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A STUDY OF STUDENT'S ATTITUDE TOWARDS VIRTUAL EDUCATION IN PAKISTAN

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ABSTRACT

Virtual education paradigm has been developing as a form of distance education to provide education across the boundaries of a nation and/or country. It imparts education through information and communication technologies. In Pakistan the Virtual University of Pakistan imparts it. The main objective of the study was to evaluate the students' attitudes towards virtual education in Pakistan. The data were collected from BCS final semester students of the virtual university through questionnaire.

The study revealed that virtual education is an alternate to the formal system of education. It can cater large students' body at all academic levels. It is flexible and convenient to the learners providing them exposure with emerging technologies. It integrates the nation extending the opportunities of higher education, uniform curricula, technology based instructional methodology and equal opportunities of higher education. However, students do face some problems as well. These include problems of password, computer vision syndrome (CVS), fingers' joint pain, backache, dizziness & headache and electricity failure. From the findings of the study it can be projected that in future formal universities may be adopting the virtual mode in some way.

Keywords: Distance Education; Virtual Education; Information and Communication Technologies; Paradigm Shift.

INTRODUCTION

Distance education is mediated experience where the specific aim is the intentional acquisition of knowledge, skill, attitudes and competencies. It is going through a paradigm shift from the guided independent study to interactive networked multimedia education (Kirschner, P., Valcke, M. & Sluijsmans, D. 1999). It can cater the educational needs of all segments of the society. Bates, A. W. (1995) stated that it is more flexible, personal, competence based interactive (constructivist) paradigm for learning with in learning communities. It is an open and collaborative teaching learning process, which depend upon the information and communication technologies.

In its new paradigm, distance education encompasses and relies on the use of information and communication technologies.

This new paradigm may be called "Virtual Education"-a teaching-learning process based on the principles of active pedagogy with characteristics of distance education. It makes available the teaching learning resources and services to the learners for individual study (Morris, R. 1997).

The students and the teacher don't meet personally, although this could happen in virtual settings with synchronous and/or asynchronous interaction Dede, C (1996). They can interact with each other in real time using teleconferencing (audio or desktop video-conferencing) or Internet. They can also interact by e-mail that doesn't require that both are on-line at the same time.

VIRTUAL EDUCATION IN PAKISTAN

In Pakistan, virtual education is relatively a new concept and it got formal acceptance with the establishment of the 'Virtual University of Pakistan' in 2002. The virtual university of Pakistan was established by the Government of Pakistan to provide quality education throughout the country as well as overseas. The official document of the Virtual University of Pakistan states that its mission is to:

1. provide world class education at an affordable cost across the length and breadth of the country through a uniform educational environment without differentiating between large cities and smaller towns
2. offer academic programs that are equivalent or better in content and quality to those offered by leading institutions of higher education in the country.
3. admit students solely on the basis of their educational qualifications regardless of race, color, gender, religion, disabilities, geographical locations or age.
4. provide its students with a rich and challenging educational experience that fosters their personal growth and supports their transition to responsible adulthood in a rapidly shrinking world.
5. integrate liberal studies and professional education to give its graduates both breadth and specialization.
6. to give its graduates education that enables them to comprehend the complexity and dynamism of contemporary global processes and empowers them to guide those processes in constructive directions.

It provides extended, affordable, quality higher education to all areas of Pakistan, based on the excellent telecommunication infrastructure. It would have a great impact on the socio-economic growth of Pakistan. The teaching learning process as described by the University in admission prospectus 2004 is summarized below:

Renowned professors and experts in various disciplines from major national universities and institutions develop the Virtual University courses and deliver lectures to VU students. They have extensive experience in the field with foreign qualifications.

INSTRUCTIONAL METHODOLOGY

Language

The objective of the university is the transfer of knowledge to the students in an effective way; therefore, most appropriate language is used for this purpose. Usually the university uses bi-lingual approach in preparing and delivering lectures using a mix of the English and Urdu languages to make students understand the courses taught.

Learning Management System (LMS)

The Virtual University has deployed a comprehensive Learning Management System (LMS) on its servers. The LMS provides a Moderated Discussion Board (MDB)

for each lecture of every course where students may place their questions and obtain answers from the professors. These discussion boards are available to all VU students throughout the semester and even afterwards and form an extremely valuable knowledge resource. Students may also email their questions to the instructors, but the MDB is the preferred platform.

Virtual Television

The Virtual University uses television for broadcasting its lectures. It operates its own two television channels Virtual Television-1 & Virtual Television-2. Interaction between students and tutors happens over the Internet. Students listen to the lectures in classroom environment in virtual campuses spread all over the country.

The students are provided free Internet facility to interact with their tutors. Videos/CDs of the lectures in all courses are also available at major bookshops and virtual campuses all over the country. They may also be ordered through e-mail. These are available to VU students, to students & faculty members from other universities and also to the public at large.

Virtual Campuses

The University has set up several of its own campuses and more are being established. In addition, over a hundred "Private Virtual Campuses" have been established all over the country with the help of the private sector. The Virtual Campuses are equipped with state-of-the-art multimedia projectors and screens; multimedia equipped personal computers in a LAN configuration as well as UPS and generators. The LANs are interfaced to the Internet, thereby allowing Virtual University students to gain immediate access to the on-line learning environment.

Students need to have a TV viewing facility and a computer with Internet connectivity in order to interact effectively with their teachers. Further, students should have a formal educational environment in which to carry out their studies.

The Virtual Campuses provide these two elements: the electronic infrastructure and the required atmosphere. Students who enroll at a Virtual Campus do not need a computer at home. On the other hand, home based students definitely require one as well as Internet connectivity. However, having a computer at home with Internet connectivity can be advantageous since students could then do additional reading/exercises on the VU web servers as well as access information on the Internet which has now become the repository of mankind's knowledge.

Establishment of Examination Centers

Examinations are conducted in a formal proctored environment at centers established for the purpose by the University. The University announces examination centers across the country and appoints examiners/invigilators, usually from other public sector colleges and universities. Examinations are conducted electronically as far as possible (but not on-line) under the supervision of the examiners using special software developed for the purpose by the University. The electronic examination files are then forwarded to the Virtual University offices for grading.

OBJECTIVES OF THE STUDY

The objectives of the study were:

1. To describe the teaching learning process of Virtual Education in Pakistan.
2. To evaluate the student's attitudes about Virtual Education in Pakistan.
3. To identify the problems of students' of Virtual University of Pakistan.

RATIONALE OF THE STUDY

Virtual Education is an emerging concept. General public and the persons of developing countries particularly Pakistan, are aware and related with formal system of education and therefore, are not fully aware of the importance of virtual education. They have different opinions and perceptions about it. Above all, what the learners of virtual education think about it is of great importance. The present study was designed to investigate such attitudes.

RESEARCH METHODOLOGY

Population and Sampling

The population of the study consisted on the 431 BCS students of final semester (Autumn 2004) studying at Virtual University of Pakistan. The population of study was small, therefore, 100% population (431 BCS students) was considered as sample of the study.

Research Tool Development and Data Collection

Since the study was descriptive in nature, therefore, survey approach was considered appropriate to collect the data. For the purpose, questionnaire on five-point (Likert) scale was developed with one open ended question at the end of the questionnaire. The questionnaire was validated through pilot testing on 40 students

Administration of Research Tool

The finalized questionnaire was administered on students through academic coordinator, the Virtual University of Pakistan. Out of 431 students 387 students responded.

Data Analysis

The data collected through questionnaire were coded and analyzed through Ms- Excel in terms of percentage and mean scores. Scale values assigned to each of the five responses was as

Scale Values

Level of Agreement	Scale value
SA	5
A	4
UNC	3
DA	2
SDA	1

To calculate the mean score, following formula was used.

$$\text{Mean Score} = \frac{\sum (F_{SA} \times 5 + F_A \times 4 + F_{UNC} \times 3 + F_{DA} \times 2 + F_{SDA} \times 1)}{N}$$

Where

F_{SA}	=	Frequency of Strongly Agreed responses.
F_A	=	Frequency of Agreed responses.
F_{UNC}	=	Frequency of Uncertain responses.
F_{DA}	=	Frequency of Disagreed responses.
F_{SDA}	=	Frequency of Strongly disagreed responses.

The findings from the data analysis are presented below.

FINDINGS

Data collected through the questionnaire was analyzed in terms of percentage and mean score. The findings drawn out from the data analysis are given below.

Table 1

Opinion of students about importance of virtual education

Sr. No.	Statement	Respon	Level of Agreement					Mean S
			S	A	UN	DA	SD	
1	Virtual education is an alternate to the formal system at higher education level.	N %	215	133	31	123	277	4.3
2	Virtual education is replacing the conventional system of education.	N %	143	198	92	216	164	4.1
3	Large number of students can learn through virtual education.	N %	168	202	41	92	41	4.3
4	Virtual education can extend educational opportunities at all academic levels.	N %	117	234	51	236	82	4.1
5	Virtual education promotes equal academic opportunities to both sexes.	N %	213	129	62	226	174	4.3
6	Students feel comfortable in virtual learning through emerging technologies.	N %	117	234	62	226	82	4.1
7	Virtual education is an economical system compared to the conventional system of higher education.	N %	211	157	31	72	92	4.4

It is evident from table-1 that Majority of the respondents (89%) agreed with the statement that that virtual education provides alternate opportunities to formal system at higher education level. The mean score 4.3 supported the statement. A prominent majority of the respondents (88% with 4.1 mean score) agreed were of the view that virtual education is replacing the conventional system of education. A significant majority (96%) of the respondents expressed their opinion that large number of students can be educated simultaneously through Virtual Education. The mean score 4.3 also supported the statement. A significant majority (81%) of the respondents agreed with the statement that virtual education could extend educational opportunities at all academic levels. The mean score was 4.1, which also supported the statement. A significant majority (88% with 4.3 mean score) of the respondents were of opinion that virtual education promotes equal academic

opportunities to both the sexes. A prominent majority of the respondents (91%) were of the opinion that students feel convenience and pleasure in virtual learning through emerging technologies. The mean score 4.1 supported as evidence. Similarly, a prominent majority of the respondents (95% with 4.4 mean score) viewed virtual education economical than formal system.

Table 2
Opinion of students about scope of virtual education

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
8	Virtual education is necessary to keep pace with knowledge explosion.	N %	199 52	163 42	4 1	9 2	12 3	4.4
9	Virtual education extends uniform opportunities of higher education to all segments of society.	N %	213 55	154 40	5 1	9 2	6 2	4.4
10	Students can participate in virtual classes from their homes.	N %	197 51	170 44	5 1	8 2	7 2	4.4
11	Virtual education can cater student needs higher education in developing countries.	N %	167 43	195 50	3 1	13 3	9 2	4.3

It is obvious from table-3 that a significant majority of the respondents (94%) were of the opinion that virtual education is necessary to keep pace with the world of knowledge explosion in the field of information technology, education and training. The mean score 4.4 also supported the statement. Similarly, 95% (mean score 4.4) agreed with the statement that virtual education extends opportunities of higher education to all segments of society. Likewise, 95% of the respondents expressed their views that students can participate in virtual classes from their homes. The mean score was 4.4, which supported the statement. In the same way majority of the respondents (93%) agreed with the statement that Virtual education can cater the higher education needs of students in developing countries with 4.3 mean score.

Table 3
Opinion of students about role of virtual education in individual development

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
12	Virtual education enhances the performance level of students.	N %	204 53	129 33	7 2	32 8	15 4	4.2
13	Virtual education promotes opportunities of capacity building	N %	218 56	121 31	4 1	22 6	22 6	4.3
14	Virtual education is a source of professional development.	N %	202 52	151 39	6 2	16 4	12 3	4.3
15	Virtual education promotes opportunities of self-directed study	N %	171 44	199 52	4 1	9 2	4 1	4.4

A majority of the respondents (86%) were of the opinion that virtual education enhances the performance level of the learners. The mean score 4.2 also supported the phenomena. Likewise, 87% & 91% (with mean score 4.3) of the respondents expressed their views that virtual education promotes opportunities of capacity building and professional development respectively. Students in virtual environment mostly learn through self-study. A significant majority of the respondents (96%) agreed with the statement that virtual education promotes opportunities of self-directed study.

Table 4
Opinion of students about social needs of virtual education

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
16	Virtual education integrates nation through uniform system of higher education.	N %	142 37	199 51	6 2	33 8	7 2	4.1
17	Virtual education acts as an agent of social change promoting cross-cultural values.	N %	151 39	179 46	5 1	37 10	15 4	4.1
18	Cultural values can get collaboration through virtual education.	N %	197 51	165 43	4 1	9 2	12 3	4.4

Table-4 indicates that majority of the respondents (88%) were of the opinion that virtual education integrates nation through uniform system of higher education. The mean score was 4.1. Similarly, 85% (mean score 4.1) agreed with the statement that virtual education acts as an agent of social change promoting cross-cultural values and 94% of the students were of the opinion that cultural values can get collaboration through virtual education. The mean score also 4.4 supported the statement.

Table 5
Opinion of students about teaching learning process through virtual education

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
19	Learning Management System of University is efficient.	N %	202 53	145 37	4 1	21 5	15 4	4.3
20	Timings of broadcasting are appropriate	N %	233 60	142 36	3 1	6 2	3 1	4.5
21	Tutors of virtual education are experienced equipped with pedagogical skills.	N %	155 40	212 55	4 1	9 2	7 2	4.2
22	Tutors give positive comments on assignments.	N %	137 35	194 50	3 1	33 9	20 5	4.0
23	Language of lecture is easy and understandable.	N %	83 21	263 68	4 1	22 6	15 4	4.0

Table-5 reflects that 90% (mean score 4.3) of the respondents expressed their opinion that Learning Management System of the University is efficient. Similarly, a significant majority of the respondents (96% with mean score 4.5) agreed with the statement that timings of virtual broadcasting are appropriate; according to 95% (mean score 4.2) tutors are experienced equipped with pedagogical skills.

85% of the respondents were of opinion that tutors give positive comments on assignments (mean score 4.0) and 89% (mean score 4.0) agreed with the statement that language of lecture is easy and understandable.

Table 6
Opinion of students about facilities at virtual campuses

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
24	Virtual Campuses provide efficient services of:							
	a. Computers	N	27	32	3	156	169	1.9
		%	7	8	1	40	44	
	b. Library	N	39	33	4	167	144	2.1
		%	10	8	1	43	38	
	c. Friendly learning Environment	N	23	45	3	188	128	2.1
		%	6	11	1	49	33	
	d. Efficient mentor/Tutor	N	57	39	4	111	176	2.2
		%	15	10	1	28	46	

Table-6 explains the status of facilities provided at the virtual campuses of the Virtual University of Pakistan spread throughout the country. According to the table, the necessary facilities such as computers, library, friendly learning environment and efficient mentor/tutor (according to 84%, 81%, 82% and 74% respectively with 1.9, virtual campuses are A general agreement was found in both groups of the respondents (Mean Scores 4.62 and 3.97) that tutors provide positive feedback, which creates and maintains motivation.

Table 7
Opinion of students about problems faced by learners

Sr. No.	Statement	Response	Level of Agreement					Mean Score
			SA	A	UNC	DA	SDA	
25	Students face problems of:							
	a. Password	N	61	110	4	143	69	2.9
		%	16	28	1	37	18	
	b. Computer Vision Syndrome (CVS)	N	156	139	4	71	17	3.9
		%	40	36	1	19	4	
	c. Fingers' Joint Pain	N	93	182	6	61	45	3.6
		%	24	47	1	16	12	
	d. Backache	N	85	197	4	66	35	3.6
		%	22	51	1	17	9	
	e. Headache & Dizziness	N	103	174	6	58	46	3.6
		%	27	45	1	15	12	
	f. Electricity Failure	N	194	178	4	7	4	4.4
		%	50	46	1	2	1	

According to table-7 an indication of fair agreement was found in the attitudes of respondents that they often face problems of password, computer vision syndrome (CVS), fingers' joint pain, backache, headache & dizziness and electricity failure (mean score 2.9, 3.9, 3.6, 3.6, 3.6, and 4.4 respectively)

DISCUSSION

1. In Pakistan, Virtual education is imparted by the Virtual University of Pakistan that is a public sector university competing the International standards of education.
2. Pakistan is developing country with high demands of higher education (Government of Pakistan, 1998). "Virtual education is an alternate to the formal system of education.

It can cater large students' body at all academic levels. It is flexible and convenient to the learners providing them exposure with emerging technologies" (Table-1).

3. The present is a knowledge society (Bjørke, S. Å. & Holt, H. 2005) where knowledge is generated and shared/promoted cross the boundaries through information and communication technologies. Virtual education relies on information and communication technologies and is "necessary to keep pace with knowledge explosion extending uniform opportunities of quality education to all segments of the society. It fulfills the students' need of higher education at their door step" (Table-2).
4. According to Rashid, M. (1998), individuals need education and training to require broad base of knowledge, attitudes, values and skills on which they can make systematic progress in life, adjust themselves in the society and work for the betterment of the society. "Virtual education enhances the performance level of the learners through self-directed study. It offers need-base, informative and updated courses." Furthermore, "it is a viable source of professional development" in knowledge society (Table-3).
5. Developing countries lack in providing opportunities of higher education. The conventional system comparatively demands greater resources "Virtual education is economical than conventional education meeting the demands of higher education" in developing countries particularly in Pakistan (Table-1).
6. The main aim of any educational system is the national integration and preservation & promotion of norms & values (Khalid, T. 1998). Similarly, National Education Policy (1998) states that Pakistan is an Islamic Ideological country having its own norms & values and maintains national integration and cohesion through its educational system. "Virtual education integrates the nation extending the opportunities of higher education, uniform curricula, technology based instructional methodology and equal opportunities of higher education" to all. It develops census about socio-cultural development acting as "an agent of social change. It can collaborate and promote cultural values to keep pace with the changing world in global village." Therefore, it can be used in reducing cultural conflicts among societies and nations (Table-4).
7. According to Rashid, M (2001), tutor is the backbone of distance education. The success of the system and quality of education depends upon the competency and expertise of the tutors. In Pakistan, tutors of virtual education "are experienced, trained and equipped with pedagogical skills. They provide positive feedback to create and sustain motivation in learners. They use easy and understandable language" preferably a mix of Urdu and English (languages) during their lectures (Table-5).
8. Virtual education encompasses and relies on information and communication technologies. In Pakistan it is imparted through Internet and Virtual Television Channels of the University. The learners have an access at the private Virtual Campuses or otherwise at their homes. The "timings of the broadcasting are appropriate" but the "necessary facilities such as computers, library, proper classrooms, experienced mentors and friendly learning environment are not provided adequately and appropriately at the Virtual Campuses" (Table-5&6).
9. Virtual education is an emerging concept with a potential to supplement the conventional system. In virtual education, "learners face problems of password, computer vision syndrome (CVS), fingers' joint pain, backache, dizziness & headache and electricity failure" (Table-7).

CONCLUSION

Virtual education is an emerging concept that uses information and communication technologies for its delivery. It is an alternate to the formal system of education. It can cater large students' body at all academic levels. It is flexible and convenient to the learners providing them exposure with emerging technologies. It is necessary to keep pace with knowledge explosion extending uniform opportunities of quality education to all segments of the society. It fulfills the students' need of higher education at their doorstep. It enhances the performance level of the learners through self-directed study. It offers need-base, informative and updated courses. Furthermore, it is a viable source of professional development in knowledge society. It integrates the nation extending the opportunities of higher education, uniform curricula, technology based instructional methodology and equal opportunities of higher education to all. It develops census about socio-cultural development acting as an agent of social change. It can collaborate and promote cultural values to keep pace with the changing world in global village. Therefore, it can be used in reducing cultural conflicts among societies and nations.

In Pakistan learners do face some problems such as password problems, computer vision syndrome (CVS), fingers' joint pain, backache, dizziness & headache and electricity failure.

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