



Role of ICT in Distance Education in Pakistan: Exploring AIOU's Website Usage among the Students

Dr. Babar Hussain Shah

Abstract

This research is aimed at exploring ICT usage among the students and it especially focused on that how the students of AIOU are using the University's website. It is beyond any doubt that ICT is playing a role of key factors to facilitate Distance Education. This research has its basis in the theory of Uses and Gratification and also sought the gratification of students' different needs through visiting AIOU' website. This is a basically survey based research and a sample of 367 students enrolled in the University are the subjects of study. A close-ended questionnaire was constructed and distributed among the students. Out of 367 questionnaires 334 were duly filled in and were returned to the researcher with the encouraging response rate of (91%). The findings of this study reported that a greater majority of the students (74.9%) were using computer as an important tool of ICT for education related purposes. It was also found that a vast majority (63.8%) of the respondents owned laptops as one of the important devices of ICT. The study was also focused at exploring usage of the University's website among the students. Findings indicated that students were using website for performing various tasks ranging from academic results checking (70.4%) to knowing about their tutors' particulars (32.3%). Some other uses included downloading assignments (16.8%), downloading exams forms (27.8%), course registration (11.4%), downloading course



material (29.9%), reviewing of faculty information(16.5%), downloading videos/audios (9.6%), AIOU Live radio/TV (7.8%) and some other uses (6.6%) as well.

Background and Introduction

It is beyond any doubt that education is a key to success and prosperity for any country and nation. It is also pertinent to note that for any society to develop and prosper the education is a must ingredient. We also know it very well that if any want to continue and win the race of development and success then she has to equip its nation with the powerful tool of education. When educational status of developing countries is looked upon the situation seems a little bit disappointing and especially when Pakistan this is more drastic. This is the common dilemma of all the developing countries that they are unable to provide equal and quality education to the all segments of the society. Keeping such situation and circumstances and situation the Distance Education seems like a hope for the poor and marginalized segments of the society. When Distance Education is discussed in Pakistan and even in Asia the name of AIOU flashes into the minds. The University is catering academic the academic needs of almost 1.3 million students. The University has a vibrant main campus in Islamabad and regional campuses in different far flung areas of the country. In the present modern times when word education, literacy and learning is mentioned along with it ICT carries equal importance. In fact it is the miracle of Information Communication Technologies (ICT) that has accelerated, expedited, fostered and facilitated the process of teaching and learning. The Distance Education has really benefited lots from ICT and has thus resulted in ensuring optimization of quality education to the students across the world. When distance education system of developing counties is analyzed it is concluded that even in the present modern times majority of these countries are hugely relying on printed matters and very less attention is paid to modern media like radio ,television and internet (Lawry



Trevor-Deutsch and Lyndsay Green, 2002). The proper application and usage of ICT in Distance Education is the need of the hour because it is the ICT that is serving as one of the biggest facilitators in modern world of Distance Education. In fact, ICT has proved as one of the important tools in information gathering and in dissemination of the information. In the same way ICT has also resulted in the greater participation of the students in the process of learning (Laurillard, 2000; Koller 2012). Similarly Gonzales, S (2015) is of the view that our new generation is well aware about modern gadgets of ICT including TV, computers and cell phones even. Both of the above researchers conclude that ICT has become an integral part of our lives and they are of the view that our new generation must be provided proper training and exposure so that they may be adept in the effective use of communication technologies. . In short, if we have to keep pace with the ever-changing modern world we will have to excel in optimum utilization of ICT in education.

Coming towards Allama Iqbal Open University Islamabad Pakistan which is a pioneering institute in the field of Distance Education in Pakistan. This university is effectively catering the academic needs of more than 1.3 million students across the globe. The foundation stone of the University was laid in May 1974 under Act No. XXXIX passed by the Parliament of Pakistan. This University is unique in the sense that it offers academic programs from tenth graders to PhD level students quite successfully and effectively. Being a pioneer university in Asia in Distance Education this university has a versatile teaching strategy and its teaching methodology includes: Assignments writing, tutorial workshops and final written examination as well. The students are assigned tutors for their respective courses, delivered books and even they are provided the study material in CD form as well. For the proper usage and application of Information Communication Technologies the University is well equipped with the two important



institutes namely: Institute of Educational Technology (IET) and Institute of Communication Technology (ICT). Both of these institutes are working in their domains most effectively by preparing course contents in soft forms as well. Similarly IET prepares radio and television programs for the students who are spread in far flung areas of the country and across the globe even. The IET Department of the University has also broadcast its transmission through FM radio channel with the frequency of 91.6. Most of the programs on aired are aimed to help the students in their studies. The University is making quite effective use of ICT for its students; and it even arranges viva voce and workshops of students through Skype and Video conferences as well. Similarly the web site of the university <http://www.aiou.edu.pk/> is very much helpful for the students to seek guidance related to their courses and some other related information about the University. Hence, the website of the University is very informative and helpful for the students. Below is the snapshot of the University's website

The screenshot displays the homepage of the Allama Iqbal Open University website. The browser's address bar shows www.aiou.edu.pk. The website features a blue header with the university's name and logo, and a navigation menu with links for Home, About, Faculties, Departments, Programmes, Research, Libraries, News Letters, Jobs, and Contact Us. Below the header, there is a secondary navigation menu with links for Admissions, Mailing, Examination, Live Media, Downloads, Alumni, Life at AIQU, ORIC, and Help Desk. The main content area is dominated by a large banner for "Teacher Training Programmes" with the AIQU logo and a list of programs: MEd (1-Year), BEd (1.5-Years), BEd (2.5-Years), BEd (4-Years), and Associate Degree in Education. At the bottom of the page, there are four colored buttons: STUDENT PROFILE (green), ADMISSIONS (orange), EXAMINATIONS (blue), and IMPORTANT LINKS (yellow). The Windows taskbar at the bottom shows the time as 11:23 AM on 1/3/2018.



Research Objectives

This research is aimed at achieving the following objectives

1. This study is designed to explore the basic purposes of ICT usage among AIOU's students.
2. This study will investigate about the types of ICT devices the students have or they use for academic purpose.
3. This research will also explore AIOU's website usage patterns among the students of AIOU?

Research Questions

The following research questions were developed keeping in mind the objectives of the research.

1. What is the basic purpose of ICT usage among the students of AIOU?
2. What kind of ICT devices are used by the students of AIOU for the academic purposes?
3. What are the usage patterns of AIOU's website among the students of AIOU?

Literature Review

A plenty of research is available online in form of articles and dissertations based on the relationship between ICT and education and especially between ICT and Distance Education. Similarly registers of books and theses (in hard form) also available. In order to study the need and importance of ICT in Distance Education different research articles, theses and even different reports of UN were also studied. Here is a brief mention of literature studies in order to understand the phenomenon of Distance Education and ICT in a lucid and comprehensive way. In order to explain the relationship between ICT and



Distance Education and it is of prime importance to explain the both terms in an elaborative way.

According to Loveless and Dore (2002) ,Pelgrum (2001), and Pelgrum (2008) “ICT is using the electronic information that is handled through a wide range of applications of *inter alia* computer equipment, multimedia productions, digital resources, mobile devices, digital video disks (DVDs), tutorial soft-wares, general software, data logging, simulations, smart boards, learning management systems (LMS), the Internet, email, modems, television, and other high-tech laboratory equipment.”

UNESCO, (2002) defines ICT, “the combination of Informatics technology with other, related technologies, specifically communication technology”

Statistics Canada, (2008) elaborates that ICT is such field of study that that govern with technological things which include desktop and laptop computers, soft-wares, peripherals and connections to interne. And all above gadgets are aimed in fulfilling information processing and also different communication functions as well.

To sum up above definitions it can be included that ICT are technological devices aims to foster learning and hence they create convenience to access information crossing the barriers of time.

As we are studying symbiotic relationship between ICT and Distance Education so the elaboration of the phenomenon of Distance Education is also of vital importance.

According to Simonson, (2006).Distance Education is primarily such type of institution based education in which students are separated from their teachers/tutors/educators and so it has to make effective use of different communication and telecommunication technologies’ systems for the sake of linking students and teachers.



Hilary Perraton, (1988) defines Distance Education as “It is an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner.”

According to Michael Moore, (1994) “Distance Teaching consists of Instructional Methods that execute teaching behaviors apart from learning behavior, creating such a situation in which communication between learners and educators should be sponsored by Print, electronic, mechanical or some other devices.”

In the light above definitions we can conclude that:

1. In the phenomenon of Distance Education learners and educators are physically separated from one another.
2. There is an institution in Distance Education which serves as a bridge between the students and teachers.
3. Finally, a third element which has been included is the application of ICT in Distance Education which helps to facilitate Distance Education in a relatively faster pace.

When usage and application of ICT in developing countries is analyzed it is usually inferred that most of these countries used printed matters as a study material and very less attention is paid to radio and television and to a very little extent audio, video cassettes are used as supplementary material. And to a lesser content the fax and telephones are used for the tutorial support. (Lawry Trevor-Deutsch and Lyndsay Green, 2002).

Oliver, R. (2002) is of the view that ICT is of vital importance to play its role in higher education. He also aims to seek that how future programs will be offered in the universities in the wake of rapidly spreading Information Communication Technologies. He further argues that apart from the fact that usage of ICT involves financial constraints



it is still gaining popularity among researchers and teachers. As a result of this both students and teachers are gaining considerable access to ICT. He opines that one definite characteristic of ICT is that it is minimized the concept of “When and Where to learn” to a greater extent. As result of this it has proven helpful both for the students and teachers.

Research work of Smeets, E. (2005) focuses on contribution of ICT in creation of robust learning environment. He argues that one of the fruits of ICT is that it has facilitated learning by crossing the boundaries of when and where. He is of the view that ICT has provided a great deal of freedom to learners in the process of information seeking. He further opines that apart from real time learning ICT also is helpful in providing opportunities to work together by crossing the boundaries of geography.

According to Mathew and Eliot Elfner (2002) also worked on “Analyzing student satisfaction with instructional technology techniques”. It was a basically survey based research to know about the Class rooms behaviors of the students after the arrival of ICT. When the students asked they reported that application of ICT is quite helpful in their studies and hence ICT has increased the quality of their presentations.

While discussing about Website usage Ghaphery (2005) also a conducted a study on quick link usages of an academic library website over a time period of four years to detect its usage patterns. He concluded that the top of two items of the website use were external data bases which include Info Track and Medline. And according to him these resources account for 40 percent of the total sources. It was also found that e-journal link was more used from the homepage link than the quick link. It was also found that few of the library data bases were more used than the other links.

It has been verified that using ICTs in education gratifies various academic needs of students like better understanding of course contents, positive interaction with their class fellows, peers, teachers and instant access to the authentic and relevant academic



information. It is further understood that aids in preparing assignments, presentations, and examination (Kubala, T., 1998; Turnbull, A. P., 1995).

Voogt (2003) argues that modern technology has resulted in transformation of traditional pedagogy into emerging pedagogy of information. And this pedagogy of information is only possible through the effective use of ICT in education be it is regular or distance based.

Kalusopa (2005) opines that usage of ICT in education is also helpful in promoting in the manipulation of existing information and eventually has resulted in creation of real-world products.

Andersson, A., & Hatakka, M. (2010) conducted the research on “Increasing Interactivity in Distance Educations: Case Studies Bangladesh and Sri Lanka” They both argue that ICT has been quite helpful in increasing interactivity. Both of the researchers believe that view that arrival and application of ICT has quite successfully replaced the old traditional teaching methodology and has resulted in interactive creation of knowledge.

It can be concluded with the above cited literature review that ICT are quite helpful for the students whether they are in the form of ICT gadgets or they present themselves in the form of internet and websites. They have resulted in convenience and ease of information availability by crossing geographical barriers.

Theoretical Framework

Uses and Gratification Theory:

This research is based on the Uses and Gratification Theory of Mass Communication which seems most appropriate in the context of this research work. As this research seeks to explore the different needs of students that are gratified by visiting the website of the University so it is definitely helpful to explore the related concepts of this research. If we



have a cursory view of the background of different theories of Mass Communication we come to realize that most of the theories of the subject usually focus on the effects of media and communication. In other words we can say that pioneering theories of Mass Communication are effect theories and also most of the theories deal with the powerful effects of media and communication. Those powerful effects theories always viewed audience as passive and non-reactive species that are just spoon fed and bombarded by the powerful message of media and they are unable to show any response to them. So the audiences are simply receiver of the communication and flow of communication was one way or linear where audiences were just passive receivers and were unable to express any feedback or response. But the fact of matter is that media audience are not always non-responsive or non reactive and they definitely possess the ability to respond to the media messages. One of the classic studies named as 'Obstinate audience' highlighted that audiences are quite active (Bauer, 1964). According to Bryant & Street (1988) the Uses and Gratification Theory is basically shift from receiver to the user of the media. Hence this theory assumes that audience members of the media are quite active and they respond to the media messages when are presented to them. The term Uses and Gratification was first used by Elihu Katz (1959) when he was responding to a claim by Bernard Berelson (1959) that the field of Mass Communication as a discipline is quite dead. In his response Katz argued that the only way to save Mass Communication as a discipline is by answering the question, "What people do to media".

The Uses and Gratification is an overall research strategy was used by Blumler and McQuail (1969) in the study of general elections in Britain. This research was focused to "find out why people watch or avoid party broadcasts; what uses they wish to make of them; and what are their preferences are between alternative ways of presenting politicians on television"(pp.10-11).



After that many researchers worked on this strategy. They argued that audience used media to gratify their different needs. Below is classified the need categories enlisted by (McQuail, Blumler, and Brown ,1972)

1. **Diversion:** It means that audience use media for emotional release and escape from dull and drab routine of daily life.
2. **Personal relationships:** Here the category elaborates that audience member of the society uses media in order to enrich and strengthen relationship with the fellow members of the society they are living in.
3. **Personal Identity:** This category comprises of self-presentation, self-understanding, self-projection, reinforcement; and reality exploration. This category also considers that audience members think of media characters as reflection or shadow of their daily lives.
4. **Surveillance:** This is one of the important categories of the need gratification. It involves information and watchdog function of media. This is helpful for the audience to know about the happenings of the society; and especially guide them in keeping a vigilant eye on what is going around in the society. It further tells about the activities being undertaken by the government.

Katz, Gurevitch and Haas (1973) observed media as means that is helpful for the audience to connect them with the others. They also have classified different categories of needs which are: “Cognitive needs affective needs, personal integrative needs, social integrative needs and tension release needs.”

Methodology

Research Methodology provides basic guidelines to conduct a research and it also offers a rationale behind the decision in choosing a particular research design in the study. We can simply we can say that it is like a mile stone that we have to follow before embarking the



journey of research. According to Kumar & Ranjit (2005) “It is of vital importance for every researcher to understand the assumptions behind these techniques and procedures that will be applicable to certain problems and others will not.”

The present study is designed to know about the University’s website usage patterns among the University’s students. This research used a quantitative research design and the respondents from AIOU were handed over a close-ended questionnaire. This research is a case study of AIOU and respondents also belong to this University. A Case Study is one which “... entails the detailed and intensive analysis of a single caseis tantamount with a particular location e.g. an organization.” (Bryman 2008:52).

Population

Wimmer, R. D., & Dominick, J. R. (1994) define, population as “Population as a group or class of subjects, variables, concept, or phenomenon.” Population of this research comprises of the students enrolled in MPhil and PhD Programs of AIOU during the Semesters of: Autumn 2014, Spring 2015, Autumn 2015 and Spring 2016.

Sample

Wimmer, R. D., & Dominick, J. R. (1994) define sample in these words “Sample is a subset of the population that is representative of the entire population.”

Due to limitations and constraints of time and cost involved sample of this study was limited to students enrolled in MPhil and PhD Programs of the University enrolled in specified semesters.

Sampling Technique

Probability sampling technique was used in this study keeping in view the nature of the data in mind. The 95% confidence level was used with a confidence interval of 5% for calculating the sample size of the study. Researcher used the following formula for calculating the sample size. The sample size was then matched with the sample provided



by Krejcie and Morgan (1970) which was precisely similar the calculated sample size. Cluster sampling technique was administered for the collection of data from the respondents. Brief description of sample size is provided in the table below.

FORMULAE FOR DETERMINING NEEDED SAMPLE SIZES

POPULATION SIZE UNKNOWN:

$$\text{SAMPLE SIZE} = \frac{\left(\frac{\text{RANGE}}{2} \right)^2}{\left(\frac{\text{ACCURACY LEVEL}}{\text{CONFIDENCE LEVEL}} \right)^2}$$

Confidence Levels:

	α	$\alpha/2$
.10 level	1.28	1.64
.05 level	1.64	1.96
.01 level	2.33	2.58
.001 level	3.09	3.29

Accuracy Levels:

Range X Desired Level
of Accuracy
(expressed as a
proportion)

POPULATION SIZE KNOWN:

$$\text{SIZE} = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

X^2 = table value of Chi-Square @ $d.f. = 1$ for desired confidence level

.10 = 2.71 .05 = 3.84 .01 = 6.64 .001 = 10.83

N = population size

P = population proportion (assumed to be .50)

d = degree of accuracy (expressed as a proportion)



Table 1: Determination of Sample Size

Faculty	Population	Contribution (Percentage)	No. of Samples
Social Science &			
Humanities	2333	34.08	122.7042
Science	2305	33.6	122.5266
Education	1004	14.66	47.05733
Arabic and Islamic			
Studies	1203	17.5	57.71182
	6845	100	367

According to the above table, the largest number of respondents was from the faculty of Social Sciences and Humanities, and the least number of respondents was from the faculty of Arabic and Islamic Studies.

Data Analysis

Table 2: Respondents' Demographics

		Frequency	Percentage
Gender	Male	216	64.7
	Female	118	35.3
Age (in Years)	Below 25	22	6.7
	25-30	99	30.1
	31-35	80	24.3
	36-40	66	20.1



	Above 40	62	18.8
Residence	Rural	152	46.5
	Urban	175	53.5
Faculty	Faculty of Social Sciences and Humanities	124	36.8
	Faculty of Sciences	113	33.8
	Faculty of Education	47	14.1
	Faculty of Arabic and Islamic Studies	64	15.3

According to Table 2 this research study comprises of 64.7 percent males and females are 35.3 percent. Age of the respondents varies from below 25 to above 40. Majority of the respondents fall between the ages of 25-30 while least number of respondents falls in below the age of 25. When it comes to the residential areas of the students it is found that majority is urban (53.5%) and rural respondents are 46.5%. When we see the contribution of faculty it is clearly evident that majority of respondents are from Faculty of Social Sciences and Humanities (33.8%) due to the larger population of the faculty and least number of respondents is from Faculty of Arabic and Islamic Studies (15.3%).

The researcher also inquired about the kind of ICT devices that were being owned/used by the respondents.



Table 3: ICT Devices Owned

Devices	Frequency	Percentage
Desktop	120	35.9
Laptop	213	63.8
Smart phones	155	46.4
Printer	58	17.4
Scanner	27	8.1
Other devices	14	8.1

According to Table 3 different ICT devices were owned by the respondents. The device that was owned by the most of the respondents was laptop (63.85%). The second most used device was smart phones (46.4%). Other few mentioned devices are (Desktop 35.9%), printer (17.4%), scanner (8.1%) and other devices that were not mentioned in the questionnaire but students mentioned to own and use them are (8.1%). The above table clearly indicates that students at AIOU are equipped with different ICT devices mentioned above.

Table 4: Purpose of Using Different Tools of ICT (Computer)

Purpose of Using Computer	Frequency	Percentage
Education	250	74.9
Information	211	63.2
Entertainment	99	29.6
Any other	19	5.7

One of questionnaire items designed was aimed to explore about the purpose of ICT usage in general. When asked about usage most of the respondents listed usage of computer for educational purposes (74.9%) which shows the interest of students in ICT



usage for their studies. It can also be seen that (63.2%) are found using computer for information related purposes. There were few students who were also using ICT for entertainment related purposes (29.6%). Students also mentioned some other purposes for using ICT which were not included in responses lists and they accounted (5.7%) of the purposes for the usage.

Table 5: purpose of Using AIOU's Website

Tasks for Using ICT	Frequency	Percentage
Academic Result Checking	235	70.4
Downloading Assignments	56	16.8
Downloading Exam. Forms	96	27.8
Course Registration	38	11.4
Downloading Course Material	103	29.9
Reviewing Faculty Information	55	16.5
Downloading Videos/Audios	32	9.6
AIOU Live (Radio/ TV)	26	7.8
Tutors' Particulars	110	32.3
Any Other	22	6.6

An important aspect of this research was to investigate the purposes of using the university's website. When inquired majority of the students responded that they were using the University's website for the academic results checking (70.4%). It was also encouraging to note that at second number regarding percentage the students were using website for downloading course materials (29.9%). The other use of the website was for downloading exams forms (27.8%). Some other uses included: Course registration (11.4%), Downloading Assignments (16.8%), Reviewing Faculty Information (16.5%), downloading Videos/Audios (9.6%), AIOU Live Radio/TV (7.8%), Tutors' Particulars



(32.3%) and other uses included (6.6%). It can be observed that majority of the respondents are using AIOU's website for academic results checking (70.4%).

Results

Answers to Research Questions:

This section of the research is aimed to answer the research questions posed at the start of the research.

Q.1 What is the basic purpose of ICT usage among the students of AIOU?

Answer. It is quite evident from the results of Table that most of AIOU's students are using computer as integral part of ICT for the educational purposes (74.9%). The other purposes includes: Information (63.2 %,) entertainment (29.6%) and other purposes (5.7%).

Q. 2 What kinds of ICT devices are used by the students of AIOU for the academic purposes?

Answer. The results of the table indicate that a greater proportion of the students are using laptop for different purposes ranging from education to entertainment (63.8%)

. It was also found that secondly smart phones with (46.4%) were also under the use of AIOU's students. The other devices that were owned and used by the respondents included: Desktop Computer (35.9%), printer (17.4%), scanner (8.1%) and other gadgets (8.1%) not mentioned in questionnaire but students owned and used them. For examples few of students mentioned owning and using the tablets but they were not included by researcher in questionnaire items but respondents jotted down them in other devices list.

Q.3 What are the usage patterns of AIOU's website among the students of AIOU?



Answer. One of the most important questions that the researcher was interested to know about the students' usage of AIOU's website for performing different tasks. The results of table 5 clearly elaborate that the main interest of students for website's visit was to check their academic results (70.4%). It was inferred during the analysis that a greater majority of the students was using University' website for checking their results. It was also encouraging to note that students were also making use of website for downloading course material as well (29.9%). The other tasks related to website included: Downloading Assignments (16.8%), Downloading Exam. Forms (27.8%), (Course Registration 11.4%), Reviewing Faculty Information (16.5%), Downloading Videos/Audios (9.6%), AIOU Live Radio/ TV (7.8%), Tutors' Particulars (32.3%) and some other uses of the website included(6.6%).

Overall trend of website usage indicates that students were visiting University's students were using website for performing multiple tasks varying from results checking to knowing about their tutors' particulars.

Conclusion and Discussion

Overall results of this research are encouraging in the sense that students even in Distance Education system are greatly benefitting from multiple tools of ICT. It is also positive indication that the students are mostly using ICT for education related purposes. We can analyze that the students of AIOU are well equipped with the different tools of ICT. It was encouraging to note that the website of the University was found as an important source of information for them. Findings revealed that students were using website for multiple tasks ranging from downloading course material to knowing about their teachers. It was observed overall that ICT was found helpful for the students and likewise website of the University was also an important source of information for varied tasks.



Area for Future Research

Information and Communication Technologies are of prime importance for any educational institution. Future researchers can explore the following areas.\

1. There is a great room to conduct a research on role of ICT for the students enrolled at Bachelors and Masters Level.
2. ICT has also an important role in conventional education system. So ICT usage in conventional institution ranging from schools to colleges and even universities can be analyzed.
3. Policy makers are also advised to develop policy documents to guide students for ICT usage in their studies.



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About the Author(s)

* **Dr. Babar Hussain Shah** is a Lecturer with the Department of Mass Communication, AIOU Islamabad.