Key Factors for Determining Students' Satisfaction in Distance Learning Courses: A Study of Allama Iqbal Open University

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Abstract

Most of the people in Pakistan perceive distance learning as of poor quality. Therefore, the researchers conducted this study to find out whether it's only people's perception or is there anything in reality, concerning the poor performance of the distance learning students compared to traditional students. Consistent with this rationale, the main purpose of this study was to examine the relationship between student satisfaction and the following variables of the distance learning environment: Instructors' performance, course evaluation, and student-instructor interaction. The sample consisted of 245 students of Allama Iqbal Open University of Pakistan. Keeping in view the nature of relationships among the variables, correlation matrix and regression analysis in addition to frequency analysis were used to analyze the findings. The results showed that just like in traditional education, in distance learning at AIOU, enough interaction takes place between students and instructors; courses are up to date and well-designed; instructors are devoted, motivated, and equipped with the required competencies. Moreover, the faculty at AIOU is delivering distance courses that meet students' needs with regard to student-instructor interaction, instructor performance, and course evaluation.

Key words: *Distance learning; Student satisfaction; Instructor performance; Student-instructor interaction; Course evaluation*

Introduction

In recent years, the growth of online educational programs has been fueled by the advancement of the internet and modern information technology that changed the face of education (Sher, 2008). The World Wide Web (www) has become a valuable educational means and offers new educational experiences for students, which were not earlier possible. Due to the advancement of the latest technology, online education has emerged as an alternative or at least a considerable supplement to traditional mode of teaching and learning (Waits & Lewis, 2004). Especially in higher education, online education is increasingly becoming common and emerging as an opportunity for delivering entire education online (Johnson, 2004). In academia, through online classes, universities now have the ability to provide distance learning opportunities for students---full-time or part-time, traditional or non-traditional and international or local, who perhaps have had limited access to advanced educational opportunities (Bartley et al., 2004).

The rising demand and growing consumer experience with flexible education programs to support career development and lifelong learning has increased people's expectations for quality instruction, effective educational outcome, and finally satisfaction for learning (Debourgh, 1999). Allen et al. (2002) and Wang (2003) argued that in any educational institution, the satisfaction of a student can be determined from his level of pleasure as well as the effectiveness of the education that the student experiences. Students with higher levels of satisfaction towards various aspects of e-learning courses are reported to show considerably higher levels of learning than students with low level of satisfaction (Fredericksen, 2000). In this regard, specifically instructors of e-learning courses can increase their students' satisfaction by considering the primary factors of student satisfaction (Ho et al., 2002).

No doubt, new telecommunications hardware and software provide many opportunities of communication and collaboration for students and instructors, separated from each other due to time difference and space (Belanger & Jordan, 2000). However, besides a perception of the technological innovation, interaction among students, as well as quality and timely interaction between the student and the teacher, flexibility of online courses, availability of technical support, and consistent instructional design across courses are also important to assure the development of distance education (Lao & Gonzales, 2005; Swan et al., 2000; Young & Norgard, 2006).

Conrad (2006) argued that distance learning occurs when students and instructor do not meet personally in the same physical space. Similarly, Roffe (2002) described that distance learning refers to the way people communicate and learn by electronic means, which has emerged as a key source of competitive advantage in the information society. The term distance learning is also used interchangeably with terms like e-learning, online learning, online collaborative learning, virtual learning, web-based learning and technology-mediated learning. In the past, few relevant studies have been conducted on the use of distance learning environment in Pakistan. Therefore, this current research study deals with several factors which have influenced students' satisfaction with distance learning in Pakistan. In this perspective, the primary objective of this research study was to examine the relationship between student satisfaction and the following variables of the distance learning environment: Instructors' performance, course evaluation and student-instructor interaction.

Actually, this study was conducted to address the most recent problems of AIOU students, relevant to their distance learning experiences. The fact is that most of the people in Pakistan perceived distance learning as of poor quality. Entrepreneurs, private employers and many corporate executives have almost the same perception. Moreover, they are not ready to accept the argument that distance learning students do just or even better than face to face classroom students. Despite the fact that the AIOU degree is accepted and recognized by the government, getting jobs, particularly good jobs are very difficult for these students. Therefore, the researchers conducted this study to find out whether it's only people's perception or is there any evidence in reality about the poor performance of the distance learning students as compared to traditional students. That's why we posed various questions to AIOU students about their individual satisfaction regarding instructor performance, student-instructor interaction, and general course evaluation.

Secondly, this study was carried out by keeping in view the increasing demand for distance education not only in Pakistan but all over the world. Right now there is only one degree awarding university in Pakistan providing distance education (Allama Iqbal Open University – AIOU). Thus, we focused on AIOU in this study.

The AIOU was established in May 1974 in Islamabad, Pakistan and was the first Open University in Asia, and the biggest university in the country with course enrolment of 1,806,214 by the year 2004-2005. The AIOU established over 1400 study centers, 9 regional campuses, 23 regional centers, 90 part-time regional coordinating offices throughout Pakistan. Basically, AIOU is a distance education institution, which provides multidisciplinary education from basic to doctoral level programs. In AIOU more than 70 percent of students are employed and the rural-urban distribution of the students is 58% and 42% respectively. Moreover, female enrolments are more than 50 percent. The Internet, audio and video lectures along with correspondence with the instructors are used as a medium of instruction as well as a source of information. In addition, these lectures are broadcasted on television and radio; CDs of these lectures are also available for the students.

Literature Review

Student Satisfaction

The dynamic expansion of online teaching and learning has been boosted significantly by the rapid development of the internet and various web resources, having a tremendous impact on the quality of teaching and learning (Kramer, 2000). Zaidel (2007) added that the use of information technology becomes well-known in education. Modernized way of communication came into being, which change the preference of students from face-to-face to online education. Furthermore, the availability of distance education, the course offerings, and the increasing number of students enrolled, all speak to the importance of this method of instruction (Zapalska & Brozik, 2006).

Brownson and Harriman, (2000) argued that students in distance learning do just or even better than face to face classroom students. Besides, Johnson et al. (2000) made a comparative research study and did not find any significant difference in the effectiveness of online learning versus face to face course learning for students.

Furthermore, distance education provides independent, student-centered and tutor-guided engagement that facilitates interactions with instructors and students which may not always be possible within the traditional classroom setting (Michailidou & Economides, 2003). Astin, (1993) defined student satisfaction in term of student's perception towards his/her college or university experience, and perceived significance of the education that (s)he received from an institution. Levy (2003) concluded in his research study, which was conducted over 200 students attending e-learning courses, that students' satisfaction with e-learning is an important factor to measure the effectiveness of e-learning.

Instructor Performance and Student Satisfaction

In an online learning environment, the instructor is required of a new set of skills for success since latest technologies brings as much change to instructors as they do to students (Jones, 2003). Now, the roles of the instructors change from being the primary source of students' knowledge to being the manager of the students' knowledge resources (Romiszowski, 2004). Moreover, in an effective online learning environment, instructor plays a central role. It is not only because of technology but practical accomplishment of the technology that has certain effects on learning (Collis, 1995).

An instructor has a definite role to make the online environment successful. For this purpose, instructors must ensure required level of interactions and discussions with their students (Hong et al., 2003). However, interaction is different in this environment (Walker & Hackman, 1991) with more emphasis on the instructor's role as a mediator between the student and the materials (Beaudoin, 1990) or between the student and the technology (Hillman et al., 1994). Therefore, instructor must understand the increased diversity of learners, and then accordingly determine test formats, measurement practices, and assessment strategies (Banerjee & Brinckerhoff, 2002), which might persuade and motivate students to accept e-learning environment (Selim, 2005).

In e-learning, there are certain factors and conditions, which are closely related to the professional development of an instructor, and to enhance the teaching quality of instructors, it is necessary for the instructors to consider these factors (Louden, 2000). Jensen (1993) conducted a study in which he collected data from students and instructors, and concluded that distance education requires a different set of skills and involves different responsibilities.

Student-Instructor Interaction and Student Satisfaction

In distance education practices, interaction often appears as a defining characteristic of quality learning experiences. Also, in the education literature, researchers' belief in the importance of student-teacher interaction is so widespread that it is assumed to be a basic need for learning to occur (Anderson & Garrison, 1995; Picciano, 2002). In addition, it is recognized as a driving force for persuading student's motivation and the achievement of learning outcomes (Du, Havard, & Li, 2005; Lam, Cheng, & McNaught, 2005; Sargeant, Curran, Allen, Jarvis-Selinger, & Ho, 2006; Tu, 2005). Moore (1989) reported three types of interactions: Student-content; student-instructor; and student-student. Young and Norgard (2006) also confirmed the importance of these three types of interactions for student satisfaction with distance education; timely and quality interaction among students and between student and their instructor, and finally between students and their course content.

According to many researchers, the overall effectiveness and success of online education depends upon the interaction which is an essential element to a student learning (Fresen, 2007; Moore, 1993; Northrup, 2001). Therefore, Volery et al. (2000) suggested that in order to boost student's interactions, the instructor may give a participation mark. Furthermore, instructors should be able to understand the diverse nature of students, involve them in online discussions and encourage student to student interactions (Durling, Cross, & Johnson, 1996).

In an online course, the immediate accessibility of the information, assistance, and feedback by the instructor determine the students' satisfaction. Whenever, due to technical problems, this accessibility is interrupted or denied, students get frustrated (Wilson & Whitelock, 1998). In fact, success in an online learning environment depends on the level of interaction between students and instructors that is required to stimulate good results (Kershaw, 1996). Due to an online learning environment, the instructor gets more time to directly interact and spend on each individual student so that most students follow a pre-defined and pre-developed e-learning course (Morgan, 2000). Therefore, instructors should remain in contact with students through e-mail and online forum discussions (Poon et al., 2004)

Course Evaluation and Student Satisfaction

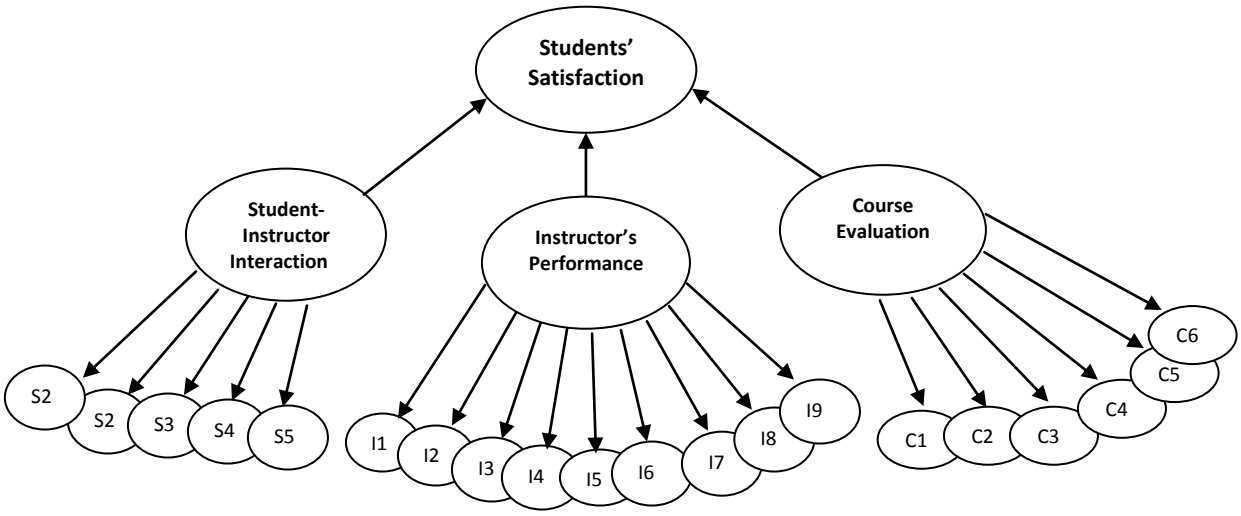
The development of an online environment allows students to participate in the educational process by exploring and playing with the lesson material (Michailidou & Economides, 2003). Particularly the subjects that involve discussion, brainstorming, and reflection are best suited to the online format (Wells, 1992). Students' interactions through course discussions appear to be one of the most important features of distance courses (Swan, Shea, Fredericksen, Pickett, Pelz, & Maher, 2000). Along with this, course design must have rich communication potential, as the level of communication has a clear impact upon students' learning, satisfaction, and retention in online courses (Irani, 1998).

Northrup (2002) defined interaction as interaction with a course content, discussion and group effort, interpersonal skills, and need for support. Furthermore, Northrup added that students demonstrated a preference for innovative course delivery such as collaboration through ongoing interaction with peers and instructors, case studies, readings followed by discussions. According to Inman et al. (1999), students expect three things from an instructor in the distance learning environment, which are helpful materials for interacting with the distance learning medium, some on-campus session and finally his availability at the time when they need. Besides, Swan (2001) reported three factors such as interaction with instructors and active discussion among course participants and clarity of course design, which significantly influenced students' satisfaction and perceived learning. Similarly, Shea, Pickett, and Pelz (2003) argued that following issues are highly correlated with students' satisfaction level in e-learning courses: Instructional design and organization of the e-learning courses, instructors' direct interaction with students, and instructors discourse facilitation.

According to Levin et al. (1990), students perceive that discussions in distance learning are more equitable and democratic than face-to-face classroom discussions. While Swan et al. (2000) argued that students preferred consistent course structure so that navigation does not change from one course to another. Yang and Cornelius (2004) found that students became frustrated when their courses were poorly designed, and when instructors did not participate in discussions or responded to questions within a very limited time (Zeng & Perris, 2004). There may be a possibility that this frustration may translate into a poor learning outcome for students. Therefore, in online learning environment, getting student feedback about their needs and preferences is crucial for the successful design and implementation of this environment (Sahin, 2007).

Theoretical Framework

The following conceptual model is proposed on the basis of the literature review and theoretical background (Figure 1).



Where "*S*" stand for "*Student-Instructor Interaction*", "*I*" stand for "*Instructor's Performance*" and "*C*" stand for "*Course Evaluation"*

Research Hypotheses

The following hypotheses have been developed from the literature review:

H1: Instructor performance will be positively related to the student's satisfaction.

H2: Student-instructor interaction will be positively related to the student's satisfaction.

H3: Course evaluation will be positively related to the student's satisfaction.

Methodology

In order to investigate the relationship among key factors for determining students' satisfaction in distance learning courses, a structured questionnaire was circulated among students of AIOU in Pakistan, using convenience sampling method. There were various survey techniques which could be used for the collection of data, such as telephone interviews, face to face interviews, the internet or self-administered questionnaire etc. Of course, every technique has its own advantages and disadvantages. We preferred and employed a self-administered questionnaire to collect data from the respondents in this study because we thought that it would address the overall research objectives and hypothesis better.

As AIOU is the only university which provides distance learning education in Pakistan, it was the obvious choice for the researchers. The sample comprised of 245 students of AIOU. The research team made a visit to AIOU main campus in Islamabad and collected data from the students. For this purpose, the researchers first briefed them about the purpose of this study and the variables along with their items, which were in the questionnaire. The questionnaire consisted of 26 items. It had two parts. The first part contained demographic information and the second part contained the variables and their related items. The demographic profile included four items: Gender, age, student type, and academic program.

Measures/Instruments

To address the research question stated in the study, all measures for the constructs were taken from previous studies, which were carried out from education perspective due to their proved reliability and validity.

Student Satisfaction

To measure the students' satisfaction, six items were adapted from the study of Arbaugh (2000). These items focus on students' satisfaction, their perceptions of its quality and their intention of taking future courses via distance learning. Each item was measured on five-point Likert scale with response options ranging from strongly disagree (1) to strongly agree (5). The mean and standard deviation of the scale was found to be normal and acceptable for the purpose of statistical analysis (M= 3.65, SD= 0.676).

Student-Instructor Interaction

Similarly, for measuring the variable of student-instructor interaction, researchers used items of Johnson et al. (2000). Each item was measured on five-point Likert scale with response options ranging from strongly disagree (1) to strongly agree (5). The mean and standar deviation of the scale was found to be normal and acceptable for the purpose of statistical analysis (M= 3.74, SD= 0.553).

Instructor Performance and Course Evaluation

Likewise, the Teaching Evaluation Scale items (Fall 2001) of the College of Education at Texas Tech University were used to measure instructor performance and course evaluation (Tallent-Runnels et al., 2005). Each item was measured on five-point Likert scale with response options ranging from strongly disagree (1) to strongly agree (5). The mean and standar deviation of the scales were found to be normal and acceptable for the purpose of statistical analysis (M= 3.66, SD= 0.643; M= 3.79, SD= 0.531) respectively.

Sample Characteristics

Table 1 shows the demographic profile of the students'. According to this table, Male students comprised about 53%, while Female students constituted 47% of the sample. The profile of the students discloses that out of 245, 168 (69%) students were between 20 to 25 years of age, whereas 77 (31%) were above 25 years of age. Furthermore, out of 245 students, 156 (64%) were studying as part time students, whereas 89 (36%) were full time students.

Table 1. Demographics of the Sample

		N	%
Gender			
	Male	131	53
	Female	114	47
Age			
	Between 20 to 25	168	69
	Above 25	77	31
Students' type			
	Part time	156	64
	Full time	89	36
Academic Program			
	Intermediate	18	7
	Bachelor	48	20
	Master	167	68
	Others	12	5
Total Sample Size (n) = 245			

Researchers divided academic programs into four categories/levels as intermediate, bachelor, master, and other. As seen from the table, 18 (7%) students were in intermediate, 48 (20%) students were in bachelor's, 167 (68%) students were in master's, and 12 (5%) students were in other programs.

From these figures, it can be said that students in the sample were distributed closely with regard to gender (about fifty percent each). However, approximately two thirds of them were younger than 25 years old, part time students, and in master's programs.

Analysis and Results

Reliability Analysis

Prior to actual data collection, the reliability coefficient alpha was used to measure the reliability of the constructs in the pilot study. The sample for the pilot study comprised of 23 respondents. Table 2 shows the items and Cronbach's alpha coefficient for each variable respectively, which are all at acceptable levels.

Table 2. Means, Standard Deviations and Cronbach Alphas

	Construct	No of Items	Mean	Std. Deviation	Cronbach Alpha
1.	Students' satisfaction	6	3.65	0.676	0.680
2.	Student-instructor interaction	5	3.74	0.553	0.737
3.	Instructor's performance	9	3.66	0.643	0.882
4.	Course evaluation	6	3.79	0.531	0.680

Descriptive Analysis

Table 2 presents the mean values of the variables. The mean value of all the variables is greater than 3.5. The higher mean values of "Students' satisfaction", "Student-instructor interaction", "Instructor's performance", and "Course evaluation" indicate good practices of the distance learning degree programs by the AIOU, which yield students satisfaction and effective learning environment.

Test of Hypotheses

To investigate the relationship between the dependent variable, student satisfaction, and the following three predictor variables were tested: Student-instructor interaction, instructor performance, and course evaluation; the data were subjected to regression and correlation analysis. The results are shown in Table 3 which clearly demonstrates that there is significant relationship between the independent variables and the dependent variable.

Table 3. Students' Satisfaction

Student-instructor interaction	Pearson Correlation	0.413**
	Sig. (2-tailed)	.000
	N	245
Instructor's performance	Pearson Correlation	0.616**
	Sig. (2-tailed)	.000
	N	245
Course evaluation	Pearson Correlation	0.637**
	Sig. (2-tailed)	.000
	N	245

Note: **Correlation is significant at the 0.01 level (2-tailed).

The correlation matrix (Table 3) indicates that student-instructor interaction is positively and significantly correlated with students' satisfaction [r=0.413, p<0.05, H1 supported]. The results reveal that instructor performance positively and significantly influence the students' satisfaction [r=0.616, p<0.05, H2 supported]. Likewise, there is also a significant and positive relationship between the course evaluation and students satisfaction [r=0.637, p<0.05, H3 supported].

Table 4. Results of Regression Analysis (Dependent variable = Students' satisfaction)

Hypothesis	Description	Path Coefficient (β)	t- value	p- value
H: 1	Student-instructor interaction	.583	6.590	.000
H: 2	Instructor's performance	.721	7.660	.000
H: 3	Course evaluation	.510	7.068	.000
n = 245; R Square = .528; Adjusted R Square = 0.522; F = 89.897; Significance p<0.001				

Results of regression analysis in Table 4 show that overall the full model, with three independent variables and one dependent variable was highly powerful with an overall F=89.897 (p<0.001). Moreover, this explained 52% of the variation in the dependent variable as indicated by the adjusted R^2 value. According to the results of regression analysis, all of three hypotheses were accepted.

The results in Table 4 demonstrate that 58% of variation in the dependent variable (student satisfaction) is caused by the independent variable of student-instructor interaction. This suggests that results are significant and hence H1 is accepted (p<.05, t= 6.590).

Similarly, the results in Table 4 illustrate that 72% of variation in dependent variable (student satisfaction) is caused by the independent variable of instructor performance. This suggests that results are significant and hence H2 is accepted (p<.05, t= 7.660).

The results in Table 4 also indicate that 51% variation in dependent variable (student satisfaction) is caused by the independent variable of course evaluation. This again follows the same pattern in other independent variables and suggests that results are significant so that H3 is accepted (p<.05, t= 7.068).

Discussions

Percentage distributions for the items and subcategories of the survey are depicted in Table 5. It appears that the most preferred options for responses are either "Agree" or "Strongly Agree." This in general shows that respondents were positive in their evaluations of the dimensions of distance education practices at AIOU.

Table 5. Key Factors for Determining Students' Satisfaction

Student-Instructor Interaction	**SD%**	**D%**	**N%**	**A%**	**SA%**
The instructors encouraged me to become actively involved in the courses discussions	17.6	11.4	2.4	37.6	31.0
The instructors provided me feedback on my work through comments	7.3	12.7	7.8	20.8	51.4
I was able to interact with the instructors during the courses discussions	5.3	9.8	9.8	33.5	41.6
The instructors treated me individually	5.3	18.4	26.1	23.3	26.9
The instructors informed me about my progress periodically	14.7	13.5	19.2	35.1	17.6
Instructor's Performance	**SD%**	**D%**	**N%**	**A%**	**SA%**
Overall this instructors were effective	2.4	12.7	12.7	33.5	38.8
The instructors were available for consultation during office hours or by appointment.	4.9	18.8	15.5	29.4	31.4
The instructors stimulated students learning.	0	12.2	10.2	21.6	55.9
The instructors treated all students fairly	9.0	15.1	21.6	22.4	31.8
The instructor treated all students with respect	4.9	6.5	9.8	43.7	35.1
The instructor welcomed and encouraged questions and comments.	4.9	14.3	2.9	34.7	43.3
The instructor presented the information clearly.	2.4	23.7	7.8	39.2	26.9
The instructor emphasized the major points and concepts.	11.8	7.3	9.8	29.4	41.6
The instructor demonstrated knowledge of the subject.	2.4	23.7	7.8	39.2	26.9
Course Evaluation	**SD%**	**D%**	**N%**	**A%**	**SA%**
Overall, I have valuable learning experiences from my courses.	4.9	2.4	4.5	33.9	54.3
The assignments were relevant and useful.	9.0	2.4	7.3	53.5	27.8
Courses materials were relevant and useful	2.4	9.8	4.9	38.4	44.5
Expectations were clearly stated either verbally or in the syllabus.	12.7	7.3	4.5	47.8	27.8
The testing and evaluation procedures were fair.	16.7	9.8	4.9	51.0	17.6
The workload was appropriate for the hours of credit.	7.8	14.7	18.4	44.5	14.7

Where SD means Strongly Disagree, D means Disagree, N means Neutral, A means Agree and SA means Strongly Agree

Student-Instructor Interaction

Student-Instructor Interaction is the first strongest variable in predicting students' satisfaction. Students were asked about their course discussions, feedback and interaction with instructors, instructors' ability to treat them individually and lastly informing them about their progress periodically. Approximately, 68% of the students agreed that instructors encouraged them to become actively involved in the course discussions. The student comments support the need for instructor's encouragement to actively involve students in the course discussions. These were substantiated by the findings of Durling et al. (1996).

Furthermore, the majority of the students, 71% and 75% reported they liked discussion and feedback from their instructors. Although, almost 51% of the respondents agreed that instructors treated them individually and also informed them about their progress periodically, on average 26% disagreed with these statements. As distance education is a learner-centered instruction, this finding confirms that instructor support, such as useful feedback, easy communication and timely help are still important factors for student satisfaction in distance learning. According to Young and Norgard (2006), timely interaction with students regarding their performance enhances their productivity in distance learning courses. Furthermore, in terms of achieving overall student satisfaction, distance learning instructors should be able to understand the diversity of the students and treat each student accordingly (Banerjee & Brinckerhoff, 2002).

Instructor's Performance

The second significant predictor of student satisfaction is instructor performance. In this section students were asked whether "Overall these instructors had been effective". Approximately, 72% of the students agreed that during their degree program, overall the instructors were effective. The student comments support the need for experienced professional instructors for the student's satisfaction (Hong et al., 2003). Moreover, students were asked about teachers' availability during office hours, their motivation to learn, giving them respect, encouraging question and comments, presenting the information clearly, highlighting the major points and concepts, and demonstration of knowledge. On average about 68% of the respondents agreed about all these points and considered these things important in order to enhance their satisfaction with distance learning courses.

Therefore, instructors of distance education should be available, provide prompt responses, and encourage their students through online learning activities. These findings also suggest that interaction with the instructor in distance learning environment affects student success and learning (Areti, 2006; Chen & Guo, 2005).

Course Evaluation

Students were queried about their feelings regarding learning experiences, assignments, course materials, achievement of course targets, workload and evaluation criteria in their distance courses. According to Table 5, a majority of the students agreed that they learned a lot from their courses and assignments, and that courses materials were relevant and useful, that course objectives were achieved during the semester, and that evaluation criteria as well as workloads were satisfactory. These findings indicate that students are expected to be more satisfied in distance learning environments if the course materials are relevant and useful, and involve real life examples, facts, and cases (Northrup, 2002).

Moreover, the characteristics of course content also contributes to distance learning satisfaction. Students view distance learning course content such as audio and video lectures that is intended to be for supplementary use, differently from core course content which is in the form of books and assignments. They expect e-learning content to be clearly presented in a lively format such as

a web page which summarizes course content, web links to other learning resources, practical "real-world" examples, or a site where they can practice specific skills.

Conclusions and Implications

This study investigated how students' satisfaction could be measured in distance learning. The distance learning in this study refers to the use of the Internet, audio and video lectures along with correspondence of the instructors as a medium of instruction as well as a source of information. Part time/full-time, undergraduate and graduate students studying in AIOU main campus were selected as the sample for this study. The results confirm the reliability and validity of the three dimensions of distance learning satisfaction, which are student-instructor interaction, instructor's performance, and course evaluation. These dimensions can be understood as the way the course content is delivered, feedback and interactions take place with instructors, effectiveness of instructors, students learning experiences, workload and evaluation criteria in their distance courses, and convenience of the means of communication, the ease of system operation for the learners, and the quality of content the students receive.

The results of this study further indicated that the majority of the students at this campus showed high levels of satisfaction regarding student-instructor interaction, instructor's performance and course evaluation. This reveals that just like in traditional education, in distance learning education at AIOU, enough interaction takes place between students and their instructors, courses are up to date and well designed, instructors are devoted, motivated and equipped with the required skill and knowledge. Furthermore, the availability of distance education in Pakistan, increasing number of degree programs offered and the increasing number of students enrolled, all speak for students' satisfaction and the effectiveness of distance learning education. This implies that the faculty at AIOU is delivering distance learning courses that meet the students' needs in regard to students-instructor interaction, instructor performance, and course evaluation.

After the findings of this research study, it would not be logical to presume that distance learning students do not perform as well as traditional students. Moreover, the research team hopes that these findings may change the pessimistic perceptions of those people in Pakistan, who perceived distance learning as poor in quality.

Besides, there appears to be a need for AIOU to increase the number of its sub-campuses to remote areas of Pakistan where the literacy rate is still low. It is important to recognize that students of these areas have strong desire to get education but due to financial, geographic and cultural reasons they cannot get it. Therefore, virtual university can play a vital role in improving the literacy rate in Pakistan.

Limitations and Future Research Direction

There are certain limitations of this study. The relatively small sample size may not be completely representative of the majority of students of distance learning programs at AIOU. Additionally, the

main campus of AIOU in Islamabad was selected but his may not reflect the results of the whole AIOU campuses.

For future point of view, one can consider the students of other campuses and subcampuses of AIOU, especially those established in small and underdeveloped cities in order to find out their satisfaction levels toward distance learning. Secondly, to explore the reasons why students select distance learning for higher education in Pakistan is also an important issue for future research studies.

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