to be self-motivated and course contents assisted them in associating their learning with work situations in order to create knowledge.

The concepts included in the courses were clearly explained (84.3%, mean score 3.9) for better understanding and comprehension of learners. The concepts (either abstract or concrete) were exemplified and elaborated in practical manner. This practice of explaining the concepts through examples and relating with situations appeared to enhance inductive reasoning and cognitive abilities of virtual learners leading them to draw conclusions and inferences of different situations, occurrences, events and incidents. The university organized

the learning materials in logical sequence (85.5% and mean score 3.9). The concepts were said to be coherent with the previous knowledge and learning experiences of learners, and articulated with objectives and learning outcomes of the course and/or program. Similarly, contents of instructional materials were informative and instructive (87.2% with mean score 4.0) leading virtual learners towards new knowledge. It might have raised their awareness of and about facts to expand intellectual capacity. It facilitated them in cross-fertilizing information with personal experiences for knowledge generation. The virtual learners, thus, appeared to be processing the information cognitively for expanding their knowledge horizontally and elevating it vertically.

The instructional process accomplished appropriately by offering learning activities (87.7% with mean score 4.0) to learners for their reflection. These activities provided opportunities for learning by doing, hence making learners capable of evaluating and analyzing their personal experiences. They were expected to elevate from the existing to the expected level of knowledge, enjoying their academic autonomy. Activities appeared amongst key aspects of virtual education for developing and promoting mental capacities of learners, and affecting their understanding to realize experiences for learning.

Table 2. Opinions of virtual learners about instructional delivery

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Instructional Delivery						
Easy language	204(34)	271 (45)	6 (1)	28 (5)	91(15)	3.8
Language of presenter	186(3 1)	317 (52.8)	3 (0.5)	17 (2.8)	77(12.8)	3.9
Personality of presenter	201(33.5)	321(53.5)	3 (0.5)	13(2.2)	62(10.3)	4.0
Soft voice	177(29.5)	349 (58.2)	2 (0.3)	12 (2.0)	60 (10)	4.0
Examples	146(24.3)	351 (58.5)	16 (2.7)	18 (3.)	69(11.5)	3.8

Mechanism of instructional delivery and information dissemination is one of the basic components of instructional paradigm of virtual education. The researchers elicited the opinion of respondents to assess instructional practices in virtual education. Table-2 indicates opinions of virtual learners about instructional delivery. A clear majority of the learners affirmed that contents of instructional materials were presented in easy & understandable language (79%, mean score 3.8) according to their intellectual capacity and comprehension level. It helped them in understanding and interpreting the meaning of contents & concepts in more elaborative manner.

The virtual university of Pakistan exploits its virtual television network for imparting instruction supported by Internet. A prominent majority of the learners asserted that personalities of lesson presenters were good looking (87%, mean score 4.0) with appropriate gestures for effective non-verbal communication. The presenters appeared to be good communicators equipped with professional skills to impart right information in right manner. Instruction imparted through television created and sustained motivation among learners to have an impact on their learning and learning behavior. Similarly, accent of the presenters was easy (83.8%, mean score 3.9) and explicably understandable. The accent was enchanting learners' mind set making them receptive of the new forms and directions of knowledge creation and its dissemination.

The voice of the presenters was soft (87.7%, mean score 4.0) and clear with appropriate pulses & pauses. These pulses and pauses along with body movements of the presenters' played a supportive role to create classroom like situation. These were reported to be useful for keeping learners in study circles; enhancing their retention and eliminating course and/or program dropout. Such activities worked as a motivational force inspiring them complete courses and programs with in due time duration. Likewise, the presenter elaborated concepts with the help of examples from real life (82.9% with mean score 3.8) for creating scientific thinking among learners. Therefore, it is that the virtual university of Pakistan employed competent and experienced academicians and presenters for effective instructional delivery.

Table 3. Opinions of virtual learners about channels of communication & interactions

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Learners' Interactions						
E-mail	354 (59.0)	243(40.5)	3 (0.5)	00 (00)	00 (00)	4.6
Moderated Boards	342(57.0)	254(42.3)	4 (0.7)	00 (00)	00 (00)	4.6
Telephony	113(18.8)	243 (40.5)	6 (1.0)	123(20.5)	115(19.2)	3.2

In most of the cases virtual education exploits innovative channels of communications to enhance learners' interactions. The present research evaluated learners' responses about such channels. Table-3 shows opinions of learners about channels of communication to enhance their interactions for learning in virtual environments. According to the table, an obvious majority of virtual learners used e-mail (89.5%, mean score 4.6) for asynchronous communication and interactions. They used e-mail for submitting their assignments to their tutors, and sharing teaching learning materials with one another. They shared learning experiences and information, seek guidance and help from their tutors and academicians, fellow students and technical staff of the Varsity through using e-mail. However, the use of e-mail by virtual learners appeared to be in a state of momentum supporting and supplementing instruction imparted through virtual television network of the Varsity.

The Virtual University of Pakistan hoisted its Learning Management System for promoting virtual discussion through moderated boards (99.3%, mean score 4.6). The learners were using these moderated boards for augmenting and expanding their academic collaboration for learning through questioning. Questioning appeared to be a catalyst for developing confidence among the learners. They were given the opportunities of learning different techniques of 'how to raise question(s)' and analyze & process multiple responses.

Similarly, majority of respondents made telephone or mobile phone calls (59.3%, mean score 3.2) for promoting synchronous communication & interactions with faculty and their fellow learners. It enhanced their interactions through verbal communication. They could get immediate responses, feedback & comments on their work/assignments indicating the worth and quality of their work. Synchronous interactions seemed to be useful for gratifying academic queries of learners. Such interactions were assumed necessary to develop academic relationships between learners and tutors. Apparently, the Virtual University of Pakistan employed active instructional paradigm by exploiting synchronous and/ as well as asynchronous channels of communication and interaction for self-directed learning.

Table 4. Opinions of virtual learners about learning activities

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Learning Activities						
Case studies	243 (40.5)	243 (40.5)	3 (0.5)	82 (13.7)	29 (4.8)	4.0
Assignments	343 (57.2)	254 (42.3)	3 (0.5)	00 (00)	00 (00)	4.6
Discussion	201 (33.5)	321 (53.5)	3 (0.5)	13 (2.2)	62 (10.3)	4.0
Seminars	119 (19.8)	256 (42.7)	6 (1.0)	173 (28.8)	46 (7.7)	3.4
Constructive feedback	272 (45.3)	256 (42.7)	4 (0.7)	25 (4.2)	43 (7.2)	4.1
Quizzes	254 (44.0)	273 (45.5)	4 (0.7)	25 (4.2)	34 95.7)	4.2

Involvement of learners in teaching learning process results in their effective learning. Different learning activities are prepared and offered to learners for transforming their information into knowledge and then competencies. Table-4 indicates that virtual learners worked on case studies (81.0%, mean score 4.0) for gaining relevant information and/ or knowledge of and about the phenomenon. The tutors seemed to be involving virtual learners in teaching learning process by assigning them case studies relevant to their subject(s) and area(s) of specialization(s). It was expected that after completing such case studies learners would become capable of evaluating and analyzing the situations and/or phenomenon under study.

They were engaged in preparing a certain number of assignments (99.5%, mean score 4.6) for each course with the aim of developing inductive and deductive reasoning. The tutors involved them in assignment work for developing creativity and art of academic writing. The data reported that it resulted in developing academic writing skill among learners –flow of ideas, coherence & consistency among concepts and uniformity of the language and style.

The university arranged discussions in which virtual learners took part (87.0%, mean score 4.0) either synchronously or asynchronously for sharing information or their view points about a topic/or concept and learning experiences. It aimed at eliminating their shyness and introversion by acting and reacting and using the right language and verbatim in different situations. It also provided them with the opportunity to interact with academia of diverse intellectual and profile. Similarly, discussions were accompanied by participating in online seminars (62.5%, mean score 3.4) for detailed information and knowledge of some specific topic(s) or issue(s) of emerging importance. The data revealed that learners participated in such seminars with pleasure by exchanging information and experiences.

Formative and summative system of evaluation is used to assess the learning achievement of virtual learners. Formative evaluation is conducted through assignments. Marking of assignment and comments of the tutors are considered as motivational force for augmenting learning. The virtual learners submitted their assignments as a requirement of each course. The data reflected that tutors were optimistic and encouraged virtual learners through positive feedback (88%, mean score 3.1) and motivational comments on the assignments. They specifically pointed out the parts of the assignments which needed improvement and commended the good work. They provided guidelines on how to prepare assignments. This practice was reported to be a process of academic mentoring which promoted liaison between tutors and their learners.

Along with the activities mentioned above, the university organized quizzes (89.5%, mean score 4.2) for evaluating and assessing subject knowledge of the virtual learners. Like other academic activities, the Varsity considered quizzes to be essential to develop quest for learning and enthusiasm for achieving academic highness among fellow learners. They aimed at excelling in academic activities necessary for learning. It was clear from data that Virtual University of Pakistan ensured active participation of learners by adopting participatory approach of instructional delivery.

Table 5. Opinions of virtual learners about learning through virtual education

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Learners' Involvement in Learning Process						
Collaborative learning	243(39.0)	303(50.5)	3(0.5)	26(4.3)	34(5.7)	4.1
Interactive learning	215(35.8)	303(50.5)	5(0.8)	32(5.3)	45(7.5)	4.0
Self-directed learning	211(35.2)	312(52.0)	4(0.7)	29(4.8)	44(7.3)	4.0

Innovative approaches and strategies are adopted to address the varied potential of virtual learners. The study found out the type of learning which was promoted by the Varsity to address diversified intellect. It is evident from the data given in the table-5 that the Virtual University of Pakistan provided and promoted opportunities of collaborative learning (89.5% mean score 4.1) by establishing a community of virtual learners or interest groups. The tutors assigned them academic tasks and activities in groups. Apparently, learners were geographically distributed, but actually, they were enjoying their virtual groups' dynamism for learning in community. They were reported to be helping each other and shared their learning experiences, contents & academic activities, and information about courses and surroundings. This practice emerged to bridge their personal experience with new learning resulting in knowledge building.

Learning is said to be accomplished successfully in interactive environments. The Virtual University of Pakistan extended interactive learning environment over the net. The virtual learners practiced such interactive learning environments (86.3% mean score 4.0) in their virtual community. They developed social networks and interacted freely. They were of the opinion that they were provided opportunities of self-directed learning (87.2% mean score 4.0) to learn more objectively and concisely according to their andragogical styles and study patterns. Apparently, the virtual learners were learning through innovative individualized and group activities.

Table 6. Opinions of virtual learners about their problems in virtual education

Statement/ Pedagogical Area	Level of Agreement: Frequencies & Percentage (% is given in parentheses below)					Mean Score
	SA	A	UNC	DA	SDA	
Problems of Virtual Learners						
Electricity Failure	209(34.8)	321(53.5)	3(0.5)	24(4.0)	43(7.2)	4.0
Social/ family problems	186(31.0)	339(56.5)	3(0.5)	27(4.5)	45(7.5)	4.0
Isolation	221(36.8)	322(53.7)	4(0.7)	23(3.8)	30(5.0)	4.1
Time management	209(34.8)	341(56.8)	5(0.8)	19(3.2)	26(4.3)	4.1

Learners face some problems at all levels of education and virtual education is not an exception. The researchers identified some of the problems of virtual learners through their reflection. Table-6 revealed that virtual learners in Pakistan faced the problems of [and due to] electricity failure (88.3%, mean score 4.0) which appeared to be a big barrier in learning through virtual interactions. Virtual learners depended on the use of Internet and Virtual Television Network of which the broadcasting was promoted by local cable networks. Due to electricity failure they could not continue viewing instructional broadcasting. Social problem (87.5%, mean score 4.0) proved another hindrance in timely submission of the assignments. They reported to be busy in jobs, with their family or

other professional and social commitments which were creating gap between objectives of study and their performance.

Physical separation of virtual learners (90.5%, mean score 4.1) from their fellows and tutors appeared to be developing procrastinating attitude among them. They could not work with due tempo and pace. They were facing segregating attitude from conventional or mainstream higher education students and/ or professionals. Apparently, it was working as one of the de-motivating factors and resulting in dropout in some of the cases. Likewise, majority of virtual learners were employed and related to working cohort, and therefore, they faced time management (90.6%, mean score 4.1) problems in 'learning while earning' situations. They had to sacrifice their semester or course over their official commitments. These problems appeared to be prevailing more over the situations where learners were employed in private sector or on performance based incentives / promotions to high ranks.

CONCLUSION

The Virtual University of Pakistan uses learner-centered instructional paradigm. The Varsity offers informative and innovative courses encompassing self-instructional materials and activities. It appoints experienced and visionary personnel as tutors and academicians. It exploits its Virtual Television Network supplemented by Internet for online instructional delivery. The tutor presenters appear to be good looking having soft voice & clear accent with appropriate pauses and pulses. The learners are involved in learning process through assignments and activities. The Varsity promotes opportunities of collaborative learning in virtual environments. It promotes confidence and intellectual faculties of learners through activity based leaning comprising of case studies, assignments and projects. The instructional paradigm reflects resilience to address diverse intellect but appears to enhance mental faculties of learners. However, they face some problems like electricity failure, isolation, and lack of time management ability which appear to create difficulty in their learning.

REFERENCES

Bannan-Ritland, B. (2002). Computer-mediated communication, eLearning, and interactivity: A review of the research. *Quarterly Journal of Distance Education*, 3(2), 161-179.

Bronak, S., Sanders, R., Cheney, A., Riedl, R., Tashner, J. & Matzen, N. (2008). Presence pedagogy: teaching and learning in 3D virtual immersive world, *International Journal of Teaching and Learning in Higher Education, 20(1), 59-69*

Bruner, J. (1996). *The culture of education.* Cambridge, MA: Harvard University Press Clark, R.C., & Mayer, R. E. (2003). *E-learning and the science of instruction;* San Francisco: Pfeiffer

Clyde Virtual University (Visited www.cvu.strath.ac.uk/ on October 12, 2011) Comerchero, M. (2006). *E-learning concepts and techniques* (http://iit.bloomu.edu.Spring2006_eBook_files/Chapter1.htmal) Retrieved on June 22, 2011

Concord University School of Law (www.concord.kaplan.edu

Dede, C. (1996). The evolution of distance education: emerging technologies and distributed learning, *American Journal of Distance Education 10(2)*

Delich, P., Kelley, K., & McIntosh, D. (2008). *Emerging technologies in e-learning.* In Hirtz, S. (Ed.) *Education for a digital world: advice, guidelines and effective practice from around the globe;* Canada, Commonwealth of Learning

DiPietro, M., Ferdig, R. E., Black, E. W., & Preston, M. (2008). Best practices in teaching K-12 online: lessons learned from Michigan virtual school teachers; *Journal of Interactive Online Learning:* Volume 7, Number 1, Spring (Available on www.ncolr.org/jiol)

Garrison, D., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education, *American Journal of Distance Education,* 15(1), 7-23

Hussain, I. & Rahmani, S. H. (2009). *E-Learning in Pakistan: studying the practices of designing, developing and delivering instructional materials;* In proceedings of the Cambridge International Conference on *Open and Distance Learning; Supporting learning in the digital age: rethinking inclusion, pedagogy and quality*, 22-25 September 2009 organized by the Commonwealth of Learning in collaboration with Murray Edwards College,Cambridge,UK [Available online http://www2.open.ac.uk/r06/documents/CambridgeConferenceMainPaper2009.pdf]

Hussain, I. (2008). Information technologies and globalization: new perspectives of teaching learning process*; i-managers' Journal on School Educational Technology; India, Vol. 3, Issue: 1 (PP. 40-49).*

Hussain, I. (2007a). A study of student's attitude towards virtual education in Pakistan. *Turkish Journal of Distance Learning, 8(2).* Retrieved June 1, 2007 from: http://tojde.anadolu.edu.tr/

Hussain, I. (2007b). Emerging technologies: an overview of practices in distance education. *i-manager's Journal on School Educational Technology, Vol. 3, No. 2*

Hussain, I. (2005). *A study of emerging technologies and their impact on teaching learning process;* an un-

published PhD thesis, Islamabad, Allama Iqbal Open University.
Jonassen, D. (2006). *Designing constructivist learning environments*. Spring 1997. [Retrieved October 19, 2009 from http://www.coe.missouri.edu/~jonassenINSYS527.html]
Jung, I. (2002). Virtual education at the tertiary level: the experience of Korea. *TechKnowLogia* [Available on www.TechKnowLogia.org]
Kalanidhi, A. (2011). Quality in higher education - a comparative study of campus and virtual education in Proceedings of the *2nd World Conference on Technology and Engineering Education*, 2011 *WIETE Ljubljana, Slovenia, 5-8 September 2011*
Ko, S. S., & Rossen, S. (2004). *Teaching online: a practical guide* (2nd ed.). Boston: Houghton Mifflin.
Ko, S. S., & Rossen, S. (2001). *Teaching online: a practical guide*. Boston: Houghton Mifflin.
Larson, P. D. (2002). Interactivity in an electronically delivered marketing course. *Journal of Education for Business*, 77(5), 265-269.
MacKinnon, G. R. (2002). Practical advice for first time online instructors: *A qualitative study. Journal of Instruction Delivery Systems*, 16(1), 21-25.
Meyer, K. A. (2004). Evaluating online discussions: Four different frames of analysis, *Journal of Asynchronous Learning Networks, 8(2), 101-114*
Mummert (2002). *E-learning braucht Nachhile.* Retrieved October 19, 2009 from http://www.mummert-de/deutsch/press/a-press-info/022506.html
National Technological University (NTU) (Visited www.ntu.edu on December 01, 2011) Open and Distance Learning Quality Council-ODL QC (2001). *A Definition of e-learning.* Retrieved October 19, 2009 from http://www.oldcqc.org.uk/oldqc/n19-e.html
Porter, D., (2008). Introduction. In Hirtz, S. (Ed.) *Education for a digital world: advice, guidelines and effective practice from around the globe;* Canada, Commonwealth of Learning
Rashid, M., (2003). *Adult education in comparative perspective;* Islamabad, Allama Iqbal Open University
Rashid, M., (2002). *Trends and issues in distance education;* Islamabad, Allama Iqbal Open University
Rashid, M., (2001). *Educational technology;* Islamabad, National Book Foundation
Regents College of New York State (Visited www.regents.edu on December 05, 2011)
Sherazi, S., & Ikram, M.J. (2001). A Hybrid distance education model for Pakistan; *The Electronic Journal of e-Learning Volume 3 Issue 1, p. 68*
Tamil Virtual University (TVU) (Visited http://www.tamilvu.org/coresite/download/tvu_rti_hdbk.pdf on October 13, 2011
The African Virtual University **(**Visited http://www.avu.org/ on September 14, 2011)
The California Virtual University (CVU) (Visited www.california.edu on December 07, 2011)
The Edith Cowan University (Visited www.cowan.edu.au/ on November 16, 2011)
The International Virtual University (Visited www.ivu.org.uk on December 11, 2011),
The Korean University Alliance for Cyber Education (KUACE (Visited http://www.kuace.org on December 09, 2011)
The Medvarsity (Visited http://www.medvarsity.com/ on December 04, 2011)
The Thailand ASEAN Virtual Institute of Science and Technology (AVIST) **(**Visited www.avist.org/ on July 13, 2011)
The University of Phoenix (Visited www.uophx.edu on December 01, 2011)
The Virtual University Park (Visited http://www.szvup.com/Html/englishh/83264822729835.html on November 29, 2011)
The Western Governors University (WGU) (Visited www.wgu.edu on December 05, 2011),
Toor, S. K., (2005). Hybrid model for e-Learning at virtual university of Pakistan; *The Electronic Journal of e-Learning Volume 3 Issue 1, p. 68*.
Townsend, E., Campbell, C., Curran-Smith, J., McGinn, F., Persaud, D., & Peters, P., (2002). Accessibility and interactivity in distance education programs for health professions. *Journal of Distance Education,* 17(2), 1-24.
Tu, C. H. (2000). *Strategies to increase interaction in online social learning environments*. Paper presented at the *Society for Information Technology and Teacher Education International Conference*, San Diego, CA.
Virtual University of Edinburgh (Visited http://vue.edu.ac.uk/ on November 21, 2011)
Watson, J. F., & Kalmon, S. (2006). *Keeping pace with k–12 online learning: A review of state level policy and practice.* Naperville, IL: North Central Regional Educational Laboratory.