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Effects of Rural-Urban divide on Usage of ICT among the Students of Allama Iqbal Open University

ABSTRACT

This study is focused to find out the role of Information Communication Technologies (ICT) in the academic life of the students of Allama Iqbal Open University (AIOU) Pakistan. This study was further aimed to dig out the differences in usage of ICT between the students of AIOU residing in urban and rural areas through factors of helpfulness and motivation in usage of ICT. In order to investigate the differences in usage a closed-ended was constructed after reviewing relevant literature. The respondents were selected from four faculties of AIOU by applying stratified sampling technique. The results reveal that university students use ICT mostly for educational purposes. It was further elaborated that students in distance education were equipped with the latest ICT gadgets. Results revealed that students having urban background were more motivated in usage of ICT than the students having rural background. It was surprising to explore that rural students found ICT more helpful than the students having urban background.

Keywords: ICT, helpfulness, motivation, AIOU.

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Introduction

The rapid progress in technological advancement reveals that 21st century is warmly welcoming arrival of new technologies and traditional modes of learning are being replaced by the modern tools of information communication technologies (ICT). ICT is application of different technologies for communicating information with different contexts varying from social, economic, political and educational ones (Ogunsula, 2005).

It is the ICT that is seen in every area of life and its applications are evident in all aspects of life ranging from routine matters to scholastic activities. The role of ICT in education is inevitable and is of vital importance for students and teachers both.

In ever changing world of today acquiring of knowledge has also become a phenomenon which is greatly dependent on ICT. The leading nations of the world are well equipped with the technology and are using technology very effectively for all forms of education - be it is formal education or non-formal education. In third-world countries distance mode of education is gaining more importance than the conventional once. The reason behind it is that people have less resources to pursue formal education, so resultantly they seem to quench their thirst of knowledge through distance education. In Pakistan, same situation exists, and distance education is idealized by the people to continue their studies in cost effective manner.

Many educationists believe that Distance education; specifically, is a key to the problems being faced by the people in the third world countries (Perraton, 1988).

It is quite evident that ICT has helped to improve education by providing instant access to information and thus has resulted in creating an enabling environment for the students. It is further to note that usage of ICT in distance education has made possible the wider participation of the learners in the process of learning (Laurillard, 2000; Koller

2012). In short, we conclude that ICT has resulted in greater and wider participation of the students in learning process.

Keeping in view the situation of distance education and usage of ICT in Pakistan the basic role of Allama Iqbal Open University Islamabad is admirable. AIOU is a forerunner institution in Pakistan in distance education that is effectively catering the academic needs of almost 1.3 Million students nationwide. This University is offering programs in distance education mode ranging from educational programs for elementary education, 10th graders and doctorates. It is important to note that teaching methodology of the University is a mix of traditional mode to ICT supported mode. The teaching strategy of the University includes attending tutorials, writing assignments and attending workshops.

The students are provided with the respective tutors of courses, delivered books and even they are provided the study material in CD form as well. Sometimes keeping conditions and nature of course in mind they are also trained to study through Learning Management System (LMS) and some of the course of the University are being regularly taught through LMS. Further, the University is also well equipped with the Institute of Educational Technology (IET) which prepares media for all courses to be taught. IET also runs an FM station as well named as 91.6 through which educational program are on aired for the students of the University. Keeping all operations of ICT the University has the well-designed department of Centre of Instructional Design (CID) and this department helps in smooth functioning of all matters related to ICT. Even the library of the University provides digital access of many books and research journals to its students. It can be said that being a pioneer institution in distance education the University is effectively using making effective use of all available latest communication technologies.

Review of Literature

Relationship between Distance Education and Usage ICT

The world where we live today has become a global village due to technological advancement. Application of ICT through high-tech computers and networking has transformed the older notion of time and space into the virtual interactivity.

In fact, ICT is abbreviated form Information and Communication Technologies and it is comprised of different tools of technology which are meant to store, distribute and manage information (Blurton C, 1999).

According to UNESCO (2002), ICT is fusion of information technology and other related technologies which are aimed to communicate information.

It is said that ICT comprises of technological gadgets like computers, laptops soft-wares and some outlying connections that are intended for information processing and executing some communication functions (Statistics Canada, 2008).

To sum up it can be concluded that ICTs are comprised of different devices that are meant to foster learning which resulting in convenient access, faster process and quicker transfer of information.

As this research is primarily focused to find out relationship between ICT usage and distance education therefore, it is inevitable to study the phenomenon of distance education from different standpoints as well.

In Distance Education a greater portion of teaching is performed by an educator who is away from learners with respect to space and time (Hilary Perraton, 1988).

Rumble (1989) is of the view that the process of distance education consists of four basic elements: Teacher, student, institution and curriculum. He opines teacher should possess the capability of teaching and student ought to possess strong urge for learning.

Shale (1988) believes that process of learning in distance education is same with formal education. He is of the view that

the whole process of distance learning demands that leaner must be taught and assessed after preparation for exams. He firmly believes that teaching-learning must be regulated both by student and teacher with the mediation of institution. They both should interact to make learning happen effectively.

To sum up about distance education it can be conclude that distance education like all other process of teaching learning is an interactive process in which a teacher imparts knowledge and students learn. Furthermore, this process is accomplished through certain resources like tutorials, assignments, use of instructional technology supported by information communication technology as well.

How ICT is Helpful in Distance Education?

ICT is proving helpful both for the students and teachers as it benefits students in seeking information and helps educators in imparting their knowledge as well as evaluating their students (Leidner and Jarvenpaa, 1995).

Another important aspect of ICT is that it has encouraged student-centred learning environment which, through its spirits encourages independent learning of the student and hence students are motivated to use it (Reeves & Jonassen, 1996).

According to Ramsden (2003) ICT has been found helpful in enhancing the effectiveness of the learning process and has been successful to motivate students to make use of it during their studies.

Gonzalez-Aller (2015) is of the view that the current age of digitization has transformed the thinking patterns of our youth by making them active participants in seeking, storing and sharing information. The result is that they are equipped with the latest tools of ICT like telephone, televisions and cell-phones which are helpful in motivating students to make use of ICTs during their studies.

Smeets, E. (2005) worked on role of ICT in creation of an effective and powerful learning environment. He stresses is

that ICT is powerful in the sense that it makes process of learning convenient for the learners as it crosses the barriers of time and space.

One of the major benefits of ICT-facilitated learning is that it has caused an increase in the learner's engagement because they can seek easily the desired information and are able to learn anywhere-anytime very easily due to the instant access of information available to them. Due to the instant access to desired information the students are more efficiently motivated toward ICT usage in the whole process of learning. ICT has resulted increased awareness among the students by crossing barriers of impossible (Ramsden, 2003).

Andersson, A., & Hatakka, M. (2010) conclude that one of the major benefits of ICT is increased interactivity. The findings of their research suggest that ICT has successfully replaced traditional modes of learning by replacing it their interactivity through use of technologies.

How ICT Motivates Students in Learning

It is our common observation that the students who have their personal computers available in their homes make excessive use of them outside their homes and institutions as well. The reason behind is that they are already exposed to them and hence has an ease in the usage due to heavy exposure. So, they are more motivated in their usage in their studies and routines lives.

Youssef and Dahmani, (2008) found that usage of ICT has indirect and positive effects on students' performance. They conclude that spread of ICT is happening at a rapid pace, but the rate of adoption is comparatively slower, and it varies in different institutions.

Valasidou and Bousiou-Makridou (2011) found that students' usage of ICT helps them to do well in the examination.

According to Cox et al., (2000) that students are attracted towards usage of ICT because of its attractive interface and it creates interest in them by motivating them to use it for the

studies. They further conclude that ICT motivates the students in learning by providing versatility in their study materials.

Here are mentioned some other factors that influence students' use of technology: Demography, access to ICT, expertise in usage and students' gratification with the usage of ICT (Bertea, 2009; Cheng, 2006; Chen and Huang 2012; Felton, 2006; Gulati 2008; Paris, 2004; Pelgrum, 1993; Roca, Chiu, & Martinez, 2006).

Many studies support that students of urban areas of more motivated towards ICT usage in their studies than the students living in rural areas who are more reliant on traditional mode of learning which is greatly dependent on paper-based modes of learning. (Khan et al., 2012; Leary & Berge, 2006; Mulcahy and Barbour, 2010).

Objectives

This research is aimed to achieve the following objectives

1. To explore the purpose of ICT usage among the students of AIOU.
2. To inquire about the different tools of ICT being used by the students.
3. To explore the difference in the of extent helpfulness of ICT between the students of rural and urban areas.
4. To dig out difference in motivation behind the usage of ICT among the students of AIOU.

Research Questions

1. Why the students of AIOU use ICT in distance education?
2. What are the different gadgets of ICT that are being used by the respondents?
3. Whether and to what extent students find ICT helpful for their studies?
4. Whether and to what extent the students are motivated to use ICT for their academic work?

Hypotheses

H1: It is more likely that the students with the urban background find ICT more helpful than the students with the rural background.

H2: There is more likely that students living in urban areas will be more motivated to use ICT in their studies than the students living in rural areas.

Methodology

The study is based on survey technique in which a closed-ended questionnaire was formulated after accessing relevant literature reviews.

Population

Population of this research was comprised of the students enrolled in M.Phil and PhD programs of AIOU respectively. Keeping the nature of the study in mind only four faculties of the university was taken as population. The whole population comprised of 6845 students.

Sample

Due to the constraints of finances and time the present study remained confined to the students enrolled in M.Phil and PhD programs of AIOU. Hence, sample was drawn from only above four faculties though Krejcie and Morgan (1970) formula. After applying formula 367 respondents were chosen as sample.

Sampling Technique

Cluster sampling technique was employed. Four faculties of the University were taken as cluster and sample was chosen from those clusters. Sample was chosen though Krejcie and Morgan (1970) formula and the table of according to formula was also consulted.

Collection of Data

After constructing closed-ended questionnaire it was personally distributed by the researcher by visiting below mentioned faculties of the University.

Table1
Sample Size Determination

Faculty	Population	Contribution %	No. of Samples
Social Sciences &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 the Table1 total population of research study comprises of 6845 respondents and after applying stratified sampling technique 367 respondents were chosen as sample. According to proportion from whole population 244 respondents were chosen from faculty of Social Sciences and faculty of Science. The rest of the respondents comprised of faculty of Education and Arabic/ Islamic Studies.

Results

Q.1 Why the students of AIOU use ICT in distance education?

Table 2
Purpose of Using ICT

Purpose of Using ICT	Frequency	Percentage
Education	250	74.9
Information	211	63.2
Entertainment	99	29.6
Others	19	5.7

Results from Table 2 indicate that majority of the respondents (74.9%) were using ICT for education related purposes. Information seeking use of ICT was (63.2%) and entertainment usage was (29.6%). There are some other purposes that fall in

the category of another and this category includes the purposes that are not mentioned in the questionnaire. The category of any other contributed (5.7%). There were some other reasons for usage of ICT as well like some of the respondents said that they use ICT for indoor games.

Q.2 What are the different gadgets of ICT that are being used by the respondents?

Table 3
ICT Gadgets Used by Students

Device	Frequency	Percentage
Desktop	120	35.9
Laptop	213	63.8
Smartphones	155	46.4
Printer	58	17.4
Scanner	27	8.1
Other devices	14	8.1

According to Table 3 respondents were found using different gadgets of ICT. It was found that device that contributed most under the usage of student was laptop (63.8%). The device that also a proportionate share was smartphones (46.4%). Some other devices like scanner, desktop-computer also contributed in the usage of the students.

Test of Reliability

The reliability of questionnaire items was checked through Cronbach's alpha coefficient of reliability. George and Mallery (2003) describe the following rules regarding reliability"_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable" (p. 231). The following constructs were investigated by the researcher: Helpfulness and motivation of ICT among respondents.

Table 4
Test of Reliability

Variables	Cronbach's Alpha	Items
Helpfulness	.922	14
Motivation	.831	10

The results indicate that constructs of helpfulness (0.922) and motivation (0.831) fall within good range. Hence, it was concluded that the questionnaire is reliable.

Q.3 Whether and to what extent students find ICT helpful for their studies?

Q.4 Whether and to what extent the students are motivated to use ICT for their academic work?

Answer to Question 3 and 4 are documented in the table below:

Table 5: Helpfulness and Motivation of ICT Usage

Variables	Area of Residence	Min	Max	N	Mean	Std. Deviation	Std. Error Mean
Helpfulness	Rural Areas	1	5	81	3.7496	.74558	.08284
	Urban Areas	1	5	119	3.5030	.74489	.06828
Motivation	Rural Areas	1	5	97	3.3969	.86077	.08740
	Urban Areas	1	5	118	3.5763	.84152	.07747

According to the above table value of mean for Helpfulness in students of rural and urban areas is above 3. Similarly for motivation of ICT usage mean values for both rural and urban students are above 3. The mean value of above constructs (helpfulness and motivation) is above 3 which indicates that students of urban and rural background find ICT helpful and as a factor of motivation as well.

Test of Hypotheses

In order to compare Helpfulness of ICT between rural and urban students, T-test was applied.

H1: It is more likely that the students with the urban background find ICT more helpful than the students with the rural background.

Table 6
Independent Sample T-Test for Helpfulness of ICT

Helpfulness of ICT	N	Mean	SD	t	r
Rural	81	3.7496	0.74558	2.97	.023
Urban	119	3.5030	0.77489		

According to above table helpfulness regarding usage of ICT among rural students is slightly different from that of the urban ones. The standard deviations of the students from both groups are little different. The same situation is for standard error of mean where a little difference exists between the groups.

Hence, the hypothesis
H1: It is more likely that the students with the urban background find ICT more helpful than the students with the rural background is (not supported).

Table 7
Independent Sample T-Test for Motivation of ICT Usage

Motivation of ICT	N	Mean	SD	t	r
Rural	97	3.3969	0.86077	-1.539	0.125
Urban	118	3.5763	0.84152		

Table 7 elaborates the descriptive statistics for students having urban background and rural background. According to the table mean value motivation for usage of ICT among urban students is higher than the students of rural areas and already stated hypothesis also supports this.

Hence, in the light of the results of the above table the hypothesis

H2: There is more likely that students living in urban areas will be more motivated to use ICT in their studies than the students living in rural areas is (supported).

Conclusion

This study was designed to explore the factors of helpfulness and motivation behind the usage of ICT among the students of rural and urban back ground belonging to AIOU. Researcher applied T-test in order to explore those difference among the students of rural and urban background. In order to analyse quantitative results Statistical Package for Social Sciences (SPSS) was used. Results of the study elaborate that the students in distance education are mostly using ICT for education related purposes. It was found that majority of the students were found equipped with latest gadgets of ICT like laptop, smartphones and printers etc. It was further revealed that both students with urban and rural background find ICT helpful for their studies but rural students surprisingly found ICT more helpful than the urbans. It was further found that students with urban background were more inclined and motivated in the use of ICT than the rural ones. Overall it was found that ICT was playing a significant role in the academic life of the students who are studying in distance mode of education.

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