



USE OF ICT IN CLASSROOM TEACHING IN THE AFFILIATED COLLEGES UNDER DIBRUGARH UNIVERSITY: A STUDY

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ABSTRACT Information and Communication Technology (ICT) has influenced all aspects of human life. Education is not an exception. The use of ICT in higher education is also taken very seriously now a day in all over the world. The objectives of higher education are multi dimensional in nature and for their achievement multiple methods should be used in an integrated way. It is a well known fact that not a single teacher is capable of giving upto date and complete information in his own subject. The ICT can fill this gap because it can provide access to different source of information. ICT provides online interaction facility in which students and teachers can exchange their ideas and views, and get clarification on any topic from different experts, practitioners etc. On Internet many websites are available freely which can be utilized by the teachers and students for understanding different concepts improving vocabularly, developing reasoning and thinking etc. In this paper an attempt has been made to focus on the use of ICT in classroom teaching in the affiliated colleges under Dibrugarh University of Assam.

KEYWORDS : Information and communication technology, classroom teaching

1.0 INTRODUCTION:

The rapid development in Information and Communication Technology (ICT) provides tools such as computers, interactive multimedia CD-ROMs, e-mail and internet. The use of such well advanced technologies has now enabled the learners of flexible learning. The flexible teaching learning strategies provides high quality education and ensures equity in educational opportunities, particularly to the disadvantaged like physically challenged, adult learners etc. Thus, ICT acts as a vehicle for creating active learning experiences. ICTs are changing the structures of educational organizations: new resources, new services and new practices are developing and these innovations are more effective than previous methods. Especially computer can be used as a tool by the classroom teacher for course preparation, learner and resource management, record keeping and teaching method etc. ICT has also led E-journals, E- books, E- evaluation, E-examination, E-learning in the field of education system. The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf, 2005). ICTs 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 and Sharma, 2007; Cholin, 2005). Such facilities allow the networking of academics and researchers and hence sharing of scholarly material. This avoids duplication of work (Cholin, 2005). ICT eliminating time barriers in education for learners as well as teacher. It eliminates geographical barriers as learners can log on from any place (Sanyal, 2001; Mooij, 2007; Cross and Adam, 2007; Bhattacharya and Sharma, 2007). ICT provides new educational approaches (Sanyal, 2001). Use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real world problems (Bottino, 2003; Bhattacharya and Sharma, 2007). Bottino (2003) and Sharma (2003) mention that the use of ICT can improve performance, teaching, administration, and develop relevant skills in the disadvantaged communities. It also improves the quality of education by facilitating learning by doing, real time conversation, delayed time conversation, directed instruction, self-learning, problem solving, information seeking and analysis, and critical thinking, as well as the ability to communicate, collaborate and learn. A great deal of research has proven the benefits to the quality of education (Al-Ansari 2006). ICT can help deepen students' content knowledge, engage them in constructing their own knowledge, and support the development of complex thinking skills (Kozma, 2005; Kulik, 2003; Webb & Cox, 2004).

2.0 OBJECTIVES OF THE PAPER:

This paper is mainly deals with following objectives:

- 1) To give a conceptual framework of ICT in Education.
- 2) To study the use of ICT aids in classroom teaching by the arts stream teachers in the affiliated colleges under Dibrugarh University.
- 3) To study the use of ICT aids in classroom teaching by the Science stream teachers in the affiliated colleges under Dibrugarh University.

3.0 METHODOLOGY:

As per methodology is concerned, this paper is based on both primary and secondary sources. The primary data are collected through a questionnaire and interview and secondary data are collected from internet, books, journal etc.

3.1 Design of the study :

The present study is purely based upon descriptive survey method.

3.2 Population:

In my study, Population constitutes all the teachers of 140 Affiliated General Colleges under Dibrugarh University of Assam.

3.3 Sample:

In this study, a total of sample comprised of 500 teachers of 42 sampled colleges having 30% of total general colleges under Dibrugarh University which are spreading over in 7 districts (now 9). In present study, it was adopted the stratified random sampling technique for selecting the samples by using different strata. The stratification factors were taken into consideration are the geographical locality of the colleges, such as urban, semi-urban and rural; stream such as Arts and Science; and gender such as Male and Female etc.

3.4 Tools used for data collection in the study:

In the present study, the following tools were used for collecting the required data and information. These are as follows-

- (a) One Questionnaire was self prepared for the college teachers to meet the demand of objective no. 1 and 2 with closed and open ended questions.

4.0 ANALYSIS AND DISCUSSION:

4.1 Conceptual Framework of ICT:

Networking of computer gave birth to information technology. Information and Communication Technology (ICT) are diverse set of technological tools and resources used to communicate, and to create, disseminate, store and manage information. Information Technology is a dynamic in nature. It has lots of potential to improve and manage different aspects of higher education such as-

ICT in Learning, Instruction and Assessment:

- **E-Learning:** E-learning or online learning is web-based learning which uses internet for course delivery, interaction or facilitation. Now, in the field of higher education the following online learning are used-
- **MOOC:** Massive Open Online Course (MOOC) is an online course with the option of free and open registration, a publicly-shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests.
- **Blended Learning:** When E-learning is combined with traditional classroom practices, it is referred as blended learning.

- **M-Learning:** M-learning or mobile learning is an innovation in the modern education system which can be understood as learning facilitated by mobile devices. It means the use of mobile devices to support teaching and learning process
- **Web based learning:** Web based learning is an instructional content or activity delivered through web that teaches as focused concept, meet learning objectives, provides a learner centric context.
- **Study Webs of Active Learning for Young Aspiring Minds (SWAYAM):**

Microsoft has been selected as the technical partner for SWAYAM platform that will launch 2,000 massive open online courses (MOOC) for over three crore students.

- **E-PG Pathshala:** E-PG Pathshala is an initiative of the MHRD under its National Mission on Education Through ICT (NME-ICT) being executed by the UGC. The content and its quality being the key components of education system, high quality, curriculum based, interactive e-content in 70 subjects across all disciplines of social sciences, arts, natural & mathematical sciences, languages have been developed by the subject experts working in Indian universities and other R&D institutes across the country.
- **Virtual classroom:** A virtual classroom is a system that provides opportunities for teaching and learning beyond the physical limits of the conventional classroom through the use of computer networks. Virtual classroom is also referred to as Web-based classroom.
- **EDUSAT:** Educational Satellite is the satellite exclusively meant for educational sector that was launched on 20th September, 2004 to meet the demand for interactive satellite based education especially of the remote population.
- **Open Educational Resources(OER):** Open educational resources refers to digitalized materials that are freely available on internet offered openly for students, educators and self-learners to use and re-use for teaching, learning and research. These are as-
 - Electronic Journals
 - Electronic Databases
 - Electronic Books
 - ETD's (Electronic Theses and Dissertations)
 - Digital Libraries
 - OPAC (Open Public Access Catalogue)
 - Institutional Repository System

ICT can also be effectively used in teaching learning process such as-

- Teaching
- Diagnostic testing
- Remedial teaching
- Evaluation
- Psychological testing
- Online tutoring
- Development of reasoning and thinking
- Instructional material development

4.2 USE OF ICT IN CLASSROOM INSTRUCTION:

4.2.1 Use of ICT Aids in Classroom Instruction by Arts Stream College Teachers:

This study makes an attempt to find out the views of Arts Stream College Teachers regarding the use of teaching aids in their classroom teaching. The responses of the respondent College teachers are tabulated as shown below-

Table No.1- Data shows the percentage of Arts Stream College teachers using ICT aids in the classroom teaching.

ICT Teaching Aids	Response	Rural		Urban		Total	
		N	%	N	%	N	%
Slide Projector	Yes	20	14.28	35	25	55	19.64
	No	120	85.71	105	75	225	80.36
	Total	140	100	140	100	280	100
Overhead Projector	Yes	0	0	8	5.71	8	2.86
	No	140	100	132	94.29	272	97.14
	Total	140	100	140	100	280	100
Smart Board	Yes	10	7.14	18	12.86	28	10
	No	130	92.86	122	87.14	252	90
	Total	140	100	140	100	280	100
Laptop	Yes	22	15.71	24	17.14	46	16.43
	No	118	84.29	116	82.86	234	83.57
	Total	140	100	140	100	280	100

Mobile Phone	Yes	8	5.71	12	8.57	20	7.14
	No	132	94.29	128	91.43	260	92.86
	Total	140	100	140	100	280	100
Audio Track	Yes	12	8.57	14	10	26	9.29
	No	128	91.43	126	90	254	90.71
	Total	140	100	140	100	280	100

INTERPRETATION:

The table no. 1 shows that a total of 19.64% of arts stream teachers having 14.28% in rural and 25% in urban responded towards the use of slide projector in their classroom teaching.

Likewise, a total of 2.86% of arts stream teachers having none in rural area and 5.71% in urban area responded towards the use of overhead projector in the classroom teaching.

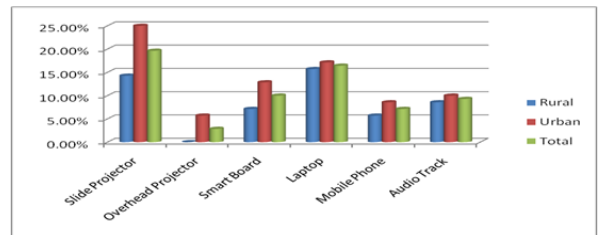
A total of 10% arts stream teachers having 7.14% in rural area and 12.86% in urban area responded towards the use of smart board in their classroom teaching.

A total of 16.43% arts stream teachers having 15.71% in rural area and 17.14% in urban area responded towards the use of laptop in their classroom teaching.

A total of 7.14% arts stream teachers having 5.71% in rural and 8.57% in urban area responded towards the use of mobile phone in their classroom teaching.

A total of 9.29% arts stream teachers having 8.57% in rural area and 10% in urban area responded towards the use of audio track in their classroom teaching.

Figure I: Graphical representation on the percentage of Arts Stream College Teachers using ICT Teaching Aids in Classroom Teaching



4.2.2 Use of ICT Aids in Classroom Instruction by Science Stream College Teachers:

The responses of College Teachers teaching in Science Stream in the Affiliated Colleges under Dibrugarh University are tabulated as shown below-

Table No.2-Data shows the percentage of the Science stream college teachers using ICT teaching aids.

ICT Teaching Aids	Response	Rural		Urban		Total	
		N	%	N	%	N	%
Slide Projector	Yes	35	31.82	42	38.18	77	35
	No	75	68.18	68	61.82	143	65
	Total	110	100	110	100	220	100
Overhead Projector	Yes	10	9.09	12	10.91	22	10
	No	100	90.91	98	89.09	198	90
	Total	110	100	110	100	220	100
Smart Board	Yes	15	13.64	18	16.36	33	15
	No	95	86.36	92	83.64	187	85
	Total	110	100	110	100	220	100
Laptop	Yes	25	22.73	28	25.45	53	24.09
	No	85	77.27	82	74.55	167	75.91
	Total	110	100	110	100	220	100
Mobile Phone	Yes	15	13.64	16	14.55	31	14.09
	No	95	86.36	94	85.45	189	85.91
	Total	110	100	110	100	220	100
Audio Track	Yes	16	14.55	18	16.36	34	15.45
	No	94	85.45	92	83.64	186	84.55
	Total	110	100	110	100	220	100

Interpretation:

The table no. 2 reveals that a total of 35% of science stream teachers having 31.82% in rural and 38.18% in urban responded towards the use

of slide projector in their classroom teaching.

Likewise, a total of 10% science stream teachers having 9.09% in rural area and 10.91% in urban area responded towards the use of overhead projector in the classroom teaching.

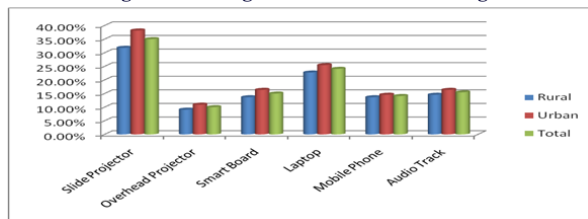
A total of 15% Science stream teachers having 13.64% in rural area and 16.36% in urban area responded towards the use of smart board in their classroom teaching.

A total of 24.09% science stream teachers having 22.73% in rural area and 25.45% in urban area responded towards the use of laptop in their classroom teaching.

A total of 14.09% science stream teachers having 13.64% in rural and 14.55% in urban area colleges responded towards the use of mobile phone in their classroom teaching.

A total of 15.45% science stream teachers having 14.55% in rural area and 16.36% in urban area responded towards the use of audio track in their classroom teaching.

Figure II: Graphical representation on % of Science Stream Teacher using ICT teaching aids in classroom teaching



4.2.3 FINDINGS OF THE STUDY:

The major findings of the study are delineated as follows-

- Regarding the use of ICT aids in the classroom by the arts stream teachers having both urban and rural colleges, it was found that a total of 19.64% arts teachers use slide projector, 2.86% arts teachers use overhead projector, 10% arts teacher use smart board, 16.43% arts teachers use laptop, 7.14% teachers use mobile phone and 9.29% arts teachers use audio track in classroom teaching. So, from this above figure it is evident that modern technological aids are not highly used in classroom teaching. Still the traditional teaching aids like chalk, duster and blackboard/whiteboard are only used in classroom teaching by the arts stream college teachers in the affiliated colleges under Dibrugarh University.
- Regarding the use of ICT aids in the classroom by the science stream teachers having both urban and rural colleges, it was found that a total of 35% science teachers use slide projector and 10% teacher use overhead projector. 15% science teachers use smart board and 24.09% use laptop, 14.09% use mobile phone and 15.45% science teachers use audio track in the classroom. So, from this above mentioned figure it is also evident that modern technological aids are not highly used in classroom teaching and it is not satisfactory in nature in adoption of ICT teaching aids in classroom teaching. But, this study reveals that in comparison to arts stream teachers, science stream teachers are quite better in adoption of ICT aids in classroom.

5.0 CONCLUSION, RECOMMENDATIONS AND FUTURE IMPLICATION:

ICT has transformed the teacher centred classroom in to learner centred classroom that provides flexible learning. The traditional teacher-learner relationship is altered by the engagement of ICT in learning. ICT has the power to stimulate the development of various intellectual skills such as reasoning and problem solving ability, learning how to learn and creativity. It can save time, energy, labour of the teachers and also helps in sustaining interest, attention of the learners in the classroom. From the above analysis, it was found that use of ICT aids in the classroom in the affiliated colleges under Dibrugarh University is not satisfactory and up to the mark. The classroom teaching is mostly dominated by the traditional methods. It is noteworthy that financial constraint stands as a hurdle in adoption of technological aids in the classroom. In order to promote technological facilities in the colleges, the following suggestions/recommendations are given-

- The central government and state government should undertake proper steps for expansion and adoption of modern technology in the colleges and provide adequate financial grants for that.
- A Separate Educational Technology Room should be established in each college.
- Workshop on uses of modern technology in the classroom should be organized for the teachers so that proper training can be done. It can also reduce the technophobia of the teachers.
- The authority should also encourage the teachers to adopt ICT enabled methods in the classroom and provide necessary arrangement for that.

FUTURE IMPLICATION:

More extensive study can be undertaken for drawing out generalized conclusion covering the entire university of the state. This study was not an extensive one because it was covered the affiliated colleges under Dibrugarh University.

- The findings of the study can help the college & university authority, state government to undertake proper steps for upgrading ICT facilities in the colleges.
- There have also can be undertaken the study on the impact of ICT aids in the classroom on students achievement and other related dimensions.

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