A Study of Usage of ICT Resources by Teacher Educators in Classroom Practice

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ABSTRACT

Gone are the days when technology was taught as a discrete subject and it was considered by teacher and parents that only computer teacher will meet all the technological needs of the students, but with the technology growing day by day and the different usage of technology, both hardware and software being different for different subjects, it has now become mandatory that each teacher should know how to apply technology in his own teaching subject, and if we want to use ICT to make teaching-learning more effective it has to be taught to teacher-trainee which could happen only when teacher educators use ICT resources in their class room practice in meaningful manner to make teaching more purposeful and to achieve cognitive, affective and psychomotor objectives of the content, and this is possible only when teacher educators are aware of ICT resources and are skilled to use them. The investigator took up the present study with an intention to find out the true picture of ICT resources being used by teacher educators by knowing the extent of teacher educators using technology devices, internet, online resources and other digital devices in their daily, weekly, and monthly class room practice.

Keywords: ICT resources, teacher educators, classroom practice

The use of computer and internet based technology can be seen all most everywhere, it is being used right from home to the government and commercial organisations. It has made a significant impact in almost all the dimensions of our day today life. It has further revolutionised the scope of information and communication technology and has ushered in an era of globalization.

With the process of globalisation occurring at the fast pace and availability of information in nanoseconds through electronic media it has now become possible to avail all sort of information and data regarding any topic across the globe, however the biggest challenge is

how we make our teachers capable to integrate immense amount of technology in teaching through proper pedagogy of teaching.

Development of computer technologies such as interactive multimedia, video conferencing and the internet has now solved many problems of traditional teaching, various simulated programmes and multimedia can now be used successfully to develop affective and psychomotor domain of a learner along with the use of graphics, text, video etc., can help teacher to explain difficult contents clearly.

In spite of all such resources the field of education lacks to understand as how to integrate technology in teaching to cater to the needs of 21st century learners, even teachers have different views regarding the integration of technology in teaching.

To few of them integration of technology means, to assign projects to students using the internet and to find information for the report writing, or to perform some special tasks on MS word, Excel etc., and yet to another group of teachers it may mean the usage of Power Point presentations but these are not the examples of integrating technology in the true sense of the term.

In the real sense, the usage of technology should enhance the learning process. It requires teachers to actively use technology in a seamless manner so that it supports and extends curriculum objectives and engages students in meaningful learning.

Appropriate integration of technology could be an alternative to stereotype and less satisfactory learning resources. With the use of multimedia technology, students' interest in learning is enhanced and they actively participate in learning. Use of technology for the teaching-learning transaction assures two-ways communication. It stimulates all senses of students and involves them in learning through animation, audio, and visuals. Multimedia programs provide a mix of education and entertainment i.e. "edutainment." This also results into active and engaged learning and fosters group interaction and solidarity amongst learners.

REVIEW OF THE RELATED LITERATURE

Research continues to reveal that teachers feel they are not prepared to effectively use technology in their classrooms (Brush, 1998; Schrum, 1999; Strudler & Wetzel, 1999; Topp, Mortensen, & Grandgenett, 1995). As a result, they continue to use computers for low-level, supplemental tasks such as drill and practice activities, word processing, educational games, and computer-based tutorials (Strudler & Wetzel, 1999; Willis, Thompson, & Sadera, 1999). Some researchers have even gone so far as to state, "...few teachers routinely use computer-based technologies for instructional purposes" (Abdal-Haqq, 1995). Most researchers agree that more technology training is needed for teachers, and numerous suggestions already exist in the literature regarding the content of the training and the methods for delivering the training. One of these methods involves the integration of technology with undergraduate methods

courses, thus providing students with knowledge and experiences applying technology to their specific content areas. In a survey of innovative teacher education programs, Strudler and Wetzel (1999) discussed how teacher education institutions such as Vanderbilt University and the University of Virginia emphasized collaboration among methods faculty and educational technology faculty in order to provide pre-service teachers with experiences integrating technology into their teaching. These programs emphasized the need to provide pre-service teachers with technology training in authentic teaching situations. This field-based model, also known as job-embedded learning (Loucks-Horsley, Hewson, Love, & Stiles, 1997), concentrates on providing pre-service teachers with authentic training experiences in real classrooms prior to their student teaching experiences.

So, for the smooth functioning of the system the requirement is to struggle for educational excellence in teacher education. Teacher educators, in turn, has to strive to integrate these high-tech tools into the process of teaching and learning to prepare future teachers for classrooms that will undoubtedly include technology, and in order to do this, they must also prepare themselves to use technology. So it becomes indispensable for teacher education to incorporate good use of technology into their teacher training courses to meet the target of preparing teachers who are sufficiently skilled to face the modern classroom of 21st century.

NEED AND JUSTIFICATION OF THE STUDY

Technology can and does help students develop all kinds of skills from the basic to the higher-order critical thinking ones. Students in technology integrated environment find themselves immersed in learning activities that require computer use which in turn individualizes the educational process to accommodate the needs, interests, proclivities, current knowledge, and learning styles of students. It also satisfies their urges of curiosity, inventiveness, construction etc. They get acquainted with the relevant sources of information, the ways and means of extracting required information, methods of information processing, etc.

The training received in proper decision making and problem solving can enable them to bring necessary changes in their behaviour most of what they acquire in terms of knowledge, understanding, skills, interests, attitudes and appreciations received through the process of information and communication controlled by computer and internet based ICT resources. All these advantages of technology can best be achieved by integrating technology in teacher education as it can prepare techno-savvy future teachers who can cater to the needs of millennium students, who have grown up digital and whose approach to living and learning in terms of the role of technology contrasts sharply with that of previous generations.

Unless teacher educators make effective use of technology in their own classes, it will not be possible to prepare a new generation of teachers who effectively use the tools for learning, but the important question is 'Where to integrate technology?' in already overburdened curriculum

of Teacher Education. This problem could be solved effectively by integrating technology in various teaching methods because the technological requirements of different subjects are different and without adding any further to teacher education curriculum technology integration can become an integral part of the curriculum. Teachers can also be made techno-savvy and skilled to use technology in their own subjects. His is how, it will serve the dual purpose of making teachers techno-savvy and developing techno-pedagogic skills in them.

To conclude, there are two significant facts for effective integration of technology into classrooms. First, that appropriate use of technology positively impact student learning when teachers are competent and well prepared. Second, our country's all-round growth depends on a educated workforce capable of using rapidly developing and ever-changing information technology. Both of these factors make it imperative that teachers have opportunities to teach and learn effectively with technology.

DEFINITION OF THE TERM

Technology: Technology is interpreted as any computer and internet based communication technologies, networked and stands alone, including both hardware and software, which can be used as teaching, learning and information resources.

Usage: Use of ICT resources in the class room teaching to achieve the set objectives

Objective

The objective of the present study is to assess the extent of usage of ICT resources by teacher educators in teaching (class- room practice).

METHODOLOGY

The methodology is based on survey and interpretation of the responses.

Self-prepared questionnaire on ICT skills and competence were used to assess the existing level of awareness among teacher educators on computer and internet skills and use of new technology tools in curriculum transaction process.

POPULATION

All the teacher educators of 36 government, government aided and self-financed B.Ed. colleges affiliated to Lucknow University constituted the population of this study.

SELECTION OF THE SAMPLE

The sample of the present study comprised of 120 teacher educators of 25 B.Ed. colleges teaching different subjects methods. The sample includes both male and female teacher educators as per availability.

TOOLS USED FOR DATA COLLECTION

Self-constructed questionnaire was used to evaluate the usage of ICT resources in class room practice by the teacher educators. There were 21 ICT resources; teachers were asked to indicate their frequency of use for each of 21 types of ICT resources in their daily, weekly, monthly class-room practice. Their responses were scored as follows:

- ❖ Daily = 3
- ❖ Weekly = 2
- ❖ Monthly = 1,

whereas 'never' and no responses being given a score of '0'. An average score was then derived for each resource in order to compare frequency of use of the different resources. The test –retest reliability of the tool was found to be 0.82 and 0.84.

ANALYSIS AND INTERPRETATION

To find out the usage of ICT resources by teachers on daily, weekly and monthly basis in their class room practice, simple percentages were calculated and were presented graphically.

FINDINGS

Result 1: Usage of various ICT resources by Teacher Educators in their daily, weekly, and monthly class room practice

Fig. 1, shows, that only 4.0% teacher educators use computer in their daily class room practice, and around 36.0 % of them use it monthly, whereas around 46% teacher educators do not use computer in any way in their class room teaching.

The soft ware application used most by teacher educators is word processor which is used by 12% teachers daily, 21% teachers use it weekly and 48% teacher educators use it monthly whereas 18% teachers do not use it at all in their class room teaching, this is followed by the use of power point presentation which is used by 12%, 16% and 30% of teacher educators daily, weekly and monthly in their class room practice, usage of database software application is used least by teacher educators being only 10%, 17% and 26% in their daily, weekly and monthly class room practice.

Fig. 1, makes it clear that 13% teacher educators uses floppy, CD's and DVD'S daily, 19% use them weekly whereas 17% of them use these devices monthly in comparison to the fact that pen-drives are being used by 12%, 17% and 29% of teacher educators on daily, weekly and monthly basis.
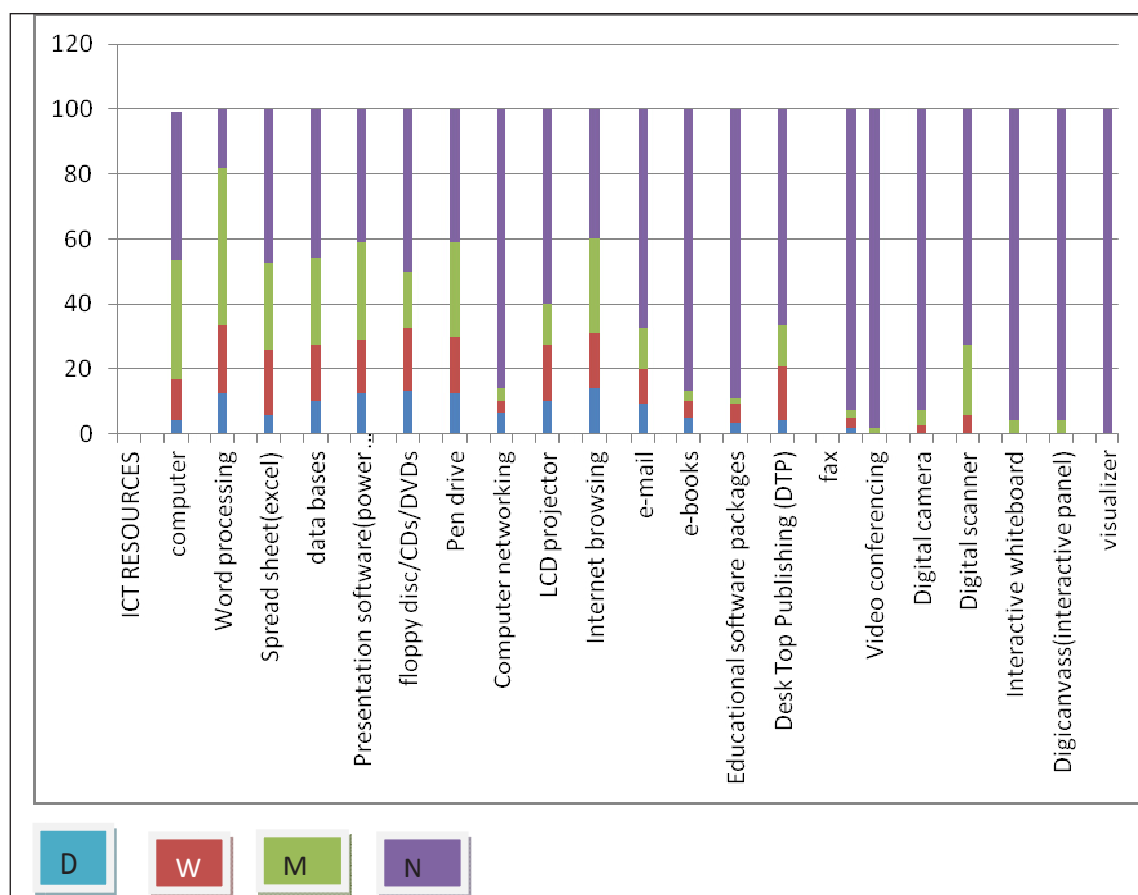
Fig. 1: Usage of various ICT resources by Teacher Educators in their daily, weekly, and monthly class room practice

It is also clear from the figure that the LCD as a projection device in the class room is being used by 10% teachers daily, 17% are using it weekly followed by 12% of teachers using it monthly where as big number of teacher educators (60%) do not use it at all for teaching.

As far as usage of internet is concerned, figure states that 14% of teacher browses internet for teaching content daily, 17% weekly and 29% monthly which shows growing use of internet for teaching purposes, this is followed by the usage of online resources such as e-mail, e-book and educational software packages etc. in classroom teaching, 9%, 10% and 12% of teacher educators use e-mail daily, weekly and monthly to facilitate their class room teaching where as very small number of them use e-book and educational software packages, with 86% and 89% of teacher educators not using e mail and e-books at all for class room teaching.

NEVER

On line video conferencing is not at all being used for class room teaching it is just 1% of teacher educators who tried to use skype on trial basis not for class room teaching.

Digital educational devices such as digital scanner, digital camera, interactive whiteboard, visualizer are also being used negligibly.

This can be explained by the lower availability of ICT resources specially internet and other technology equipments in teacher education colleges, and the lack of facilities to use ICT resources in teaching. Most of the teacher educators are not aware of basic ICT skills, which hampers their use of technology in their teaching.

The result highlights the fact that teacher educators are far away from the proper and required use of ICT resources in class room teaching which has directly affected the standard of future teachers being produced in these institutions.

Interviews highlights the fact that most of the teachers educators are not aware of ICT resources in education, they are not skilled enough to use these devices and resources in teaching, even if some of the resources are available, electricity problem is the major hassle in this regard.

Result 2: Over all usage of ICT resources by Teacher Educators in class room practice

Over all usage of ICT resources by teachers also shows that very low percentage (6.0 %) of teacher educators use ICT resources in their daily class room teaching, 10.0% of them use it weekly and 15.0% of them use the resources on monthly basis, where as large number of teacher educators (68.0%) do not use ICT resources at all to facilitate their class room teaching, which is a grave situation and instant action are to be made in this regard if we want to upgrade and improve our teacher education standard.
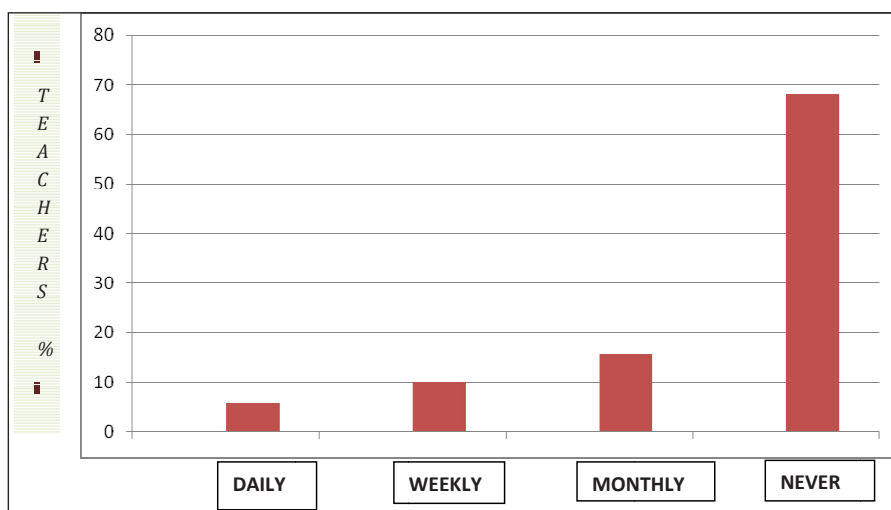

Fig. 2: Over all usage of ICT resources by Teacher Educators in class room practice

SUGGESTIONS

1. There is a need to orient teachers with the basic skills which are very important for teachers in order to integrate technology in their teaching for which proper workshops should be arranged time to time in the teacher education colleges.

2. There is a need to establish proper computer labs along with internet connections and this facility should be made accessible to teachers.

3. It should be ensured at the time of appointment that a teacher educator is techno-savvy and can use basic required technology in his teaching.

4. It should be made essential for teacher educators to use application software such as word, power point data bases, and internet sources etc, when and where ever required in teaching process in a purposeful and meaningful way. This could be ensured by integrating technology along with traditional instructional method and encouraging teachers to use application software's and internet resources in their teaching.

5. Teacher educators should be exposed to internet resources such as E-books, E-libraries, open educational resources and online teaching-learning provisions.

6. Teaching with technology integrated lesson plans involving multimedia features should be made compulsory, so that teacher educator and trainee are well acquainted with the proper use of E-educational resources and learn basic technology skills also to prepare the technology plan.

7. Affective ways to integrate technology based activities must be identified, and thoughtful, lesson plans must be developed to enhance student learning.

8. Knowledge of basic computer, and internet skills should be imparted.

9. Appropriate use of Internet, familiarity with acceptable use policies, privacy, copyright practices and other legal and ethical concerns in the online world all need to be mastered and should be met in an effective teacher professional development program.

10. The educational system in which teachers function, needs attention. Teachers cannot implement technology in their mainline teaching practice by themselves. Administrators and colleagues must be involved and supportive. Issues of scheduling, college Internet policies, utilization of alternative curriculum materials, support for team teaching that exploits new multidisciplinary learning opportunities, the introduction and use of alternative assessment strategies all require support within an informed and congenial teaching-learning environment.

11. Teacher professional development programs require simultaneous attention to provide orientation and understanding among principals, curriculum coordinators, department heads, and other governmental or bureaucratic personnel. Workshops and seminars are needed for these other key individuals.

12. There is an urgent need to organize a series of technology implementation programs. To train and orient teacher educators, administrators, supervisors and the enforcers of school system policies. Not only must that transfer of information and knowledge be pursued, but agreements need to be reached that ensure that everyone will support teachers as they attempt to implement new methods and materials.

13. Professional development programmes must be planned time to time to update teachers about obsolete and new technology tools or processes and its use in classroom instruction as rapid changes takes place in the field of technology.

14. Educators need to become familiar with the capabilities of newly emerging devices and systems. Time is required for the exploration of how these new devices and processes can be integrated into classroom practice. The continuing education of teachers and of administrators should help them prepare for the future.

15. As the corporate world trains personnel to utilize new technologies in its current practices, teachers should also be updated and trained with the latest technology in the field of education

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