A STUDY OF USAGE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AMONG TEACHER EDUCATORS OF B.ED. COLLEGES UNDER BURDWAUN UNIVERSITY, WEST BENGAL

Tandra Bandyopadhyay, Ph. D. 
Associate Professor (Retired), H. J. College of Education, Khar West, Mumbai 52

Abstract

Information and communication technology in schools can be used as a marvelous communication tool to improve better teaching techniques. With the advancement of technology in education, schools adopt school communication software to transmit, store, share or exchange information. In this technological era, ICT in education has compelled many educational institutions to get accustomed to smart technology and make use of computers, the internet, and multimedia as the medium of communication. Technology is application of scientific knowledge for practical purposes in day to day life. It is a science of techniques and methods of doing things related to any art, science or to a particular profession. Information and Communication Technology (ICT) has influenced all aspects of life of individual. It plays a pivotal role in the field of education. Teacher, Student, administrator and every people related to education are popularly used ICT. Teacher use ICT for making teaching learning process easy and interesting. In modern societies education demands more knowledge of ICT and also the skills to use ICT in teaching — learning process. The knowledge of ICT also required for teacher to know the world of technology in a better way by which it can be applied for the betterment of the students. ICT is an effective tool for assimilating processing and disseminating information.

The main purpose of the study is to know the usages of ICT among Teachers working in B. Ed College. In the present study descriptive survey method was employed by the investigators. The sample consisted of 40 teachers working in B.Ed. College. The results found that the level of usages among teachers is satisfactory and there is no significant difference is found in usage of ICT in relation to gender.

Keywords: ICT, teaching-learning process.

INTRODUCTION

“Smart technology” is the familiar terminology that is widely being used in every being’s life. Smartphones, tablets, gadgets, smart televisions, etc., are the products of smart technology that have made human life smarter, easier and accessible. Smart technology has not only enhanced the way of living but also became an integrated part of everyone’s life.
The Information and Communication technology to be precise has become a driving force behind economic growth and a developmental tool as well.

ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. Earlier, one had to wait for the newspapers to get the information across the world. Now with the smarter technology, information can be accessed from anywhere using smartphones and gadgets. All this is made possible with the help of Information and Communication Technology. Information technology has been influencing our lives in the recent years in the fields of education, healthcare, and business. Going an extra mile, Information and communication technology in schools has had a major impact.

Technology is application of scientific knowledge for practical purposes in our day to day life. It is a science of techniques and methods of doing things related to any art, science or to a particular profession. When we apply the science of learning and communication to teaching we evolve technology. The term ICT stands for Information Communication Technology. ICT refers to the creation, gathering, processing, storage, presentation and determination of information and also the process and devices that enable all this to be done. It plays a pivotal role in the field of education. It has brought new possibilities into the classroom teaching-learning. The ICT is associated with the transmission process by which information and ideas are exchanged.

The National Policy of Education (1986) has laid much emphasis on the use educational technology for quantitative and qualitative improvement of education. ICT is an effective tool for assimilating processing and disseminating information. During the past decade there has been a very rapid development of Information and Communication Technology (ICT) activities as envisaged in "India 2020: A Vision for the New Millennium" Kalam (1998). The document provides a vision and direction for laying down ICT strategies in which the role of higher educational institutions is very crucial. It highlights learning capabilities, the spirit of entrepreneurship and competitiveness arid advocates the development of human resource that becomes the foundation of the technological advancement of the country.

The Government of India has taken ICT initiatives in a big way and has laid down a National ICT policy, which is reflected and implemented through various Government Departments and Ministries. It is being implemented through different activities of national agencies such as National Informatics Center (NI) and encouragements form University Grants commission (UGC), All India council of Technical Education (AICTE) and Department of Science & Technology (DST), National Council for Teacher Education (NCTE) throughout the country.
In view of the above initiatives at different levels, most of the universities and higher educational institutions have started focusing on the awareness and channelizing their human resource in the field of ICT. The ICT integration programmes have been taken up in almost all the universities and majority of the colleges of Assam. Now it becomes an integral part teacher education curriculum.

REVIEW OF RELATED LITERATURE

A review of related studies is very necessary for the investigator to get an insight into the work that has already been done in this field and also to get suggestion regarding the ways and means for the collection of relevant data and interpretation of results. Many research studies made on ICT and teacher education at international, national and state level. An attempt has been made to review the research works, articles published in different journals.

Sheela (2006) conducted a study on "Knowledge of Information and Communication Technology (ICT) and attitude towards teaching ICT among teacher educators". The major findings of the study were (i) Teacher educators possessing good and poor knowledge of ICT differ in their attitude towards teaching ICT; teacher educators with good knowledge of ICT have more favorable attitude towards teaching ICT (ii) Male and Female teacher educators do not differ significantly in their attitude towards teaching ICT (iii) Teacher educators from private aided and private unaided colleges differ significantly in their attitude towards teaching ICT: teacher educators from private unaided colleges were found to have more favorable attitude towards teaching ICT (iv) A significant difference was found in the attitude of high experienced and less experienced teacher educators towards teaching ICT: teacher educators with less experience had more favorable attitude towards teaching than teacher educators with more experience. (v) Teacher educators from rural and urban areas did not differ significantly in their attitude towards teaching of ICT.

Kamalnayan (2008) studied on "Implications of Information Technology for teacher education and research". The study found that bulk of the faculty currently engaged in teacher preparation is neither prepared to use technologies not has it updated its knowledge on technological developments. Universities and teacher education institutions would require a significant commitment to provide training for faculty staff, and to provide resources. Unless substantial effort is made on the part of universities, teacher educators and trainees alike will be deprived of the joy of using ICT.

Nachimuthu (2010) conducted a study on Usability of e-learning resources in teacher education of India. Results of the study revealed that all the institutions are having at least five computer peripherals with 70 percent Air conditioned facilities in their ICT laboratories.
Majority of B. Ed college lecturers and their colloquies are already taking actions regarding some the accepted ways of use of computers in their regular classrooms (32.0), however, they are not prepared to sacrifice their personal comfort for using e-books (in total 45%), they have strong reasons for that the college of Education lecturers were using the physical books handling (86.2) rather that the e-books re also evidenced that, they were either not having enough time to use e-books or entry in the computer labs.

Neeta Sahu (2013) conducted research on "A study of the use of educational technology by the teachers of professional courses in terms of stages of concern and contributive factors.” The main objectives of the study were to find out the differences in the use of technology between male and female teachers, more & less experienced and trained & untrained teachers of professional course. The major findings of the study were i) there exist no significant difference in the use of technology between male and female teachers. ii) It is found that teachers who have got training in any type of technical course are using technology more in comparison to untrained teachers. iii) It is also found that the teachers who are getting professional development opportunities are better in technology use in comparison to those who are not getting opportunities.

Saini, Sunanda (2015) conducted research on "An exploratory study on use of ICT by teachers in relation to their morale attitude towards ICT and technology competence." The main objectives of the study were- i) to study differences between male and female teachers in terms of ICT use. ii) to study the attitude of teachers towards ICT use. iii) to study the relation between use of ICT by teachers and their attitude. The major findings- i) There is a significant positive relationship between the extent of ICT use by teachers and their attitude towards ICT. ii) It is found that the male arid female both teachers having positive attitude towards the use of ICT. iii ) It is indicated that there exists no significant difference between male and female teachers in terms of ICT use.

Trivedi, M.C (2015), conducted a study on “A study of ICT awareness, Need and use among Secondary and Higher Secondary school teachers of Saurashtra region of Gujrat." The main objectives were- i) to study the ICT awareness of Secondary and Higher Secondary school teacher. ii) To study the CT use of secondary and higher secondary school teachers. The main findings of the study- i) there is a low degree of ICT awareness of secondary & higher secondary English medium school teachers. ii) It was found that 44.65% of secondary and higher school teachers were not using ICT due to the lack of ICT skill. iii) Private school teachers were more aware about ICT in comparison to teachers working in private aided
The variable gender and trained and untrained was found not related significantly with the ICT awareness, use and need of secondary and higher secondary teachers. Priyadarshini, P & Gomath, D. (2016) conducted a study on “Internet awareness among Prospective teachers in Dindigul District, Tamil Nadu”. The objectives of the study were to analyse the awareness on internet usage among B. Ed Students with respect to their gender, age and parental educational qualification. The major findings are- i) the female students have more level of awareness internet usage than the male students. ii) Above 25 years age group of B. Ed Students is having more level of awareness on Internet usages iii) Level of awareness on internet usage among B. Ed students does not differ with respect to their parental educational qualifications.

Nahiin Thakur in an article, A Study on Awareness of Trained Teachers in relation to Information and Communication Technology in West Bengal. The objectives of the study- i) To study the level of ICT awareness among trained teachers. ii) To compare the level of ICT awareness among male and female trained teachers. iii) To compare the level of awareness among rural and urban trained teachers. The findings of the study were - i) It was found that majority of the teachers have poor level of awareness. 6% of the trained teachers have very good level of awareness, 34% have average level of awareness and 54% having poor level of awareness. iii) It was found that there is no significance difference in level of ICT awareness among male and female. ii) The urban trained teachers are more aware about ICT than rural teachers.

NEED AND SIGNIFICANCE OF THE STUDY
Review of literature suggested that was lot research conducted on ICT and its awareness, usage at different levels of education from primary to university. ICT is of great significance for development education system of a country. Teacher education is an important aspects or area of education upon which entire development of educational system is depended. The quality of education depends on the quality of teachers and their effectiveness of teaching. Teacher effectiveness can be improved by the use of technology in their teaching. The quality teacher can only be produced by teacher training college. So it required to study the condition teacher training colleges in matters of awareness and usages of ICT in classroom transaction. The use of ICT in teacher education can increase the efficiency of teacher in the teaching-learning process. It provides access to variety of learning resources. It also provides authentic and up to date information. Information technology also improves the standard of classroom teaching such as use projectors, power point presentation and audio-visual aids. It is a necessity for every teacher educator to know about the ICT. Teachers must be knowledgeable
in the content, standards and teaching methodologies. Teachers must learn to use technology to support ICT in enhancement of teacher education. The teachers who work in teacher education institutions must be skilled in the use of technology for teaching. They must be able to apply technology in the presentation and administration of their course work and facilitate the appropriate use of technology in their teaching process. So, it is very essential to study about the usage of ICT in teacher training colleges.

In the field teacher education so far data is available no more research work has been done. The scenario of teacher training is not up to the mark as compared with general or other collegiate education. As commented by experts and educationists that the state government has not given more importance on teacher education. Most of teacher training colleges of Assam are private college and no proper provision of using technology in teaching. Being a teacher educator it is observed that many teachers working in B Ed colleges not use ICT properly in teaching. Though most of the colleges have the facilities but ICT is not used in transacting curriculum. Hence, there is need of undertaking a study on the use of technology by teachers working in the Teacher training colleges of Assam.

**OBJECTIVES OF THE STUDY**

1. To study the ICT use among teachers working in B.Ed. Colleges under Burdwan University, West Bengal.
2. To find out the differences in the use of technology between teachers of govt. and non-govt. training colleges.
3. To find out the differences in the use of technology between male and female teachers.

**HYPOTHESES**

**Ho**<sub>1</sub>. There is no significant difference in the use of technology between teachers of Govt. and Non-Govt. training colleges.

**Ho**<sub>2</sub>. There is no significant difference in the use of technology male and female teachers.

**METHODOLOGY**

In the proposed study the descriptive survey method has been used.

**Population**

To collect the primary data number college was selected from the population of study. The population of the study was 36 institutes or B. Ed. colleges under Burdwan University. The 36 institutes include 34 B.Ed. Colleges, 2 DIETs and Out of these 34 colleges there are 5 Government college and 29 private colleges.
Sample
The sample of the study is 20 colleges and from these colleges number of teacher have been selected by simple random sampling.

Tools & Techniques
Researcher made tool has been used for the present study.

Development of Questionnaire
The researcher developed a questionnaire relating to the objectives of the study. As a first step towards the construction of 'Use towards Information & Communication Technology Scale' for teachers of B.Ed. Colleges, the researcher constructed and validated a scale by using Likert Scale. The scale designed to elicit information from respondents towards the use of ICT by them. The items of the scale were categorized in five dimensions- (a) Use of ICT in Classroom Instruction. (b) Use of ICT for personal development, (c) Use of ICT Professional development, (d) Use of ICT for administrative purpose, (e) Impact of ICT. The scale was administered on a sample of 20 teachers working at different B.Ed. Colleges under Burdwan University. The sample was selected by applying random sampling method. On the basis of the administration validity and reliability was established. The items for which there is 100% agreement amongst the expert regarding relevance of the content are included in the scale. Reliability for this study was calculated by using test retest method. The co-efficient of correlation is finding out by using Spearman's co-efficient correlation method and it was 0.96.

DATA ANALYSIS AND INTERPRETATION
The collected data were analyzed in terms of central tendency, Standard deviation and standard error of mean which are presented in following table:

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SEm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11</td>
<td>172.45</td>
<td>4.25</td>
<td>1.28</td>
</tr>
<tr>
<td>Female</td>
<td>09</td>
<td>168.78</td>
<td>10.91</td>
<td>3.64</td>
</tr>
</tbody>
</table>

From the table it shows that overall use ICT were found 172.45 and 168.78 respectively among male and female with SD of 4.25 and 10.91. The standard error of mean was found 1.28 and 3.64 respectively.
Table 2: Mean, SD and SEM of ICT use in different dimensions among male

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Interaction</td>
<td>11</td>
<td>43.91</td>
<td>1.56</td>
<td>.47</td>
</tr>
<tr>
<td>Personal Development</td>
<td>11</td>
<td>32.73</td>
<td>1.19</td>
<td>.36</td>
</tr>
<tr>
<td>Professional Development</td>
<td>11</td>
<td>35.91</td>
<td>1.16</td>
<td>.35</td>
</tr>
<tr>
<td>Use in administrative Purpose</td>
<td>11</td>
<td>37.18</td>
<td>1.84</td>
<td>.55</td>
</tr>
<tr>
<td>Impact of ICT</td>
<td>11</td>
<td>22.73</td>
<td>.95</td>
<td>.59</td>
</tr>
</tbody>
</table>

Table 3: Mean, SD and SEM of ICT use in different dimensions among female

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Number</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Interaction</td>
<td>09</td>
<td>41.89</td>
<td>2.73</td>
<td>.91</td>
</tr>
<tr>
<td>Personal Development</td>
<td>09</td>
<td>31.56</td>
<td>3.21</td>
<td>1.07</td>
</tr>
<tr>
<td>Professional Development</td>
<td>09</td>
<td>36.78</td>
<td>3.06</td>
<td>1.02</td>
</tr>
<tr>
<td>Use in administration</td>
<td>09</td>
<td>35.11</td>
<td>2.69</td>
<td>.90</td>
</tr>
<tr>
<td>Impact of ICT</td>
<td>09</td>
<td>23.44</td>
<td>.78</td>
<td>.26</td>
</tr>
</tbody>
</table>

FINDINGS OF THE STUDY

The findings of the study are-

1. It was found that the usage of ICT among teachers working in B. Ed colleges under Burdwan university of West Bengal was high.
2. It was found that 20% extremely user, 65% highly user and 15% average user of ICT in B. Ed Colleges.
3. It was found that 86% used ICT in classroom and the percentage of using ICT among male and female teachers was 87.82 and 83.78 respectively in classroom.
4. The study found that 80.5% of teachers used ICT for their personal development. The percentage of male and female was 81.82 and 78.90 respectively.
5. The study found that 80.66% of teacher used ICT for their professional development. The percentage of male and female 79.8% and 81.73 respectively.
6. The study found that 90.62% ICT use was for the administrative purpose by the teacher in B.Ed. Colleges. The male and female percentage was 92.95 and 87.77 respectively.

7. It was found that 92.20% of the teachers viewed that ICT has positive impact in the field of education.

8. The study found that there were low level differences in the use ICT among male and female teachers and the percentage was 86 and 84.39 respectively.

9. The study found that there exist no differences in the use of ICT among teachers working in Government and Non-Government B.Ed. colleges under Burdwan University.

10. The study found that Non-Govt. B.Ed. colleges have more ICT facility than Government College of West Bengal.

**CONCLUSIONS**

Findings of the study reveal that teachers working in B.Ed. colleges have usage ICT in teaching learning process such as in classroom teaching, research purpose, evaluation of students, communicating with trainees and also for their professional development. Information Communication Technology (ICT) has revolutionized the education process and ICT is used in preparing lesson, assignment, and power point presentation by using projector, use pen drive & other devices for storage purpose, collection of latest information for upgrading their knowledge. It helps teachers subscribe e-book, journal and share information to student easily by using social media as WhatsApp group and uploading in You Tube. The B. Ed. syllabus of Burdwan University provides scope to the teachers for using ICT in teaching learning process. It was found that in Government B.Ed. College though teachers use ICT by themselves but colleges have less facilities of ICT in comparison to Non-Govt. B.Ed. Colleges. The use of ICT by the teachers has improved the standard of education of B. Ed colleges of Burdwan University.

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