

USE OF ICT IN DISTANCE HIGHER EDUCATION WITH SPECIAL REFERENCE TO INSTITUTE OF DISTANCE AND OPEN LEARNING OF GAUHATI UNIVERSITY

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Abstract- ICT has become an indispensable part of education. Again the conventional education is undergoing a paradigm shift. Education is becoming learner centered rather than teacher centered. Such type of learning situation needs access to variety of information sources and different forms of information. Considering this fact the present paper try to have a glance on the available IT tools in the Institute of Distance and Open learning of Gauhati University. The paper also tries to see the percentage of Post graduate students of IDOL using Computer and Internet, their level of utilization, purposes of utilization and also the obstacles faced in using computer and internet. The percentage of computer and internet users among the students is not encouraging. They are also facing different obstacles in using those ICT tools. Some recommendations for improving the situation are also given. It is hoped that this paper will help the students, teachers and policy planer in the area of higher education.

Keywords: *ICT, Computer, Internet, IDOL, Post Graduate students.*

1.Introduction

The last two decades have witnessed change which is mainly caused by the rapid development and also use of Information and Communication Technology (ICT). ICT is an important tool in bringing potential changes and development in the area of higher education. ICT has changed the dynamics of various industries as well as influenced the way people interact and work in the society (UNESCO, 2002; Bhattacharya &

Sharma, 2007). India is characterized by a billion plus population and a high proportion of the young and it has a large formal education system. But the demand of higher education in India has skyrocketed and formal education cannot meet this demand. As a result it has to welcome distance education alongside the formal education. Low rate of education can be removed by the use of ICT. It can be used as a tool to overcome the issues of cost, less number of teachers, and poor quality of education as well as to overcome time and distance barriers (Mc Gorry, 2002).

2. Terminology

2.1. ICT: ICT combines telecommunications, computing and broadcasting and covers any product that will store, retrieve, manipulate, transmit or receive information electronically, including telephones, faxes, computers and televisions. The National Curriculum Handbook for secondary teachers in England (see <http://www.nc.uk.net/>) outlines the importance of ICT by stating that: “Information and communication technology (ICT) prepares pupils to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technology. Pupils use ICT tools to find, explore, analyze, exchange and present information responsibly, creatively and with discrimination. They learn how to employ ICT to enable rapid access to ideas and experiences from a wide range of people,

communities and cultures. Increased capability in the use of ICT promotes initiative and independent learning, with pupils being able to make informed judgments about when and where to use ICT to best effect, and to consider its implications for home and work both now and in the future.”

ICT can be used as a tool in the process of education in the following ways.

2.1(a) Informative tool: It provides vast amount of data in various formats such as audio, video, documents.

2.1(b) Situation tool: It creates such type of situation, which the student experiences in real life. Thus, simulation and virtual reality is possible.

2.1(c) Constructive tool: To manipulate the data and generate analysis.

2.1(d) Communication tool: It can be used to remove communication barriers such as that of space and time (Lim and Chai, 2004).

The medium used for delivery and for conducting the education process are as follows:

- **Voice** -Instructional audio tools that include interactive technologies as well as the passive ones.
- **Video**-Instructional video tools which include still images , prerecorded moving images , and also the real –time moving images combined with audio conferencing
- **Print**-Print include textbooks, study guides, workbooks and case studies (Bhattacharya & Sharma, 2007).

ICT also allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place at any time(Bhattacharya & Sharma, 2007).

2.2 Distance Education: This type of education crosses the barrier of time and space and hence students can work on their own from home and offices. Learner

and teachers can communicate with faculty and fellow students with the help of e-mail , instant messaging , videoconferencing , radio programme , satellite TV , electronic forums and also with other forms of computer- based communication. It is also known as open learning.

2.3 Higher Education: It is the third stage of education after Primary and Secondary education. Generally graduate and post graduate courses are included in higher education. Increase of intake capacity in the Primary and Secondary education and Government policy have resulted in the steep rise in Higher education. India is the third largest higher education systems in the world and has been witnessing healthy growth in its number of institutions and enrollment in the last few decades. In the 12th five year plan of India emphasis is given on shift from input centric to learner centric education which essentially creates the need of ICT.

2.4 IDOL: Institute of Distance and Open Learning, Gauhati University, Assam, India. Here the Institute of Distance and Open Learning of Gauhati University is considered for the study.

2.5 Assam: Assam is a beautiful state situated in the North eastern region of India. The capital of Assam is Dispur within the municipality area of Guwahati city. It has Brahmaputra and Barak valley. Lots of educational institutes are present here offering different types of education. The literacy rate of Assam is 73.18 (2011 census).

3. Need of the Study

ICT is a potential tool in the arena of Distance Higher education. Computer and Internet have more prospects in this field. Therefore it is imperative to see to what extent the learners of IDOL are using these two ICT tools. The problems faced in using such tools also need to be studied. Present paper is trying to work in this field.

4. Objectives

- (i) To find out the Percentages of Postgraduate students utilizing computers and Internet.
- (ii) To find out the levels of utilization of computers and internet by Post graduate students of IDOL, Gauhati University.
- (iii) To find out the purposes of using computer and internet.
- (iv) To find out the obstacles faced by the Post Graduate students in using computers and internet.
- (v) To offer some suggestions for improvement of the situation.

5. Methodology

5.1 Method: Descriptive Survey method has been applied in the study. Descriptive Survey method is a method of investigation which is used to discover, describe and interpret what exists at present.

5.2 Sample: 200 students from the different Departments of Institute of Distance and Open Learning, Gauhati University have been selected with the help of Purposive sampling technique out of which 100 were male and 100 were female.

5.3 Tool: self prepared questionnaire was used to collect information from the selected sample.

5.4 Statistical Technique: Percentage analysis under Descriptive Statistics was used for analysis of data.

6. Delimitation

Only computer and Internet have been taken as ICT tool for the present study. Only postgraduate students of Institute of Distance and Open Learning (IDOL), Gauhati University are taken as the sample here.

7. Analysis and Discussion of Data

In this section the investigators try to present the responses of IDOL, Gauhati University post graduate students regarding the availability of different ICT tools in IDOL, percentage of Post Graduate students using computers, percentage of Internet users, levels of utilization of Internet, purposes of using and obstacles in utilization.

Table 1: Responses of the post graduate students of IDOL regarding availability of different ICT tools

ICT tools used in the IDOL,GU		
Different ICTs	Count	%
TV programmes	60	30
Video camera	120	60
Digital camera	130	65
Computer	200	100
Laptop	168	84
Internet	200	100
Intranet	145	72.5
Generic Software	2	1
CD/tape/mini-disk/pen drive	167	82.5
OHP	200	100
Radio use	200	100
Use of mobile	200	100
Digital library	200	100
Virtual Classroom	nil	nil

Table 2: Percentage of post graduate students of IDOL in computer utilization

Gender	N	Count	Percentage(%)
Male	100	66	66
Female	100	53	53
Total	200	119	59.5

Table 3: Percentage of Post Graduate students of IDOL in Internet utilization

Gender	N	Count	Percentage(%)
Male	100	68	68
Female	100	48	48
Total	200	116	58

Table 4: Percentage of level of utilization of computer by post graduate students of IDOL

Level of Utilization	Male	Female	Total
Regular	45 %	25%	35%
Occasional	37%	40%	38.5%
Rare	11%	22%	16.5%
Never	7%	13%	10%
Total	100	100	100

Table 5: Percentage of level of Utilisation of Internet by Post Graduate students of IDOL

Level of Utilisation	Male	Female	Total
Regular	54 %	34%	44%
Occasional	24%	36%	30%
Rare	15%	20%	17.5%
Never	7%	10%	8.5%
Total	100	100	100

Table 6: Percentage of Purposes of utilization of computers by the sample students

Source	count	Percentage (%)
Storing reading materials	98	49
Personal Data keeping	112	56
Educational CD usage	80	40
Assignment preparation	134	67
Internet	114	57
Games	140	42
Movies	162	81
Music	145	72.5
Calculations	97	28.5

Table 7: Percentage of Purposes of utilization of Internet by the sample students

Source	count	Percentage (%)
Reference materials	110	55
Distance learning	147	73.5
News	70	35
Career guidance	78	39
On –line shopping services	117	58.5
Mail	112	56
Movies	98	49
Music	86	44.5
Chat	145	72.5

Table 8: Obstacles faced by the post graduate students of IDOL in using computer and internet

Obstacle	count	Percentage (%)
Ignorance of effective use of computer & Internet	115	57.5
Lack of Infrastructure facilities	123	61.5
Non availability of computer	54	27
Higher cost	110	55
Lack of networking system	82	41
Difficulty in using hardware and software	96	48
Lack of teacher support	76	38
Lack of encouragement	86	43
Lack of discussion forum	89	44.5
Lack of motivation & enjoyment	80	40
Lack of information handling skills	98	49
Lack of technical assistance	76	38

From Table-1 it is evident that all the sample students have given positive responses regarding availability of OHP, Radio use, Use of mobile, Digital Library and Internet. Response regarding availability of Generic software is only 1%. All the students have given negative responses regarding availability of virtual classroom. Majority of the respondents (82.5%) said in affirmative regarding usage of CD, pen drive etc. Responses regarding availability of Intranet facility are less in comparison to the Internet facility.

Table-3 reveals that out of the total 200 sample 59.5 % of the sample students use computer. 68% of male students are using computers while less than half (48%) of the female students are using computer. The number of female users is less in comparison to their male counterparts. Hence digital divide is present between the male and female students.

Table-2 shows that more than half of the students use Internet. The percentage of male students is more in Internet using than that of the female students.

From Table-4 and it is clear that among the different categories, the percentage is highest in the occasional use. In the regular category the percentage of male users is more than that of female users. Only 25% of the female students use computer regularly. Female students' concentration is more in the occasional use category. In the never category female students are ahead of the of the male students. Among the sample students occasional user of computer is more in comparison to other category and male students use computer more frequently than those of female students.

Table-5 shows that concentration of students' response is more in the level regular use. Among the sample students the percentage of male regular users is more than that of female regular users .In the occasional category, rare category and never category the percentage of female students is more.

Regarding the purposes of utilization of computers (see Table-6) it is seen that students are using computer mostly for movies and it is followed by hearing of music. 67% of students use computer for assignment preparation. Less than half (40 %) of the students use Computer for Educational CD usage. More than half (57%) of students are using computers for Internet use .Percentage of students using computer for personal data keeping is 56%.Only a few(28.5%) students use computer for calculations .

Students are using Internet mostly for Distance learning followed by chatting. It is followed by on-line shopping and services. Next to it collection of reference material. The percentage of students using computer for news is meager (35%). Percentage of students using computer for career guidance is also not at all encouraging (see Table -7).

Table-8 reveals that lack of infrastructure facilities acted as an obstacle for a major portion of the students(61.5%) . Ignorance acted as an obstacle for more than half of the students(57.5 %).Next to it is the higher cost. Lack of networking system acted as an obstacle for 41 percent. Non availability of computer acted as an obstacle for a few students (27 %). Difficulty in using hardware and software is another obstacle for 48 percent. Lack of encouragement acted as an obstacle for 43 percent. Lack of motivation is also another obstacle and the percentage of students response here, is 40 percent. Lack of information handling skill acted as an obstacle for 49 percent. Lack of teacher support is another obstacle for 38 percent.

8. Findings

- (i) Students are using mostly the OHP, Radio , mobile, Digital Library , Computer and Internet, followed by use of pen drive , CD and mini – disk. Next to it the use of Laptop, followed by intranet.
- (ii) Responses showed the absence of virtual classroom.
- (iii) The percentage of computer users is not encouraging. Digital divide is present between the male and female students.

(iv) In the level of computer utilization the male students are dominating in the regular category i.e. they use computer regularly. Whereas the percentage of female students are more in the occasional and never category. Presence of students in the never category is an alarming sign and total number of regular users among the sample students are not encouraging.

(v) The total percentage, male and female students as a whole, is not found encouraging in Internet utilization. The percentage of female Internet users is not satisfactory as compared to that of male users.

(vi) There is not much difference in the percentage of computer usage and Internet usage of the post graduate students of IDOL.

(vii) The post graduate students of IDOL are not using computer solely for educational purpose rather they are using the machine mostly for activities like music and movies. However, the percentage of use of computer for assignment preparation is not upsetting.

(viii) The students use internet mostly for educational purpose. But the percentage of students engaged in chatting is also high. Percentage of reference material collection is not up to mark.

(viii) Different obstacles are there in the way of using Computer and Internet out of which lack of infrastructure facility comes first followed by ignorance of effective use of computer and internet.

9. Some suggestions

(i) Allocation of funds for higher education for using ICT by the Government through its budgetary resources for the improvement of infrastructure facilities.

(ii) Creation of computer laboratories in educational institutions.

(iii) Adaptation of Basic computer skills should be a part of study.

(iv) Teaching staff should be trained up properly for computer application.

(v) Establish network of higher educational institutions.

(vi) Development of curriculum for e-learning.

(vii) Provision of virtual classroom to make distance education viable.

(viii) Removal of digital divide, start computer education for all.

(ix) Evaluation of course work, homework or class work through e-mails, delivery dialogue and feedback over internet.

(x) Access to computer and internet.

(xi) Information sharing.

10. Conclusions

ICT has the potential to enhance the teaching learning situation. More particularly it can lead the distance education system to a new height. With the help of ICT teaching community can reach the students of remote areas and learners are able to access quality education from anywhere at any time. The teaching community should use ICT which will encourage the students also to use the same. Only through Information and Communication technology the world can meet the challenges of education in the globalised world.

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