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Information and Communication Technology Usage among B.ed. Alumni of IGNOU, Institute of Advanced Studies in Education, Aizawl, Mizoram.

Diana Zorinsangi*
Ringngheti Khenglawt**
Hmingthansiami***
Lallianzuali Fanai****

Abstract

Since time immemorial, education has been an important instrument for social and economic transformation. India is experiencing a major transformation in terms of access, equity and quality. This transition is highly influenced by the swift developments in information and communication technologies (ICTs) all over the world. The introduction of ICTs in the educational system has profound implications for the whole education process especially in dealing with key issues of access, equity, management, efficiency, pedagogy and quality. Appropriateness of technology for educational purposes depends on two important principles: the economics of sustainability and adoption of innovative practices. Given this fact, the present study attempts to find out the usage of ICT among 200 in-service female teachers of B.Ed Alumni IGNOU, IASE in relation to their locality. The study reveals that the female teachers from urban areas are more personally equipped with using ICT in education than their rural counterparts in terms of hardware as well as skills. It is also evident from the study that a high percentage of female teachers from rural areas have a positive attitude towards usage of ICT in education although they are at a disadvantage in terms of facilities and supply. The study also shows that as much as the use of ICT is needed for every teacher for successful teaching learning, many of the teachers are still not aware of the importance and usage of ICT and thus, paid no heed to it. At the same time, teachers who are aware of the usage of ICT in the classroom do not get proper facilities in their schools due to reasons like unavailability of facilities, location, lack of training, etc.

Key words*- Usage, Information and Communication Technology, B.Ed. Alumni, IGNOU*

Introduction

Today, we are living in the 21st century of what we call 'digital world' where technology plays a dominant factor in the lives of every people. It would be surprising to see any people without one technology in their home whether they are from rural or urban areas. When it comes to education, we are in a certain phase of our lives where the use of Information and Communication Technology (ICT) plays a major role in imparting education to our students. An important advantage of using ICT is that it empowers the teachers, promotes high order thinking and reasoning skills, improves engagement and knowledge retention, removes children from boredom, gives them better comprehension, motivates them and gives them better attention inside the classroom. The education sector is facing many challenges nowadays. Covid-19 has brought changes in the whole world. Most of the people need to work from their home through online mode and especially the students and the educators are working hard so that learning continues. This pandemic has brought a new model of learning, which is online for people which shows that the use of ICT is a much needed tool for sustaining our educational system. Today, from the time we get up in the morning to the time we sleep, we are surrounded by media like newspapers, radio, TV, and computers. So, getting tech-savvy and using information and communication tools is very important in the changing society. If we use and adopt ICT in schools, our education system can prosper, and the country would become a knowledge superpower. However, this covid pandemic crisis has exposed the many inadequacies and inequities in our education systems – from access to the broadband and computers needed for online education especially in rural areas, and the supportive environments needed to focus on learning, up to the misalignment between resources and needs.

Objectives of the Study

The present study was carried out to find out the usage of ICT among teachers of B.Ed Alumni of IGNOU, IASE in relation to their locality.

Delimitation of the Study:

Due to limitation of time, the present study was delimited to in-service female teachers of B.Ed. Alumni of IGNOU, Institute of Advanced Studies in Education, Aizawl, Mizoram.

Methodology of the Study

The present study adopts descriptive survey technique method. All in-service teachers of B.Ed Alumni of IGNOU, IASE constituted the population. The sample consists of in-service female teachers of B.Ed Alumni of IGNOU, LSC 1913, IASE for the study. The sample includes 200 female in-service teachers. The subjects were further divided into in two (2) categories in terms of their locality viz., 100 teachers from Urban and 100 teachers from Rural areas. Primary data for the study were collected by administering self-made questionnaire to the respondents.

Literature Review

This chapter presents review of related literature and writing of recognized experts, both of which have significant bearing or relation to the problem under investigation. The review of related literature in this chapter provides a related study that has been conducted worldwide these are reflected below:-

Vockell and Schwartz (1992), in their study suggested that teaching using computer assisted instruction can increase achievement because it leads to automatic lower level skills through extended practice in the higher level and for a better understanding of the teaching skills.

Pelgrum and Plomp (1993) in their findings showed that in the past few years quite drastic changes had taken place in the number of schools equipped with computers and in the number of computers available in schools. Despite this fact, in most educational systems computers still were used by a limited number of teachers, and mainly for teaching students about computers; the integration of computers in existing subjects is increasing quite slowly. The major problems that were experienced in schools deal with teacher time, the lack of sufficient software of high quality, and the training of teachers.

Brummelhuis (1995) in his research findings showed that the conditions applied for the introduction of computer use as a separate subject were not sufficient to realize the integration of computer use in other subjects than 'computer education'. Additional activities were required to realize the use of computers as a medium supporting the learning activities of students

Lankshear & Snyder (2000) findings revealed that those teachers who used ICT in their teaching were: making the lessons more interesting, easier, more fun for them and their pupils, more diverse, more motivating for the pupils and more enjoyable. Teachers who used ICT in classrooms have demonstrate high levels of energy, hard work and perseverance, often in the "face of considerable odds".

Doornekamp (2002) in his study where several West-European countries were compared with each other on a number of indicators with regard to the state of affairs related to ICT was found that the state of affairs related to ICT was better in lower secondary education than in primary education.

Guo, Dobson and Petrina (2008) examined the intersection of age and ICT (information and communication technology) competency and critiques the "digital natives versus digital immigrants" argument proposed by Prensky (2001). Findings from their study showed that there was not a statistically significant difference with respect to ICT competence among different age groups for either pre-program or post-program surveys.

Kukulska–Hulme (2009), reported that although mobile devices enable in-context interaction and content delivery, the most innovative use of mobile devices is in book marking areas of interest and creating context annotations that can trigger and support follow-up learning.

Gulkhane (2011), in his study, "Integrating ICT in Teacher Education" found that, there was no difference between male and female teacher trainees regarding their attitude in ICT. After implementing

the ICT training module, significant changes were found among teacher trainees. A large number of trainees were found to use ICT and Internet for their seminars, assignments, and review of related literature. He further made a suggestion that, Government and Managements should support teacher education institutes by giving more financial assistance to purchase ICT equipment.

UNESCO (2014), in its study on a comparative analysis of ICT integration and readiness in schools across Asia reported that as ICT adoption and use in the wider socio-economic context of countries becomes more prevalent, it becomes clear that ICT adoption and policies in education are areas that require further study. In this regard, all aspects of the ICT in education ecosystem, such as content (e.g. open educational resources (OER), free and open-source software (FOSS), and other open learning solutions), access to and use of hardware (e.g. new devices, including mobile technologies, one-to-one computing options etc.), connectivity, ICT issues related to pedagogy and learning (including digital literacy, and issues of assessment), as well as teacher training, needed to be explored in greater detail to have a fuller picture of the contribution of ICT to quality teaching and learning. Demonstrating meaningful impacts on learning and student outcomes in general were also needed urgently to help policymakers set national priorities and develop policies more effectively.

Oluwaseyi and Gbemisola (2015), in their study on ICT utilization for instructional delivery in teaching learning process in Nigerian educational system found that for effective instructional delivery at all levels of Nigerian educational system, the groundwork should be done at teacher training institutions. Teaching of methods course in the colleges should be integrated with the ICT course so as to enable the teacher trainee to acquire the ICT skills of teaching alongside the methods of teaching through modelled examples by teacher educators. The Federal Government of Nigeria should wake up from slumber and vigorously pursue the faithful implementation of her policies as it concerned ICT in education.

Pawar (2017), in his study on emerging trends in education: ICT reveals that ICT could provide diverse options for taking in and processing information, making sense of ideas, and expressing learning .Most of the students learned best through visual and tactile modalities and ICT could help these students experience the information instead of just reading and hearing it

Sahay (2018), in her findings on investigating teacher's perspectives toward ICT integration in classrooms in Delhi, INDIA suggested that a little over half of the teachers had medium level of technological skills and three-fourth of them have positive attitude, deciding to use technology, and practicing computer-based technologies on a weekly basis. The study recommended for focused teacher technological training programs to ensure that teachers' knowledge and attitude advance exponentially which could lead to stronger integration of ICT in classroom

Kapur (2019), in his study on use of ICT in improving quality of education found that when individuals were making use of technology to prepare their assignments and projects, then they were able to carry out their tasks in a convenient, manageable and well-organized manner and that individuals should upgrade their skills and abilities and make use of ICT in the implementation of all tasks and functions within the educational institutions.

Vanlalruati (2020), in her study on the perception of students about the use of ICT in teaching learning process of Government colleges in Aizawl city revealed that students who perceived some teachers only as using ICT resources and facilities in teaching-learning process constituted the highest percentage. On the other hand, high percentage of students perceived that most teachers used power point presentation and whatsapp messenger was the most popular online tools used by the teachers for communicating with the students.

Agufana (2021), in his findings on instructional usefulness of ICT's as perceived by lecturers of Kenya reported that ICT enhanced school management, improved traditional instruction processes and improved school curricula presentation. This agreed with Makau (1990) who posited that, apart from the traditional use of ICT's in education, it can be a vehicle for improving existing school curricula and school management processes.

Analysis and Interpretation of the Data

The findings of the present study and the interpretations are discussed with the help of the following tables:

Table 1

Availability of ICT

		Item	Urban N=100	Rural N=100
1.		Availability of-	%	%
	a	Computer at home	96	79
	b	Computer at school	100	100
	c	Internet at school	100	41
	d	Mobile phone	100	100
	e	Television	100	100
	f	Radio	76	62

Analyses of the data vide Table 1 reveals that the percentage of in-service female teachers who own a computer at home is higher among the urban group (96%) than the rural group (79%). It is also interesting to find that cent per cent of the teachers have computer at school in all the groups. While cent percent of the respondents in urban areas have internet facility at school, still majority of the schools in rural areas do

not have access to internet. Another cent per cent of the respondents in both the groups also own a mobile phone and television at home. Regarding the possession of radio at home, it is found that the percentage of the respondents who own this item is higher in urban areas their rural counterpart.

Table -2

Ability to Perform Activities on a Computer

Sl. No.		Item	Urban N=100		Rural N=100	
2.		Ability to do activities	Yes %	With Help %	Yes %	With Help %
	A	Open a file	94	0	90	3
	B	Create/edit and save a document	78	8	83	10
	C	Use database to produce list of addresses	32	26	21	24
	D	Copy files to and fro from CD, pen drives etc	86	2	69	17
	E	Move files within a computer	78	4	73	17
	F	Delete a file	92	2	79	3
	G	Print documents, pictures, graphs etc	64	14	69	7

A glance at data vide Table 2, it is found that 90% of respondents in both the groups are able to open files on a computer. The percentage of respondents who are able to create and save documents is slightly higher in the rural areas (83%) than in the urban areas (78%). Only a very small percentage of the teachers in both the groups can use a database file. It is also found that more than 60% of respondents in the groups are able to copy and move files within a computer and more than 70% of them are able to delete a file. The percentage of teachers who are able to print documents or pictures is higher among the teachers in rural areas (69%) than the teachers in urban areas (64%).

Table 3

Purpose of Usage of Computers

Sl. No.		Item	Urban N=100	Rural N=100
3.		Usage of computer for activities	%	%
	a	Play games	92	93
	b	Preparing themselves for teaching	86	69
	c	Word processing (MS Word, Pagemaker etc.)	100	100
	d	Make spreadsheet	20	21
	e	Drawing, painting, programming etc.	28	38
	f	Educational software (Science, Maths etc.)	12	6

As per Table 3, it is found that 92% of the urban respondents use computer for playing games, whereas 80% of the rural respondents use so. It is observed that the location of the teacher has an impact on their usage of computer because the percentage of teacher using computer for preparing themselves in their teaching is found to be higher among the urban group than their counterpart from rural areas. Regarding the use of word processing, cent per cent of the teachers in both rural and urban areas have usage and knowledge to it. Regarding drawing, painting, programming, browsing internet for information, social networking, downloading of software and music etc., the urban teachers using computers for such purposes are found to be much more than the rural teachers. Respondents in both the groups have a very low percentage of using educational software especially for science and mathematics.

Table 4

Usage of ICT in Teaching

Sl. No.		Item	Post Graduate Urban N=100	Post Graduate Rural N=100
4.		Usage of ICT in teaching	Yes %	Yes %
			16	0
5.		Reason for nor using computer in class-room lessons		
	a	Lack of skills	8%	24%
	b	I don't bother	8%	21%
	c	Unavailability of facilities	70%	73%

A cursory glance at data vide Table 4 reveals that the percentage of in-service female teachers using ICT in classroom teaching is extremely low in both the groups (16% and 0%). The major reason for not using computer in teaching in all the groups is due to unavailability of computer facilities. Teachers who say that they do not use computer due to lack of skills ranges between 8% -24% and who do not bother lies between 8%-21%.

Table 5

Purpose of Use of Cable/Satellite Television

Sl. No.		Item	Urban N=100	Rural N=100
6.		Purpose of using cable/satellite television		
	a	For watching movies/films	98%	93%
	b	For watching the news, weather etc	96%	62%

	c	For playing video games	20%	31%
	d	For watching educational programs	66%	48%
	e	For interactive educational software	30%	90%

Analyses of data vide Table 5 reveals majority of the respondents in both the groups use television for watching news, weather, and watching educational programs. It has also been reflected that 90% of the rural group uses television for interactive educational software while only 30% of the urban teachers use it for such purpose. Few percentage of the teachers in both rural and urban areas play video games through television.

Table 6

Purpose of Using Mobile Phone

Sl. No.		Item	Urban N=100	Rural N=100
7.		Purpose of using mobile phone	%	%
	a	Voice calls	100	100
	b	Video calls	100	100
	c	SMS	100	100
	d	MMS	-	-
	e	Calendar	100	100
	f	Calculator	100	100
	g	Internet	100	100

A cursory glance at data vide Table 6 reveals that 100% teachers in all the groups use mobile phone for voice calls, video calls, sms, calender, calculator and browsing internet while none of the respondents use mobile phone for MMS.

Table 7

Purpose of Using Mobile Internet

Sl. No.		Item	Urban N=100	Rural N=100
8.		If yes to internet, for what purpose do you use it?		
	a	News	100%	100%
	b	Weather	98%	93%
	c	Travel service	6%	14%
	d	Social network	100%	100%
	e	Sports	8%	14%
	f	Online Shopping	84%	81%
	g	Cinema	78%	66%
	h	Education	100%	100%

From the data vide Table 7, it is shown that cent per cent of the respondents use mobile internet for reading news, social networking and education. Majority of the respondents (81%-90%) use mobile internet for looking up the weather and online shopping. The table also reveals that while majority of urban teachers (78%) use mobile internet for watching cinema, a lesser percentage (66%) of rural teachers use it for such purpose.

Major Findings:

1. The percentage of in-service female teachers from urban areas having computer at home was higher than that of rural areas. This may be due to financial factors and standard of living being higher in urban areas.

2. The study revealed that cent per cent of the schools where the in-service female teachers work have computers in their school.

3. Although cent percent of the schools in urban areas where in-service female teachers are working have internet facility at school, majority of the schools in rural do not have access to internet.

5. The study also showed that in-service female teachers owning a mobile phone and television was cent per cent in both the rural and urban.

6. Almost all mobile phones nowadays can give access to radio, however, it is surprising to see that that higher percentage of the respondents from urban areas own a radio.

7. Cent per cent of the respondents in both the groups could perform basic activities on a computer like preparing themselves for teaching and using Microsoft-word. However, only a very small percentage in both the groups were technically able to use database files, create program, use spreadsheet, power-point and multimedia presentations etc.

8. While 16% of the in-service female teachers in urban areas used ICT for imparting education in the classroom, none of the teachers in rural areas used ICT.

9. The major reason for not using computer for classroom teaching for both rural and urban respondents was due to unavailability of facilities.

10. Few percentage of the in-service female teachers in both the groups responded that the reason for not using computer in the class-room was due to lack of skills or they did not bother at all.

11. It is interesting to find that majority of in-service female teachers in rural areas used cable/satellite television for watching educational programs.

12. The percentage of in-service female teachers using mobile phone for voice calls, video calls, SMS, calendar, calculator and internet was 100% in both the groups.

13. It is fascinating to find that cent per cent of the in-service female teachers used mobile internet for phones watching news, social networking and most importantly, for educational purposes.

14. Majority of the in-service female teachers in both the groups used mobile internet for looking up the weather and online shopping.

15. The study also revealed that while majority of urban teachers used mobile internet for watching cinema, only a few percentage of rural teachers used it for such purpose.

Discussion and Conclusion

The study reveals that Information and Computer Technology (ICT) has not been properly and appropriately adopted by the in-service female teachers of rural and urban areas due to various factors like unavailability of facilities, ignorance, lack of skills etc. The study also clearly reflects that there is a huge gap between teachers in rural and urban areas especially when it comes to access in internet in their respective schools. At the same time, all the in-service female teachers in relation to their locality own a mobile phone where they have internet access and it is rather fascinating to find that their mobile internet has been used as a tool for educational purposes. This clearly shows that internet is an important tool for the teachers that gives them all the additional information and knowledge which are outside the purview of the student's textbooks. As we are now living in a digital world where the use of ICT is highly indispensable for imparting education, it is a high time that all the teachers need to be thoroughly trained so that they can make their teaching more effective inside the class-room. The conventional and traditional method of teaching need to be substituted by the 21st century, learner-centred teaching as modern education cannot be fulfilled without the application of ICT. It is clearly evident form the study that majority of the in-service female teachers are not aware of the importance of using ICT and they are not capable of using any kind of educational software for teaching different subjects. They either lack skills or are not interested in using ICT inside the class-room. It is indeed, the need of the hour for all the teachers to have at least basic knowledge of computer so that ICT can be effectively adopted inside the class-room. At the same time, since females tend to be much punier than the males when it comes to using different technological tools, special attention need to be given to the female teachers about the use of different ICT tools. The teacher education institutions should conduct workshops frequently on their own and also in collaboration with different companies to train all the teacher educators and student-teachers in a phased manner.

Today, with the covid pandemic situation that has left the teachers with no other choice but to impart education through online mode like whats app, telegram, goggle meet, zoom etc, it is necessary for every teacher to keep themselves well equipped and updated with the latest use of technological tools. It is also obvious from the study that a high percentage of in-service female teachers from rural areas have a positive attitude towards usage of ICT in education although they are at a disadvantage in terms of facilities and supply. Therefore, there is a need to narrow down the quality gap between rural and urban education centres where teachers in rural areas will get the same opportunities as those of the teachers in urban areas. Arrangements should be made by the State Government for in-service teachers especially to those working in rural areas by organising workshops or training in their own respective station (school) about the use of ICT for successful teaching-learning.

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