An Outlook of Teacher Educators on Integration of Information and Communication Technology (ICT) in Pre-Service Teaching Practice in Jammu Division

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ABSTRACT Technology occupies a significant place in several professions, then the question arises what status Information and Communication Technology (ICT) possesses in the Teaching Education? The objective of the present study is to know the views of Teacher Educators in relation to Integration of ICT in Teacher Education, especially in Pre-Service Teaching Practice. The present study is descriptive in nature and for achieving the formulated objectives; the investigators employed a self-constructed tool which laid emphasis on the opportunities, availability of resources, and interest of the teacher educators in integration of ICT in practice teaching. For selection of the sample of study, 50 percent (24) of Bachelor of Education Colleges were taken conveniently and collected necessary data from teacher educators through Google form. The study revealed that the majority (83%) the participants respondents revealed that ICT should be mandatory in teaching practice of pupil-teacher, and stressed the pupil-teachers need to be more skilled in the integration of ICT in teaching-learning.

INTRODUCTION

Rapid growth and positive impact of the ICT have driven the diffusion of technology in education. Today, we all can see that ICT and education both are dependent on each other and we cannot make water tight compartments in between them. Both students and teacher are dependent on using ICT in one or another way. Everyone is busy in exploring the suitable content, different strategies, techniques and its practical usage through ICT to fulfill the desired needs of both the teacher and learner. Information and communication technology (ICT) is a management strategy utilized in the handling of information and its application to social, economic, and cultural issues United Nations Educational Scientific and Cultural Organization (UNESCO 2002). Today the authorities are introducing diverse curricula in educational programmes based on current and real concerns of the society. In order to go through the targeted syllabi different tools are required for snowballing, learning and giving instructions to students. In the present day by introducing new curricula based on real-world issues and projects, providing tools for increasing ICTs proved as a décor as well as a an important component for schools and classrooms to gain new appearance. For the benefit of our next generation,

Continuous and Comprehensive Evaluation (CCE) enables teachers and students to use more technology at school-level. But it demands teachers, who are knowledgeable on how to integrate ICT in their subject areas. IT knowledge is therefore absolutely necessary for both teachers and currently employed teachers. In teacher education program, several approaches and strategies are used to integrate ICT into pre-service teacher education with multiple tools and soft wares such as word processing, databases, spreadsheets etc.. The teachers are assisted with various technology-based practice teaching plans. Worldwide, there is a massive flow of information emerging in all disciplines. Technology and information are now often used in the educational institutions. Sucheta et al. (2023) stated that today school classrooms are shifting from traditional classrooms to digital classrooms and it is fundamental for teacher education institutions to train their teacher trainees with updated skills and knowledge which can assist teacher trainees for integrating the technology into their teaching practices. The success of ICT enabled education totally depends on the teachers' practical knowledge and its use in content transaction. Therefore, during training at B.Ed. level; the teacher trainees must learn all the requisite ICT skills, which are the need of the hour. It

can be possible to inculcate teaching skills along with ICT skills among teacher trainees if more weightage will be given to practicum of ICT course instead of theory. Kamari and Poonam (2022) highlighted the disadvantages of current B.Ed. program by throwing light on the syllabus which doesn't provide pleasing practices to pupil-teachers for the application of ICT into the curriculum and declared that the structure of novel instruction with the assistance of ICT is also extremely weak. A foundation of any functioning society is its teachers. Technology is a key component in teacher training programs. According to Sharma (2022) the role of teacher education institutions becomes more important day by day as they have to create teachers of new generation who are capable enough to retain a multiplicity of technology and apparatuses in different aspects of academic, managerial, investigation, and extension function. In the twenty-first century, ICT is crucial for both pre-service and in-service teacher education programmes. A teacher cannot effectively teach in a classroom without having a solid understanding of it. Information and Communication Technology (ICT) in an enlightening point of view cares instruction, knowledge and a variety of activities in education in numerous ways. Subsequently, modern education is best attained through the use of Information and Communication Technology (ICT) and related facilities and this can only be possible if both the teacher and students are going with Information and Communication Technology (ICT) education. Anal and Naraginti 2022 stated that the concerned higher experts must dig out into the major and minute circumstances then figure out a healthier methodology for ICT assimilation in teacher education programme. Though, teaching and learning can quiet go on but a need of suitable practice and integration of Information and Communication technology in educational to the system will create immense change in productivity. Kent and Facer (2004) highlighted in their study that Information and Communication Technology (ICT) is an additional tool used to report current issues in education. Hooper and Reinartz (2002) found that the internet has made it feasible for pupils to get education and learning at their doorstep. Alemu (2015) urged that in educational settings the use of ICT itself acts as a facilitator for bringing change which encourage and support independent learning. But Auma and Achieng

(2020) declared in their study that the ICT substructure has verified as the leading and main hurdle in front of teachers to make use of ICT for learning and e-learning. Hamalainen et al. (2021) highlighted attitudes, self-perceived competence, and skills as a second order barriers which hinders the teaching learning process. Today, learners are free to study whatever, whenever and wherever they want, at their own pace. The significant impact of ICT can be measured through teaching leaning process (Heim and Nikolic 2019).

The flow of ICT passes from the teacher educators to society. It started with the teacher educators and will makes the end with the benefits the society as a whole. It can be analyzed that the greater need of the training about ICT must be provided to Teacher Educators, as the success of whole program revolves around the Teacher Educators. If Teacher Educators are skilled in terms of technology, then they can easily integrate technology with the teaching practice by which the teacher trainees can learn when, how, where and what are the different platforms in future they can use in their teaching profession. At the end, the learning of ICT skills by the Teacher Educators or Teacher Trainees benefits the society as a whole.

Today the Government of India focused on the different platforms which provide knowledge of ICT world to both teachers and students. National Education Policy (NEP 2020) laid emphasis on the Integration of ICT in Teacher education as the use of technology stands such as SWAYAM/ DIKSHA for online training of teachers will be fortified to bring uniformity in training program, which can be directed to large number of teachers. DIKSHA - National Digital Infrastructure for Teachers is also accessible in the form of mobile app. It is loaded with lesson plans, homework sheets and events, to construct pleasurable classroom proficiencies. National Educational Technology Forum (NEFT) will be created to provide a platform for free altercation of ideas on the use of technology for enhancing learning. Through ICT it becomes easier for a teacher to enroll in NCERT, NAAC, NCTE, MOOCs and other institutions and universities.

Importance of ICT tools for Operational Teaching Learning Process

ICT enabled tools help a teacher for creating effective teaching learning process. We cannot

forget the time of Covid-19 lockdown when these tools were proved as a boon for making teaching learning process easy and effective. Today everyone feels the need of ICT in teaching learning process, but until and unless a teacher will be aware of different tools, the effective teaching-learning environment cannot be imagined in the school setups. Kuma (2023) reported that the use of ICT tools in teacher education is very essential to facilitate future teachers in order to deal with the challenges of the 21st century due to the increasing role of ICT in all the fields of education, the teacher education could not be ignored as if the mother profession is strong enough then its production (Teacher trainees) can also be expected more strong. Here the producers (Teacher educators) should be well trained and be aware of ICT world, which benefits the teacher trainees and the school setups, ultimately benefits the society as a whole. But Wilson and Stacey (2011) stated that the innovation is important rather than the technology adoption. If an environment is shaped that chains occasions for staff to test new teaching and learning approaches, and that boosts them to support each other and share skills and knowledge, it has a greater possibility of achievement.

Wani (2021) in his study stated that, change is the law of nature. The teachers are expected keep learning new skills. Information and communication technology is itself a skill and also plays a significant role for performing the learnt skills of a teacher in an effective way. Both in pre-service training and in-service training more focus should be on training of Teacher Educators and Practical Integration of ICT in teacher education program especially its implication should be in teaching practice. Beri and Sharma (2019) stated that the motivation and enthusiasm of teacher educators towards the integration of ICT was low and it can be raise with the help of ICT oriented training, technical support, motivation, adequate ICT resources. Teacher educators should guide their learners, how to study, how to progress in future, how to develop study skills, how to conduct essential research, how to inspect, assess and access valuable facts, how to protect themselves from cloned information, fabricated knowledge, if requirement occurs. Now the question arises if it is expected that the teacher education institutions should integrate ICT in teaching practice then what opinion the Teacher Educators have towards the Integration of ICT in teaching practice at B.Ed. level? Do the Teacher Educators have interest towards ICT enabled teacher training? What resources and opportunities do the teachers educators have for integrating of ICT in Teacher Education Program?

Objectives of the Study

- To ascertain the opinion of the teacher educators towards Integration of ICT in teaching practice.
- To determine the interest of the teacher educators towards ICT enabled teacher training at their institution.
- To find out the existing opportunities and availability of resources related to ICT at teacher education institutions.

METHODOLOGY

A descriptive survey method was employed for accomplishing the formulated objectives. The investigators constructed a structured questionnaire comprising of 27 items based on opinion and interest of Teacher Educators, as well as the availability of ICT related resources in teacher Education Intuitions. The tool consists of two parts. Part-I has 13 items with Agree and Disagree responses, but the items for Part-II were framed under 5 point Likert Type Scale having Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree responses. For the collection of data, researchers adopted online mode, firstly the tool was converted into the Google Form then shared the link with all the teacher educators of 24 teacher education institutions. A total of 92 teacher educators were consulted and taken their consent prior to collecting data through Google form. They were informed about the anonymity of their responses would be used for research purpose only.

RESULTS

From Table 1, it has been observed that a total of 92 teacher-educations have given consent and participated in the study. It is understood that majority of the participants (89%) were female and remaining of them males. Many of research participants were found to have master of arts and master of education as their educational qualification (56%), having arts stream (71%) and were also

found to be above 35 years of age (52%). It also can be noticed that 41 percent of the teacher educators of the study belonged to urban area, 35 percent semi-urban area and 24 percent of them were from rural area background. The Table also indicates that 78 percent of the teachers' educators were found to have below 10 years of teaching experience in this profession.

Table 1: illustrates the profile of research participants

Specifications	No. of teacher educators	Percentage %
Gender		
Male	10	11
Female	82	89
Age		
25-29	18	20
30-34	26	28
Above 35	48	52
Locality		
Rural	22	24
Semi-urban	32	35
Urban	38	41
Stream		
Arts	65	71
Science	23	25
Commerce	4	4
Educational Qualification		
M.Sc., B.Ed.	18	20
M.A. M.Ed.	52	56
M.Sc. M.Ed.	20	22
M. Phil. , Ph.D.	2	2
Teaching Experience In Years		
1-5	32	35
6-10	40	43
11-15	11	12

So, it can be concluded that majority of the participants are female with arts stream. More than half of the participants were above the age of 35 years. In majority the teacher educators were has less than 10 years of experience.

Table 2, revealed that majority of the respondents (82%) agreed that their B.Ed., college had availability of ICT lab, although 70 percent communicated that their institution lacked ICT enabled infrastructures. 50 percent of the respondents were using ICT laboratory for the purpose of teaching and also 78 percent stated that their institution provided Wi-Fi connectivity to them. Majority of the teacher educators (71%) possessed their personal laptops. But the study conducted by Gebremedhin and Fenta (2015) found only 49 percent teachers of college shared their own laptops, which

they used for the purpose of teaching. So, it can be concluded that Majority of the institutions have ICT labs with Wi-Fi service but deficient in terms of ICT enabled infrastructure. On the other hand majority of teacher educators have their personal laptops that they were used while teaching in the classes.

Table 2: Responses of teacher educators regarding availability of ICT resources at teacher education instructions (N=92)

S. No.	Statements	Agree	Disagree
1.	Availability of ICT lab at your institution	82%	18%
2.	Using ICT lab for the purpose of teaching	50 %	50%
3.	Accessibility of Wi-Fi connectivity to teacher trainees	78%	22%
4.	Possessing a personal laptop	71%	29%
5.	Institution lacks ICT enabled infrastructure	70%	30%

Table 3 showed that more than half of the respondents (53%) declared that they had multiple opportunities to improve their skills for the usage of ICT whereas 47 percent disagreed in this regard. Majority of the Teacher Educators (93%) agreed as, their institutions encouraged them to attend Continuous Professional Development CPD programmes which laid emphasis on ICT. In contrary to this Beri and Sharma (2019) highlighted the issue of lack of training and technical support from the management of teacher education institutions and from the side of the government. So it can be concluded that more than half of the teacher educators got varied platforms to enhance their skills with respect to ICT, still half of the teacher educators were disagreed in this context, so it can be said that the institutions encouraged their teacher educators to take part in CPD programmes but the

Table 3: Responses of teacher educators regarding the existing opportunities related to ICT (N-=92)

S. No.	Statements	Agree	Disagree
1.	Sufficient opportunities to upgrade Teacher Educators in the field of ICT	53%	47%
2.	My institution encourages to attend workshops/ webinar/ seminars/ conferences related to ICT skills	93%	7%

need was felt that the management of the teacher education institutions and government agencies should pay more attention towards the provision of ICT oriented opportunities which assists the teacher educators to sharpen their teaching skills as per the need of the hour.

Table 4: Interest of the teacher educators towards using ICT in teaching (N=92)

S. No.	Statements	Agree	Dis- agree
1.	I am techno phobic, so I don't support ICT	20%	80%
2.	I make use of PPT while teaching	50%	50%
3.	Prefer to traditional mode of teaching practice than using ICT	30%	70%

Table 4, depicted that 80 percent of teacher educators were found to have positive opinion and interest to learn ICT skills, while 20 percent of them revealed that they had techno-phobia therefore they were not supporting the use of ICT. Although only 50 percent of the participants were found to use Power Point Presentation while teaching, the majority of the participants (70%) were against using traditional mode of teaching. From the above data it can be anticipated that the in majority the teacher educators have positive opinion regarding ICT and were interested to learn ICT oriented skills but still it was found that some of the teacher educators were techno-phobic. Beri

and Sharma (2019) also affirmed that the teacher-educators also have some anxiety while making use of ICT tools and devices during the process of teaching learning. In order to eradicate their techno-phobic behaviour the teacher education institutions should involve them in multiple activities which helps to free them from such kind of phobia.

Table 5, revealed that 62 percent teacher educators shown their interest for enhancing their ICT skills but there was non-availability of resources. Out of 92 teacher educators, 8 percent were not putting their efforts to update themselves in use of ICT in teaching although, 83 percent responded positively to make their efforts in this context. It also understood from the table that 92 percent of the participants were found ready to attend workshops, which facilitate them in assimilation of ICT in teaching. So, it can be established that majority of the teacher educators working hard to update their knowledge and skills for making use of ICT. Although in majority the teacher educators were ready to enhance their skills by attending workshops. In short the readiness and efforts of the teacher educators facilitate the integration of ICT in teaching learning process but great need was felt to avail requisite ICT resources.

Table 6 indicated that majority of the teacher educators (76%) believed, ICT integration in teaching practice acts a best strategy to improve the teaching skills and 83 percent felt that it should be mandatory to integrate ICT in teaching practice.

Table 5: Willingness of teacher educators in integration of ICT in teaching-learning (N=92)

S. No.	Items	Agree %	Neutral %	Disagree%
1.	I am interested to enhance my ICT skills, but I find lack of accessibility.	62%	14%	23%
2.	I am not putting my efforts to update myself in use of ICT in teaching.	8%	9%	83%
3.	I am ready to attend workshops which laid emphasis on integration of ICT in teaching.	92%	1%	7%

Table 6: Outlook of teacher educators to integration of ICT in teaching practice (N=92)

S. No.	Statements	Agree %	Neutral %	Disagree %
1.	Integration of ICT in Teaching Practice is the best strategy to improve the teaching skills of teacher trainees.	76	9	15
2.	I think there is no need to make Integration of ICT mandatory in Teaching Practice	11	6	83
3.	Pupil-teachers need to be skilled in integration of ICT in teaching process.	92	1	7
4.	ICT helps pupil teachers to make better use of their teaching skills	90	2	8

The table also revealed that 90 percent of teacher educators felt that ICT improves the pupil-teacher teaching skills and they (92%) emphasized incorporation of ICT in teaching process. So, it can be established that majority of the teacher educators assumed ICT integration as a best strategy for sharpening the teaching skills but its integration should be mandatory in teaching practice. ICT improves the Pupil-teacher' skills of teaching which leads to become an effective teacher in future.

Table 7 depicted, 66 percent of the teacher educators opined that the practical utility of the ICT course was extremely weak in current B.Ed. program, while 17 percent disagreed and 17 percent were neutral in this context respectively. Beside this, 65 percent of the participants believed it was difficult, to get job without the operational knowledge of ICT integration. On the other hand, majority (84%) teacher educators felt in B.Ed. program, more focus should be on the practical utility of ICT devices instead of theory. It can be noticed from the table that only 40 percent of teacher educators were found to be dissatisfied with existing ICT related opportunities at their institution. So, it can be concluded that the focus should be on practical aspects of ICT instead of theory. In today's scenario it is difficult to assume the job without requisite ICT oriented teaching skills.

DISCUSSION

In the present research, the investigators revealed that all the participants were interested to update themselves by learning ICT skills. Majority (82%) of the participants agreed their institution had the ICT lab and they used the institutional lab for the purpose of teaching to teacher trainees (87%). In addition to this, 78 percent of the respondents agreed; their prestigious institution provided Wi-Fi facility to the teacher-trainees. The study also exposed that 71 percent of the teacher educators were found with their personal laptops but the Gebremedhin and Fenta (2015) showed inconsistency with this finding as their study shown that 51 percent of the teachers of the colleges were found without personal laptop. Although, half of the teacher educators employ PPT (Power Point Presentation) during their teaching and rest of them avoid preparing PPT and its employability in teaching learning process. In the present study eighty percent of teacher educators were found to be interested in learning ICT skills. Champa et al. (2019) have stated that Numerous current studies specify that various teachers have proficiency and self-assurance in consuming computers in the classroom, but due to the lack of time they still make little use of technologies since they do not have sufficient time. Kennedy (2023) uncovered the perspectives of teacher educators towards the utilization of ICT, and found that most of the instructors had stimulating mindsets towards ICT use and were enthusiastic and interested to incorporate ICT in the lessons. The main elements of educational changes with ICT integration are the teacher educators but an adequate training must be provided to them in their preliminary education García et al. (2022). In some studies it was found that although the technological era, still in the field of teacher education there exists technophobic teacher educators too, that showed negative attitude towards ICT integration. But numerous researchers reported that the teacher educators shown optimistic attitudes in the direction of the integration of innovative technologies in teaching. Ngao et al. (2022) found in their study that teacher educators were deficient in skills or ability of integrating ICT in the education. In the present study majority of the respondents, 92 percent shown their readiness to learn ICT skills through seminars, conferences and workshops but 62 percent teacher educators ex-

Table 7: Opinion of teacher educators regarding existed ICT course in B.Ed. Program (N=92)

S. No.	Items	A	N	D
1.	The Practical utility of ICT course is extremely weak in current B .Ed. program.	66%	17%	17%
2.	It is difficult for pupil teacher to get job without operational knowledge of ICT	65%	21%	14%
3.	Instead of theory course in B.Ed. The focus must be over the ICT devices practically.	84%	10%	6%
4.	I am not satisfied with the existing opportunities related to ICT at my institute.	40%	12%	48%

pressed inaccessibility of ICT oriented facilities. Habibu et al. (2012) also highlighted the issue of insufficient material conditions like number of computers and copies of software. The majority (83%) participants believed the ICT integration should be mandatory while teaching practice and the teacher trainees need to be more skilled in the integration of ICT in the process of teaching and learning. Shah et al. (2020) reported that few of the teacher educators expressed that ICT integration in teaching practice leads to fruitful results, but majority of the teacher educators reported that they were unable to find interval and likelihood to employ ICT in teaching practice because of the shortage of time and busy schedule. It is apparent, as Yelland (2001) claimed that outmoded educational settings do not appear to be fit for preparing learners to be fruitful in the workstations of today's society. But in majority, the teacher educators felt that the practical utility of ICT in existing ICT course of B.Ed.is extremely low although 40 percent of the participants were not satisfied with the course of ICT in current B.Ed. program. Kamari and Poonam (2022) also reported the same kind of disadvantage such as the B.Ed. course does not cover necessary areas of ICTs content. In teaching practice programme there must be a place of the selective teaching aids kept in the form of photo albums, which can be used by the teacher-trainees as a teaching-aid bank. The manual to construct the teaching aids must be framed and provided to the teacher-trainees so that, they can learn with better and selective teaching aids. In the present study 84 percent of the teacher educators laid emphasis that there must be practice oriented ICT course instead of theory oriented which seems very low in the existing B.Ed. course

CONCLUSION

The purpose of the study was to investigate teacher educators' opinion and interest towards integrating ICT in teaching practice, and availability of the ICT resources in teacher Education Institutions. Day by day it will become difficult for the teachers to set their feet in teaching profession until and unless they know each and every aspect of ICT. In order to avoid the situation of less competent teachers with respect to ICT in future, the teacher education institutions have to do a lot. Teacher education institutions are the main pro-

ducers of teachers, along with pedagogical skills of the pupil teacher there is a need to develop fine technical skills, which will prove fruitful for the future teachers and nation too. Following the results of the present study, it is necessary to find the solution to all the issues as well as to provide such kind of ICT driven opportunities which are the need of the hour. The teacher education institution needs to inculcate the habit of integration of ICT in the process of teaching learning among the pupil teacher. It can be possible in this case only after the introduction of practical oriented ICT course, instead of theory oriented and for the up gradation of teacher educators, the regular training for teacher educators must be required who lack training. If teacher educators possessed skills related to ICT, then it is too easy for the institutions to develop the skills among pupil teachers regarding integration of ICT. As we all know that teaching profession is the mother of all professions in the world. So, the need is realized that in this technological era there is great need to work over the skills of teachers, teacher educators, pre-service or in-service teachers.

RECOMMENDATIONS

1. The sample of the present study was confined to B.Ed. colleges of the University of Jammu only; one can extend their study by taking the B.Ed. colleges' affiliated to the other Universities of India.
2. Only 92 teacher educators of B.Ed. were selected as the sample of the study, one can consider a large sample of the teacher educators of M.Ed.

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