



PROBLEMS ASSOCIATED WITH USE OF ICT BY TEACHER EDUCATORS : A STUDY

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ABSTRACT

The present investigation aims at studying the problems associated with use of ICT by teacher educators in secondary teacher education institutions of Jharkhand. The sample of the study consisted of 125 teacher educators selected from 25 secondary teacher education institutions of 5 universities of Jharkhand. Almost all teacher educators (100 per cent) stated that ICT component such as, concept of ICT, audio materials, video materials and Audio-visual materials were existing in ICT paper in bachelor of education course. About 89 per cent of teacher educators stated that the barriers in the use of ICT were relating to insufficient number of computers. Non - availability of facility of internet and inadequate number of interactive whiteboards etc. in the institutions.

KEYWORDS: ICT, secondary teacher Education Institutions.

INTRODUCTION :

ICT in education now a day plays an important role in content organization and distribution. It also enables the learners to learn about various disciplines through number of ways. The introduction of MOOC's (Massive Open Online Courses) is a recent advancement of ICT in developed and developing countries. There are number of courses which can be accessed by learners through any multimedia or smart devices anytime regardless of their locality and time.

Technology being an essential component in information dissemination is still facing numerous obstacles in its complete inclusion. After the change in teacher education regulation in 2014, the National Council for Teacher Education (NCTE) made provisions for integration of ICT in teacher education curriculum. The state of Jharkhand has 125 secondary teacher education institutions which are recognized by NCTE. This exploratory study is an attempt to study the problems associated with the use of ICT by teacher educators in secondary teacher education institutions of Jharkhand.

A number of studies have been conducted in India and abroad on the use of ICT in teacher education. The findings of few studies are as follows. An in-depth analysis of the literature on the variables affecting the effective assimilation of technology in classroom settings was undertaken by Bingimlas (2009). The study revealed that the obstacles affecting at- Teacher-level were lack of self-reliance, lack of self-competence, insufficient time, absence of effective orientation of teachers etc.

The study on teacher trainers of primary and secondary education on use of ICT in Turkey was conducted by Goktas, Yildirim, and Yildirim (2009). The study revealed that the head of department and teacher trainers were not able to use ICT due to the lack of training, unavailability of proper software and materials and shortage of hardware. The investigation conducted by Onasanya et al. (2011) on ICT literacy and usage among teachers in Oyo State, Nigeria revealed that the low ICT literacy among the

teachers was due to lack of equipment, lack of financial aid, unfavourable climate, irregular power supply and teachers incompetency.

Tedla (2012) in his study on use of ICT by research scholars of East African Countries (Eritrea, Ethiopia, Tanzania, Kenya, Uganda, and Somalia) found varieties of barriers such as lack of administrative support, deficit infrastructural set up, absence of financial aid, incompetent faculties, lack of proper strategies, low level of technological information, pessimistic views, improper power supply, no proper network connectivity, lack of support from stakeholders, lack of proper transport system, lack of community participation, lack of trained supervisors and lack of teaching expertise in the implementation of ICT in classroom.

A study on the degree of ICT diffusion in teacher education institutions of Israel was conducted by Avidov-Ungar and Iluz (2014). The survey revealed three stages of integration of ICT i.e. basic, focused, and creative in the teacher education institutions. The study by Chhatwal and Mahajan (2014) on libraries of Panjab University, Chandigarh; Punjabi University, Patiala; and Guru Nanak Dev University, Amritsar showed non-availability of computer hardware, antivirus software, digital library software, research data analysis software etc, in some of the participating universities library.

To explore the extent of ICT presence and usage prescribed in the curriculum of teacher education in B.Ed. colleges affiliated to Guru Gobind Singh Indraprastha University, Delhi, Gupta and Singh (2014) reported less number of computers with internet connectivity. It was also found that online interaction was nil like online courses, and online communication was used for communication purposes.

In studying the accessibility of ICT and its use in teacher education institutions of Kenya universities, Langat (2014) found that there was an acute shortage of all the basic amenities required for proper inclusion and utilization of ICT.

Apagu and Wakili (2015) conducted a study on availability and utilization of ICT in Yobe State Technical Colleges. The study revealed that lack of hardware facilities, less exposure to various ICT equipment for teaching-learning experience and irregular power supply were the hurdles in the implementation of ICT in the classroom.

Nwana, Ofoegbu and Egbe (2017) in their investigation on accessibility and utility of educational technology resources for the classroom instruction at the secondary level in Anambra State, Nigeria found that majority of the technical resources needed were not available.

Peart et al. (2017) conducted a study on learners cognizance and utilization of technology by first year students of Northumbria University. It was found that animated lecture and multiple choice competition were highly rated among the students.

The study conducted by Payal and Kanvaria (2018) in government schools of New Delhi on the obstacles in the course of technology-based learning revealed that there were less number of PC's, lack of connectivity, the need of upgrading the technological tools, lack of proper expertise, no technical support and lack of content in the native language and negative perceptions of parents.

The studies cited above revealed that though a number of studies have been conducted on various aspects of ICT in teacher education, hardly any study has been conducted on problems associated with the use of ICT in Secondary Teacher Education Institutions of Jharkhand. Hence, the study was undertaken.

OBJECTIVES OF THE STUDY

The objective of the study were:

1. To study the background information of teacher educators providing instruction in ICT in secondary teacher education institutions of Jharkhand.
2. To study the component of ICT existing in ICT paper of bachelor of education Course.
3. To study the problems associated with the use of ICT by teacher educators.

RESEARCH QUESTIONS

On the basis of the objectives, the following research questions have been framed.

1. What is the background information of teacher educators providing instruction in ICT in secondary teacher education institutions of Jharkhand ?
2. What are the ICT component existing in ICT Paper in bachelor of education Course?
3. What are the various problems associated with the use of ICT by teacher educators?

Method

The study was carried out through descriptive survey Method of research.

Sample

The sample of the study consisted of 125 teacher educators providing instruction in 25 secondary teacher education institutions affiliated to 5 universities of Jharkhand such as Ranchi university, Ranchi; Vinoba Bhawe University, Hazaribagh; Sido Kanhu Murmu university, Dumka; Kolhan University, Chaibasa; and Nilamber Pitamber university, Medininagar. The sample was selected through the method of purposive sampling.

Tools

The following tool was developed and used by the investigators for collection of data.

1. Questionnaire for Teacher Educators

Analysis and Interpretation of Data

Data collected were analysed as per the objectives of the study. The analysis and interpretation of data are presented in Table 1, 2 and 3.

Background Information of Teachers Educators

The background information of teacher educators providing instruction in ICT in Secondary Teacher Education Institutions of Jharkhand is presented in Table 1.

Table 1
Background Information of Teacher Educators Providing Instructions in ICT

Sex	Age	Academic Qualification	Nature of Post	Teaching Experience (in years)	Salary (gross) per month (in rupees)
Male N=59 (47)	41-50 years N= 23 (16)	M.A / M.Sc. N=29 (23)	Permanent N=106 (85)	16-20 years N= 1 (1)	Rs. 40000- and above N= 7 (6)
Female N=66 (53)	31-40 years N= 57 (76)	M.A / M.Sc. with M.Ed. N=96 (77)	Contractual N=19 (15)	11-15 years N=13 (10)	Rs. 30000-40000 N=11 (9)
	21-30 years N=45 (8)			6-10 years N= 24 (19)	Rs. 20000 to 30000 N=38 (30)
				1-5 years N= 87 (70)	Below - Rs. 20000 N=69 (55)

N= number of cases figures in parentheses indicate percentages

Table 1 contains information relating to the background information of teacher educators providing instructions in ICT in B.Ed. Course. Out of 125 teacher educators, 53 per cent were female. The age wise distribution of teacher educators revealed that 8 per cent were in the age group of 21-30 years, 76 per cent were between 31-40 years age group and 16 per cent were in the age group of 41-50 years. Out of 125 teacher educators, 77 per cent were having Masters Degree with M.Ed. whereas 23 per cent of teacher educators had only Masters degree. It is worthy to mention that 85 per cent of teacher educators were having permanent job where as 15 per cent were appointed on contractual basis. Regarding teaching experience of teacher educators, it was found that 70 per cent had 1-5 years of teaching experience, whereas 19 per cent had 6-10 years and 10 per cent had 11-15 years of teaching experience.

It may be concluded from the results that majority of the teacher educators were female. Majority of teacher educators belonged to age group of 31-40 years. Furthermore majority of the teacher educators had Masters degree with M.Ed. and were having permanent jobs. Majority of the teacher educators had 1 to 5 years of teaching experience. The study conducted by Tella (2011) on availability and use of ICT revealed that there was no significant difference between male and female teachers in their experience of using ICT.

Components of ICT in ICT Paper in bachelor of education Course

The components of ICT in ICT paper in Bachelor of education Course of Secondary Teacher Education Institutions of Jharkhand is presented in Table 2.

Table 2
Components of ICT in ICT Paper in bachelor of education Course

S. No.	Components of ICT	F	%
1.	Concept of ICT	125	100
2.	Audio materials	125	100
3.	Video materials	125	100
4.	Audio-visual materials	125	100
5.	E-mail	75	60
6.	Internet	92	74
7.	Tele conferencing	79	63
8.	Interactive broadcasting	86	69
9.	Mobile services	71	57
10.	Uses of computers in teaching learning	76	61
11.	Computer in evaluation	60	48

Table 2 revealed that almost all teacher educators (100 per cent) stated that concept of ICT, audio materials, video material and Audio-visual materials were integrated in ICT paper in B.Ed. course. Furthermore, more than 59 per cent of teacher educators stated that e-mail, Internet, tele-conferencing, interactive broadcasting and uses of computers in teaching learning process were present in ICT paper in the Bachelor of education Course. It is worthy to mention that more than 47 per cent of teacher educators stated that mobile services and computer in evaluation was present in ICT paper in B.Ed. curriculum of Jharkhand.

It may be concluded that almost all the secondary teacher education institutions had a paper called ICT in bachelor of education Course. The study by gupta and singh (2014) revealed that the components of ICT were present as compulsory paper, but being taught at preliminary level in the teacher-training curriculum of B.Ed. course in Guru Gobind Singh Indraprastha University, Delhi. Tedla (2012) in his study on research scholars of East African Countries found that ICT was not integrated in the curriculum.

Problems in the Use of ICT

The various problems in the use of ICT by teacher educators providing instruction in Secondary Teacher Education Institutions of Jharkhand is presented in Table 3.

Table 3
Problems in the Use of ICT by the Teacher Educators

S.No	Problems	f	%
1.	Insufficient number of computers	125	100
2.	Inadequate internet facilities	115	92
3.	Insufficient Internet bandwidth or speed	101	81
4.	Insufficient number of interactive whiteboards	112	90
5.	Insufficient number of laptops	95	76
6.	Lack of adequate skills for using ICT	90	72
7.	Difficulty to integrate ICT in the curriculum	98	78

Table 3 revealed that 89 per cent of teacher educators stated that the barriers in the use of ICT were related to insufficient number of computers, inadequate internet facilities and Insufficient number of interactive whiteboards. It is worthy to mention that more than 71 per cent of teacher educators stated that insufficient number of laptops, insufficient Internet bandwidth or speed, lack of adequate skills for using ICT and difficulty to integrate ICT in curriculum were the hurdles in the use of ICT in secondary teacher education institutions of Jharkhand.

It may be concluded that almost all the teacher educators faced problems in using ICT in teaching learning. The study conducted by Goktas, Yildirim, & Yildirim (2009) revealed that teacher trainers were not able to use ICT due to the lack of ICT training, unavailability of proper software and materials, and shortage of hardware. Apagu and Wakili (2015) found that lack of hardware facilities, less exposure to various ICT equipment for teaching-learning experience and irregular power supply were the hurdles in the implementation of ICT in the classroom. Tedla (2012) in his study reported various barriers such as lack of administrative support, deficit infrastructural setup, absence of financial aid, incompetent faculties, lack of proper strategies, low level of technological information, pessimistic views, improper power supply, no proper network connectivity, lack of support from stakeholders, lack of proper transport system, lack of community participation, lack of trained supervisors and lack of teaching expertise in the implementation of ICT in classroom.

MAIN FINDINGS

1. Majority of the teacher educators (53 per cent) providing instruction in Bachelor of Education course were female. Furthermore majority of teacher educators (76 per cent) belonged to age group of 31-40 years. Further, majority of the teacher educators (77 per cent) had Masters Degree with M.Ed. qualification.
2. Majority of teacher educators (85 per cent) had permanent jobs.
3. Majority of teacher educators (70 per cent) had 1-5 years of teaching experience of teaching experience.
4. ICT paper was compulsory in B.Ed. course in almost all the secondary teacher education institutions.
5. Almost all teacher educators (100 per cent) stated that concept of ICT, audio materials, video material and Audio-visual materials were existing in ICT paper in B.Ed. course.
6. More than 59 per cent of teacher educators stated that e-mail, Internet, tele-conferencing, interactive broadcasting and uses of computers in teaching learning process were present in ICT paper in the Bachelor of education course.
7. More than 47 per cent of teacher educators stated that mobile services and computer in evaluation was present in ICT paper in B.Ed. course.

8. More than 89 per cent of teacher educators stated that the barriers in the use of ICT were related to insufficient number of computers, inadequate internet facilities, insufficient number of interactive whiteboards etc.
9. More than 71 per cent of teacher educators stated that insufficient number of laptops, insufficient Internet bandwidth or speed, lack of adequate skills for using ICT and difficulty to integrate ICT in curriculum were the hurdles in the use of ICT in secondary teacher education institutions.
10. Almost all the teacher educators (100 per cent) faced problems in using ICT in teaching learning process.

EDUCATIONAL IMPLICATIONS

On the basis of the findings of the study the following suggestions may be given for overcoming the problems associated with use of ICT by teacher educators in secondary teacher education institutions of Jharkhand.

1. There is need of in-service training programme to develop ICT skill among the teacher educators providing instruction in secondary teacher education institutions of Jharkhand.
2. There is need ICT laboratory in all the teacher education institutions. There is need of adequate internet connectivity in all the teacher education institutions.
3. It is suggested that along with the component of ICT existing in Bachelor of education (B.Ed.) course other components of ICT such as blended learning may be included in Bachelor of Education Course.
4. Steps may be taken by heads of all secondary teacher education institutions for availability of adequate internet facilities , adequate number of computers, sufficient internet bandwidth or speed, sufficient number of interactive white boards and sufficient number of laptops in teacher education institutions.
5. There is need of availability of trained teachers to support inclusion of ICT in B.Ed. course.
6. Arrangements for online access for teacher educators can help them in becoming aware towards ICT inclusion in their curriculum.
7. Teacher educators need to go beyond the normal teaching profile and gain insights from various sources to be aware and utilize ICT efficiently in their classroom transactions.
8. Incentives may be provided to all teacher educators and student teachers by institutional administration to increase the participation of them in ICT inclusion.

REFERENCES

- Apagu, V. V., & Wakili, B. A., (2015). Availability and Utilization of ICT Facilities for Teaching and Learning of Vocational and Technical Education in Yobe State Technical Colleges. *American Journal of Engineering Research (AJER)*, 4(2), 113–118.
- Avidov-Ungar, O., & Iluz, I. E. (2014). Levels of ICT integration among teacher educators in a teacher education academic college. *Interdisciplinary Journal of E-Learning and Learning Objects*, 10, 195-216. Retrieved from <http://www.ijello.org/Volume10/IJELLOv10p195-216Avidov0892.pdf>.
- Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: a review of the literature. *Eurasia Journal of Mathematics, Science & Technology Education*, 5(3), 235–245.
- Chhatwal, A & Mahajan, P. (2014). Availability of ICT Infrastructure Facilities to Access E-resources among the University Libraries of Punjab and Chandigarh - A Study. *Asian Journal of Multidisciplinary Studies*, 2(7), 0–4.
- Goktas, Y., Yildirim, S., & Yildirim, Z. (2009). Main Barriers and Possible Enablers of ICTs Integration into Pre-service Teacher Education Programs. *Educational Technology & Society*, 12 (1), 193–204.
- Gupta, D., & Singh, G. (2014). Usage of E-Learning Tools: A Gap in Existing Teacher Education Curricula in India. *Journal of Educational Technology*, 11(1), 30–40. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1098580&site=ehost-live>.

- Langat, A. (2014); A Survey of the Availability and Utilization of Current Information Technologies in the Training of Teachers Of English Language In Kenya's Universities. *European Journal of English Language and Literature Studies* Vol.2, No.1, pp.19-48, March 2014, (www.ea-journals.org).
- NCERT. (2005). *National curriculum framework*. New Delhi: NCERT.
- Nwana, S. E., Ofoegbu, T. O., & Egbe, C. I. (2017). Availability and Utilization of ICT Resources in Teaching Computer Education in Secondary Schools in Anambra State, Nigeria. *Mediterranean Journal of Social Sciences*, 8(5), 111–116. <https://doi.org/10.1515/mjss-2017-0029>.
- Onasanya, S.A., Shehu, R.A., Ogunlade, O.O. and Adefuye, A.L., (2011). Teacher's Awareness and Extent of Utilization of Information Communication Technologies for Effective Science and Health Education in Nigeria. *Singapore Journal of Scientific Research*, 1: 49-58.
- Payal and Kanvaria, V.K. (2018), Learning With ICT: Use & Barriers From Teachers' Perceptions. *Int J Recent Sci Res*.9(1), pp. 23545-23548. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0901.1489>.
- Peart, D. J., Rumbold, P. L. S., Keane, K. M., & Allin, L. (2017). Student use and perception of technology enhanced learning in a mass lecture knowledge-rich domain first year undergraduate module. *International Journal of Educational Technology in Higher Education*, 14:40, pp1–11. <https://doi.org/10.1186/s41239-017-0078-6>.
- Tedla, B. A. (2012). Understanding the Importance , Impacts and Barriers of ICT on Teaching and Learning in East African Countries. *International Journal for E-Learning Security (IJeLS)*, 2(December), 199–207.
- Tella, A. (2011). Availability and use of ICT in South-Western Nigeria colleges of education. *African Research Review*, 5(5), 315-331.



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