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### **Availability and Utilization of Ict Facilities for Teaching and Learning in Higher Secondary Schools of West Bengal.**

**Faiyaz Ahammad**

Master of Education Aligarh Muslim University Aligarh-202002, Uttar Pradesh, India

Email id- [faiyaz9013@gmail.com](mailto:faiyaz9013@gmail.com)

#### **ABSTRACT**

This study investigated the availability and utilization, the benefits and challenges of ICT facilities for Teaching and Learning in Higher Secondary Schools of West Bengal. A descriptive survey design was used for the study. The study revealed that ICT facilities were lacking in Higher Secondary Schools of West Bengal. Teachers and Students acquaintance to ICT facilities was low. The study revealed that some of the benefits of using ICT in Higher Secondary Schools include making teaching and learning interesting; helping the teacher to be up to date in enhancing the quality of work of both teachers and students. Despite these benefits, the study revealed some of the challenges facing ICT as lack of computer literate teachers, lack of ICT laboratories, insufficient number computers, lack of adequate funds and Irregular power supply. It was, therefore, recommended that government should increase the funding of education sector to cater for ICT programme in Higher Secondary Schools of West Bengal and there should be periodic training for teachers on ICT computer skills acquisition.

**KEYWORDS:** Availability and Utilization, Information and Communication Technology (ICT), Teaching and Learning, Higher Secondary Schools.

#### **\*Corresponding author**

**Faiyaz Ahammad\***

Master of Education

Aligarh Muslim University Aligarh-202002,

Uttar Pradesh, India

Email id- [faiyaz9013@gmail.com](mailto:faiyaz9013@gmail.com)

## **INTRODUCTION:**

Information and Communication Technologies (ICT) have become key tools and had a revolutionary impact on how we see the world and how we live. Today, the place of ICTs in education and the world, in general, cannot be undermined. Modern day education is conducted and facilitated through the use of telephones, fax machines and computer communication networks through the internet. The phenomenon has given birth to the contemporary e-learning, online learning, computer-assisted learning, blunder learning, collaborative learning, e-government, e-banking and e-education among others. According to UNESCO (2002) “ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters”.

According to Bamidele (2006), ICT is a revolution that involves the use of computers, internet and other telecommunication technology in every aspect of human endeavour. Ozoji in Jimoh (2007) defined ICT as the handling and processing of information (text, images, graphs, instruction, etc) for use, by means of electronic and communication devices such as computers, cameras, telephone. Similarly, Ofodu (2007) also define ICT as electronic or computerized devices, assisted by human and interactive materials that can be used for a wide range of teaching and learning as well as for personal use. From these definitions, ICT could be defined as processing and sharing of information using all kinds of technologies for the manipulation and communication of information.

Looking at the role of education in the national building and the population explosion in higher secondary schools these days, the use of ICT in the teaching and learning process becomes imperative. This is because its adoption by teachers will enhance effective teaching. Issues like good course organization, effective classroom management, self-study collaborative learning, and effective communication between the teaching-learning process and research activities will be enhanced by the use of ICT based technology. Teaching and learning have gone beyond the teacher standing in front of a group of pupils and disseminating information to them without the students' adequate participation (Ajayi, 2008).

The various ICT facilities used in the teaching and learning process in higher secondary schools which include; radio, television, computers, overhead projectors, optical fibres, fax machines, internet, electronic notice board, slides, digital multimedia, video/VCD machine and so on. It appears some of these facilities are not sufficiently provided for the teaching and learning process in higher secondary schools. This might account for why teachers are not making use of them in their teaching and learning process.

Technical education as a discipline requires adequate instructional facilities such as the ICT so as to make teaching and learning more effective. Use of ICT will also simplify abstract concepts through relevant examples by using internet facilities. It is evident that we live in a time of fast technological change which rationalised every aspect of our lives; be it social, physical and intellectual. These technological changes also affected the way we teach and learn. The need for ICT in higher secondary schools cannot be overemphasized in this technology-driven age, everyone requires ICT competence in order to gain and share information.

The capability to use computers effectively has become an essential part of everyone's education. Skills such as book keeping, clerical and administrative work, and science/technological disciplines now constitute a separate set of computerized practices that form the core IT skills package; spreadsheets, word processors, database, CorelDraw, etc. (Raffel and Whitworth) (2002). The demand for computer/ICT literacy is increasing because employees realize that computer can be a threat to their jobs, and the only way to enhance job security is to become computer literate with the high demand for computer literacy, the teaching and learning of these skills is a concern among professionals (Ochroye, n.d.). ICT application will prove beneficial in improving the educational system and giving students a better education.

A technologically advanced workforce will lead to ICT growth in the higher secondary schools of West Bengal, with the potential to improve educational performance, telecommunication, media communication and skilled ICT professionals who will be well-equipped to solve ICT problems in the state and the country at large. Various ICT tools are used in the teaching and learning process in higher secondary schools. For this investigation, as an example, Computer Aided Instruction (CAI) was used as an example of ICT tools used in teaching. Computer Aided Instruction (CAI) is a self-learning technique, usually offline/online, involving the integration of the student with programmed instructional materials. It's an interactive instruction technique where a computer is used to present the instructional material and monitor the learning that takes place. Opportunities provided by CAI in the classroom are in the area of drill and practice, tutorials, simulations, demonstrations, designing, data collection and retrieval, analysis of games, which are essential competencies for technical teachers.

**Need and Significance of the study:**

The scenario of the classroom is changing. There is a technological gap between the progress of the society and instructional activities of teachers and students in the classroom. If we see in our society on the one hand technology has revolutionized our society and on the other hand, the teaching-learning activities at school level have remained so far away from technology. In our

classroom, the knowledge is imparted by the teacher in an ancient way, a teacher-centric mode which is most of the time boring and not to gain interest to the student. But present 21st Century's education is student-centric education. Students learn from multi sources and for this reason use of ICT & Multimedia is very much essential in the educational field and simultaneously teacher's knowledge of ICT and Multimedia also required. So present study has great need and significance because this study shows Availability and utilization of ICT facilities for teaching and learning in Higher Secondary Schools of West Bengal.

**Research Questions:**

The study answered the following questions:

1. To what level are the ICT facilities available for teaching and learning in Higher Secondary Schools of West Bengal?
2. To what level are the teachers and students in Higher Secondary Schools of West Bengal use ICT facilities in the teaching-learning process??
3. What are the perceived benefits of ICT in teaching and learning in Higher Secondary Schools of West Bengal?
4. What are the challenges facing on the availability and utilization of ICT facilities in Higher Secondary Schools of West Bengal?

**Hypotheses:**

Ho-1: There is no significant difference in ICT facilities available for teaching and learning of technical education in Higher Secondary Schools of West Bengal?

Ho-2: There is no significant difference in the teachers and students in Higher Secondary Schools use ICT facilities in teaching-learning.

Ho-3: There is no significant difference in the perceived benefits of ICT in teaching and learning in Higher Secondary Schools of West Bengal.

Ho-4: There is no significant difference in the challenges facing on the availability and utilization of ICT facilities in Higher Secondary Schools of West Bengal.

**Research Design:** The descriptive Survey method was used to collect the data. For this purpose, data have been collected from 300 students, were selected randomly from Higher Secondary Schools of West Bengal.

**Research Tool:** The tool for data collection is a self-designed questionnaire named "Availability and Utilization of ICT Facilities for Teaching and Learning in Higher Secondary Schools"

**Statistical Techniques:** The data was analysed by the researcher using the statistical techniques i.e. Mean, Standard Deviation (SD).

## RESULT AND DISCUSSION

**Research question 1:** To what level are the ICT facilities available for teaching and learning in Higher Secondary Schools of West Bengal?

**Table 1: Mean response of technical teachers/students on the availability of ICT facilities in Higher Secondary Schools of West Bengal.**

SL.NO	Items statement	Means	Responded
1	There are enough computers to teach students.	2.41	Disagreed
2	Television sets are available for teaching students.	2.37	Disagreed
3	There are projectors for teaching students.	3.10	Agreed
4	The school is connected to the internet.	2.99	Agreed
5	The disc player is available for teaching students.	2.81	Agreed
6	There are film strips for teaching students.	2.34	Disagreed
7	CCTV is available for teaching students.	2.27	Disagreed
<b>Grand Mean</b>		<b>2.65</b>	

The table number 1<sup>st</sup> showed the response obtained from teachers/students on the availability of ICT facilities in Higher Secondary Schools of West Bengal. The respondents agreed that facilities like projectors, disc player and internet connectivity were made available. While facilities like computers, film strips, and CCTV are not adequately available because their mean response is less than 2.50 which is the cut-off point. Based on the calculated grand mean of 2.65 obtained, it showed that the respondents agreed that ICT facilities are to some extent available in higher secondary schools of West Bengal.

**Research question 2:** To what level are the teachers and students in Higher Secondary Schools of West Bengal use ICT facilities in the teaching-learning process?

**Table 1: Mean response of the teachers and students in Higher Secondary Schools of West Bengal use ICT facilities in the teaching-learning process.**

SL.NO	Items statement	Means	Respondents
1	There are functional ICT facilities owned by the school Cafe.	3.41	Agreed
2	Teachers are exposed to the use of ICT facilities in teaching students.	2.37	Disagreed
3	Teachers use computer to teach technical education to students.	3.10	Agreed
4	Students are given opportunities to use ICT facilities in the class/laboratories.	2.81	Agreed
5	Training is organized for teachers on the use of ICT facilities.	2.99	Agreed
6	Training is organized for the student on the use of ICT facilities.	2.27	Disagreed
<b>Grand Mean</b>		<b>2.82</b>	

The table number 2<sup>nd</sup> showed that the mean response obtained from teacher/students on acquaintance to ICT facilities in Higher Secondary Schools of West Bengal. The respondents agreed

with item number 1, 3,4,5 because the mean response above the cut-off point i.e. 2.50 which signifies that there are functional ICT facilities, but disagreed with item 2 and 6 because the mean responses are less than 2.5. The grand mean signifies that teachers/students were an acquaintance to ICT facilities.

**Research question 3:** What are the perceived benefits of ICT in teaching and learning in Higher Secondary Schools of West Bengal?

**Table 3: Mean response of students/teachers on the benefits of ICT facilities in teaching and learning in Higher Secondary Schools of West Bengal.**

SL.NO	Items statement	Means	Respondents
1	ICT helps in making teaching-learning more effective.	3.57	Agreed
2	ICT enhances the quality of work of both teacher/students.	3.37	Agreed
3	ICT makes teachers be up to date in their various disciplines.	3.63	Agreed
4	ICT enhances the efficiency of workers.	3.81	Agreed
5	ICT helps teachers to share information with colleagues in other parts of the country.	3.99	Agreed
6	ICT helps the student to share information with colleagues in other parts of the country.	3.27	Agreed
<b>Grand Mean</b>		<b>3.61</b>	

The table number 3<sup>rd</sup> showed the mean responses of students/teachers on the perceived benefits of ICT facilities in teaching and learning in Higher Secondary Schools of West Bengal. The respondents agreed with all the items because none of the mean response is below the cut-off point of 2.50 and the grand mean is 3.61.

**Research question 4:** What are the challenges facing ICT facilities in Higher Secondary Schools of West Bengal?

**Table 4: Mean response of students/teachers on the challenges facing on availability and utilization of ICT facilities in Higher Secondary Schools of West Bengal.**

SL.NO	Items statement	Means	Respondents
1	There is a lack of computer literate teachers in the higher secondary schools.	4.27	Agreed
2	There is a lack of ICT laboratories in higher secondary schools.	4.31	Agreed
3	The cost of purchasing computers is high for higher secondary schools.	5.13	Agreed
4	There is an insufficient number of computers in the computer lab.	3.52	Agreed
5	Lack of adequate funds for higher secondary schools on the implementation of ICT families.	4.71	Agreed
6	Irregular power supply hinders the use of ICT facilities were they available.	4.39	Agreed
<b>Grand Mean</b>		<b>4.39</b>	

The table number 4<sup>th</sup> showed the mean response of students/teachers on the challenges facing on availability and utilization of ICT facilities in Higher Secondary Schools of West Bengal. The respondents agreed with the items 1-6 of above table because the mean responses of each item is

great than the cut-off point of 2.50, which showed the grand mean of 4.39 to indicates that the respondents agreed with the listed items as the major challenges facing on availability and utilization of ICT facilities for teaching and learning in Higher Secondary Schools of West Bengal.

### **Finding of the study**

Findings of the study are presented according to the purpose of the study and research questions. From the results obtained, respondents agreed that;

- (1) ICT facilities such as a computer, television sets, CCTV, etc. are not adequately available in Higher Secondary Schools of West Bengal.
- (2) Teachers and students level of acquaintance to the use of ICT in Higher Secondary Schools of West Bengal is inadequate.
- (3) The perceived benefits of using ICT in Higher Secondary Schools of West Bengal include making teaching and learning more effective, enhancing the quality of work of both teacher and students; help teachers to be up-to-date, etc.
- (4) Lack of computer literate teachers, lack of ICT laboratories, insufficient number computers, lack of adequate funds and Irregular power supply are the challenges facing the application of ICT in Higher Secondary Schools of West Bengal.

### **CONCLUSION:**

It is clear that the Higher secondary schools of West Bengal have facing challenges due to lack of computer literate teachers, lack of ICT laboratories, insufficient number computers, lack of adequate funds and Irregular power supply. If the educational sector of higher secondary education throughout the West Bengal is to maintain maximum standards, it should be provided with adequate funds, infrastructural facilities in term of modern classrooms equipped with an electronic computer system which are connected to the internet and highly qualified personnel that can effectively, utilize these resources. Finally, our Higher Secondary School students should be given the best in education with modern facilities which will, in turn, draw out the best in every student and ensure the utility of these students to the development of West Bengal, and the country at large.

### ***Recommendation***

Based on the investigations carried out on topic, the following recommendations are made:

- 1) ICT apparatus and facilities should be made available to all Higher Secondary Schools of West Bengal.
- 2) The government should encourage and put in place policies to invest in ICT related projects in Higher Secondary Schools of West Bengal.

- 3) ICT system and facilities like laboratory should be provided in Higher Secondary Schools of West Bengal.

## **REFERENCES:**

1. Agarwal, J. P.: Modern Educational Technology. Black Prints, Delhi 2013
2. Aggarwal, J. C., Essential of Educational Technology, Vikas Publishing House, New Delhi 1996
3. Babajide, V.F.T. and Bolaji, O.A.. Perception of lectures and service teachers towards the use of communication media in teaching pure and applied science related discipline 44th Annual STAN conference proceedings 2003; 33-36.
4. Bamidele, S.O. Development of modern ICT and internet system. In Agagu A.A. (ed). Information and communication technology and computer applications. Abuja; palm of press 2006; 1-3.
5. Bharadwaj, A. P.. "Assuring Quality in Teacher Education", University News, 2005; 43(18).
6. Chauhan, S. S. (1992). Innovations in Teaching and Learning process. New Delhi: Vikas Publication House Pvt. Ltd.
7. Dash, K. M. ICT in Teacher Development, Neelkamal Publication Pvt. Ltd. Educational Publishers, New Delhi. 2009
8. Dahiya, S. S. ICT-Enabled Teacher Educator, University News, 2005;43: 109-114 May 2-8.
9. Goel, D. R., ICT in Education, Changes and Challenges in ICT in Education. M. S. University, Baroda. 2003
10. ICT in Education. Information and communication technologies in teacher education: A planning guide. 2006
11. Kirwadkar, A & karanam, P.: E-learning Methodology. Sarup Book Publishers Pvt Ltd. New Delhi. 2010
12. NCTE. ICT initiatives of the NCTE Discussion Document. New Delhi: National Council For Teacher Education. 2002
13. Venkataiah, N. "Educational Technology" Atul Publishers, Darya ganj, New Delhi. 1995
14. Sarkar, S. *The Role of Information and Communication Technology (ICT) in Higher Education for the 21st Century*. The Science Probe, 2012;1(1): 30-40.
15. Vanaja, M. & Rajasekhar, S. , Educational Technology and Computer Education, Neelkamal Publications Pvt. Ltd., Hyderabad. 2009



16. UNESCO Information and Communication Technologies in Teacher Education, a Planning Guide. Paris: UNESCO 2002