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## To study the relevance of ICT component of in-service teachers training

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### Abstract

In today's information and knowledge driven world, a whole new set of skills is required. ICT is one of them and therefore teachers need to be trained for the use of ICT. Teachers need training not only in computer literacy but also in the application of various kinds of educational software in teaching and learning. Furthermore, they need to learn how to integrate ICTs into their classroom activities and school structure but most of the training programme do not enable teachers to actually integrate ICTs in day-to-day classroom instruction. The present study explores the relevance of ICT training programme for In-Service Teachers. A self-made questionnaire was administered on secondary and senior secondary school teachers of Delhi by the investigator.

**Keywords:** ICT training programme, knowledge, information, educational software

### Introduction

Information and communication technologies (ICTs) are one of the major contemporary factors shaping the global economy and producing rapid changes in society. They have fundamentally changed the way people learn and communicate. They can transform the nature of education – where and how learning takes place and the roles of students and teachers in the learning process.

ICTs have the potential to enhance access, quality, and effectiveness in education and to enable the development of more and better teachers in India. As computer hardware becomes available to an increasing number of schools, more attention needs to be given to the capacity building of the key transformers in this process, namely, teachers.

ICT in education refers to the use of educational technologies in teaching and learning processes. ICT is used as a tool to enable the teachers for teaching any subject ranging from arts to sciences. There is evidence to show that learning is superior when computer aided instruction or computer aided learning is used compared to the conventional method (Biswas 1994) [24].

As we know Teacher is the backbone of every educational institution. For the effective deployment of ICT in schools, teachers have to play a pivotal role. In fact “only if teachers have positive impression about the technology and involved in its deployment, IT can be effectively used in schools (Rudduck 1991) [25], Information and Communication Technology (ICT) designed to facilitate self-directed learning work well only when teachers play an important role in facilitating learning (Popert 1980)” [1].

The potential for radical shifts in the school practices and programs via effective in-service education programs has been acknowledged by most Education Committees and Commissions.

The professional preparation of teachers has been recognized to be crucial for the qualitative improvement of education since the 1960s (Kothari Commission, 1964-66). The Commission, in particular noted the need for teacher education to be “...brought into the mainstream of the academic life of the Universities on the one hand and of school life and educational developments on the other” [2].

The National Policy of Education (NPE 1986/92) recognized that “...teachers should have the freedom to innovate, to devise appropriate methods of communication and activities relevant

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<sup>1</sup> Mohanty, Laxman and Niharika Vohara. ICT strategies for school. 2<sup>nd</sup> ed. New Delhi, pg-75

<sup>2</sup> Report of the Education Commission (1964-66) Educational and National Development, Ministry of Education

to the needs of and capabilities of and the concerns of the community.”<sup>[3]</sup>

The NCF, 2005 has for the first time linked the ongoing debate on curriculum to the pedagogic and professional concerns of the child and the teacher. Teachers are being posed as crucial mediating agents through which curriculum is transacted. “Use of ICT in meaningful ways makes it easy for teacher to create interesting projects, problem solving situations and virtual exposures to effective learning conditions.”<sup>[4]</sup> So, it’s necessary to provide such type of exposure to our teachers with the help on in-service training programs.

National council for ICT in Education said that “Teachers need to understand the application of ICT to support their teaching and administration. Therefore policy should identify ways of improving teacher capacity in the use of ICT as well as their specific integration into teaching systems and pedagogical models.”<sup>[5]</sup>

Many Educational organizations in India have realized this need for redefining teachers' roles and have responded by launching professional development programs to train teachers in the use of computers. However, most of these training activities are crash programs which focus on computer literacy and do not enable teachers to actually integrate ICTs in day-to-day classroom instruction.

### Significance of the study

The government has allocated huge money on in-service training programs for the teachers of government schools so there is a need to find out whether this training (ICT) is relevant for them or not. This evolves the significance of this study.

### Objectives of the study

1. To find the extent of awareness of ICT skills in teachers.
2. To find the relevance of ICT component of In-service teacher training in class room teaching.
3. To find the relevance of ICT component of in-service teacher training in the professional development of teachers.
4. To determine the obstacles faced by Secondary and Senior Secondary teachers in the usage of ICT tools.
5. To identify the current training needs of the teachers.

### Delimitations of the study

1. The present study has been conducted on 9 schools only.
2. The present study includes Secondary and Senior Secondary school teachers. The Primary and Upper Primary teacher has not been included in the study.
3. The sample comprises 75 school teachers.
4. Only self-made tool was adopted to explore the relevance of ICT teacher training at Secondary and Senior Secondary stage.

### Design of the study

This study is an exploratory study. It is designed to explore the relevance of ICT teacher training for secondary and senior secondary school teachers of Delhi. To elicit the information for this study, teachers of the government school were asked

to fill up Questionnaire prepared by the investigator.

### Population

A population is any group of individuals that has one or more characteristics in common and that are of interest to the investigator. In the present study, the population comprises all the secondary and senior secondary school teachers in Delhi.

### Sample

A sample is a small proportion of the population that is selected for observation and analysis. By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it was drawn. In the present study, sample consists 75 secondary school teachers chosen randomly.

### Tool

In the present study a self-prepared Questionnaire has been administered on In-Service Teachers who had attended the ICT training Programme. The Questionnaire comprises three sections. All the three sections were formulated on the basis of National policy on ICT in education<sup>[6]</sup>. The policy identified ways of improving teacher capacity for the use of ICT as well as their specific integration into teaching system and pedagogical models.

**Section 1:** deals with the ICT skills. This section has total 22 items. For each item the teacher had to mark either of the two options “I CAN” and “I CAN NOT”.

**Section 2:** deals with the use of ICT tools in class room teaching, for professional development and for official task. This section had a total 14 questions. For each question, two options were given ‘YES’ and ‘NO’.

**Section 3:** was open ended. It aimed at examining the perception of teachers regarding ICT. It also focused on the obstacles faced by the teachers and on their training and support needs.

In the questionnaire, first two sections were objective and in the form of check list while the last section consisted of open ended questions to be filled in by the teachers and give their respective viewpoints.

### Data analysis and interpretation

In the present study “To study the Relevance of ICT component of In-Service Teacher Training at Secondary and Senior Secondary Stage”, collected questionnaires were analyzed qualitatively by the investigator. The objective wise analysis and interpretation is given as follows: -

**Section 1:** Deals with the ICT skills. This section has total 22 items. For each item the teacher had to mark either of the two options “I CAN” and “I CAN NOT”.

<sup>3</sup> National Policy of Education (1986/92), MHRD

<sup>4</sup> National Focus Group on Teacher Education for Curriculum Renewal, Position Paper, NCERT

<sup>5</sup> National Policy on ICT in Education, Position Paper, RIE-NCERT, Ajmer

<sup>6</sup> Position Paper, National Policy on ICT in Education, RIE-NCERT, Ajmer

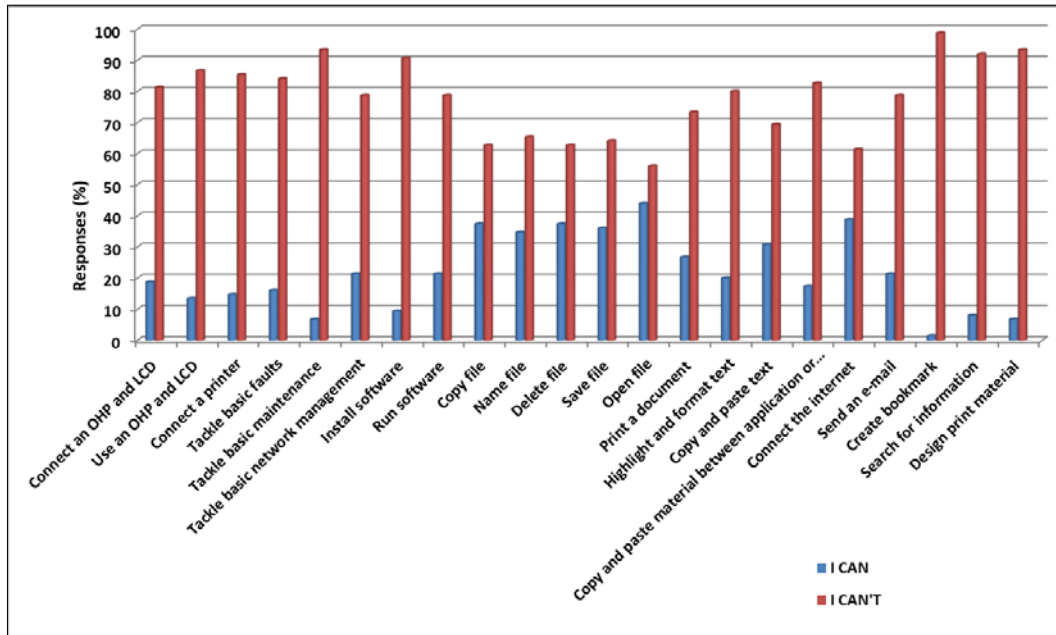


Fig 1: ICT skills

Teachers were asked to indicate whether they are skilled in usage of ICT tools or not. As shown in Fig.1, teachers can connect an OHP and LCD (18.67%), can use an OHP and LCD (13.34%), can connect a printer (14.67%), can tackle basic faults (16%), can tackle basic maintenance (6.67%), can tackle basic network management (21.34%), can install software (9.34%), can run software (21.34%), can copy file (37.34%), can name file (34.67%), can delete file (37.34%), save file (36%), can open file (44%), can print a document (26.64%), can highlight and format text (20%), can copy and

paste text (30.67%), can copy and paste material between application or program (17.34%), can connect the internet (38.67%), can send an e-mail (21.34%), can create bookmark (1.34%), can search for information using more than a simple keywords (8%) and can design print material (6.67%).

**Section 2:** Deals with the use of ICT tools in class room teaching, for professional development and for official task. This section had a total 14 questions. For each question, two options were given 'YES' and 'NO'.

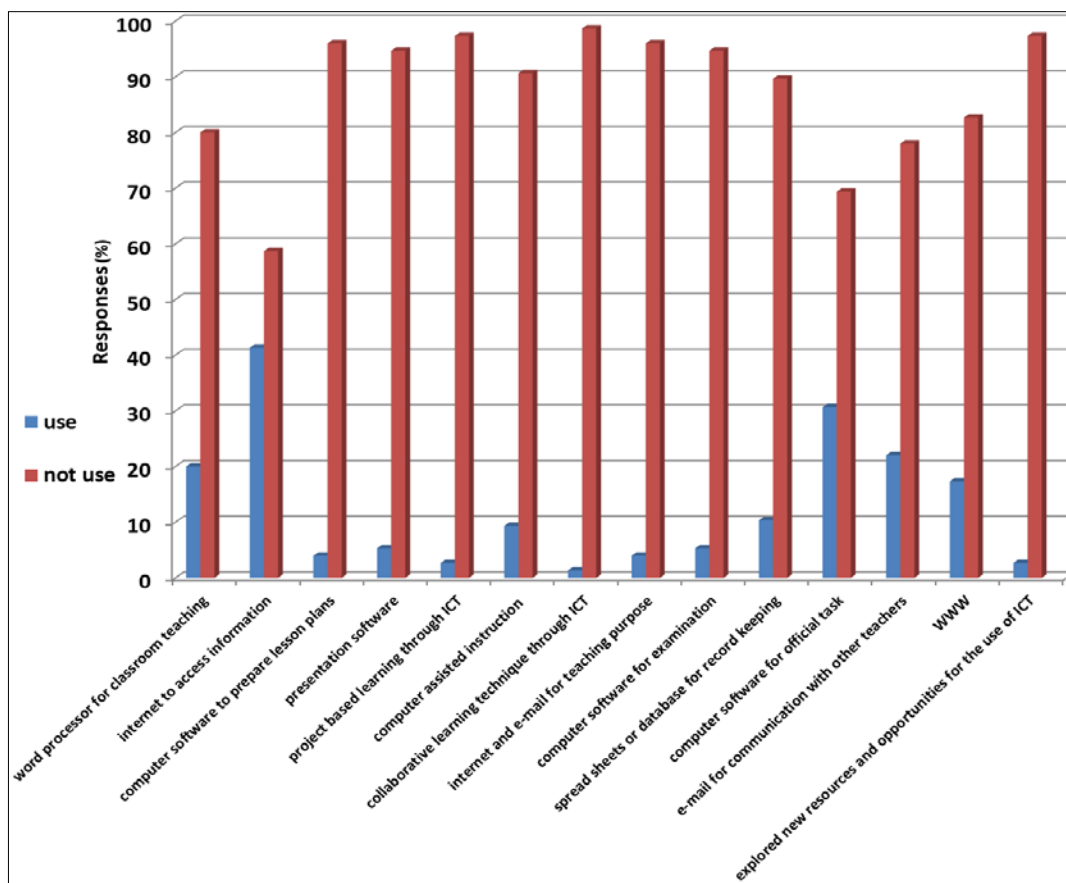


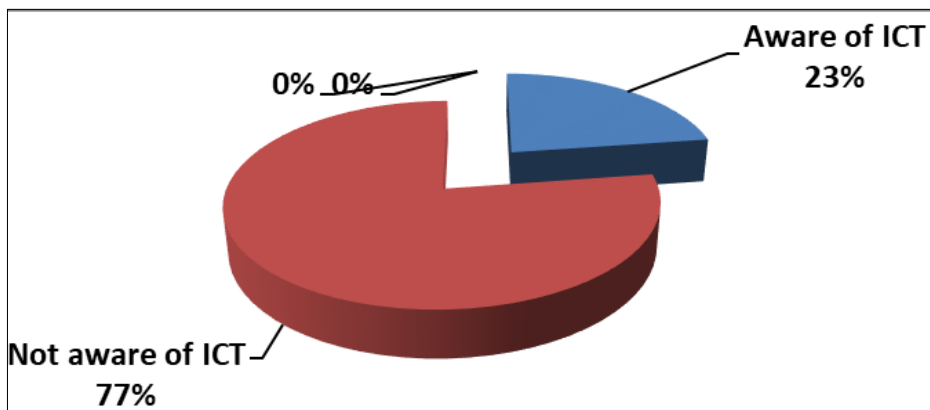
Fig 2: ICT tools for classroom teaching

Teachers were asked to indicate whether they were using ICT tools for classroom teaching, for professional development or not. Responses revealed that most of the teachers had not used the following:-word processor for classroom teaching (80%), internet to access information (58.66%), computer software to prepare lesson plans(96%), presentation software(94.66%), project based learning through ICT (97.33%), computer assisted instruction (90.66%), collaborative learning technique through ICT(98.66%), internet and e-mail for teaching purpose(96%), computer software for examination(94.66%), spread sheets or database for record

keeping(89.66%), computer software for official task(69.33%), e-mail for communication with other teachers(78%), WWW (82.66%), and have not explored new resources and opportunities for the use of ICT(97.33%).

**Section 3:** was open ended. It aimed at examining the perception of teachers regarding ICT. It also focused on the obstacles faced by the teachers and on their training and support needs.

**Q1. What do you understand by ICT?**



**Fig 3:** Awareness of ICT

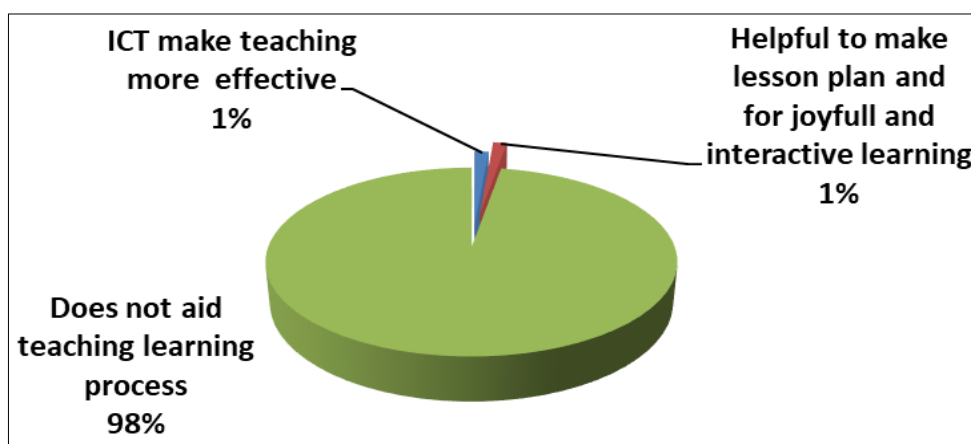
Responses indicate that most of the teachers are not aware of the term ICT (Information Communication Technology). As shown in fig.3 only 23% of teachers are aware and they remarked it as ‘use of technology to make communication more effective’ (18.67%), ‘it is the way to facilitate information’ (1.33%) and ‘use of technology to make teaching more effective’ (3%).

**you in your teaching?**

Teachers were asked to indicate how ICT component of training program helped them in their teaching. As shown in Fig. 4, 98% of teachers said that ‘ICT component of training program does not aid teaching-learning process. The other responses were:

- a) ICT made teaching more effective (1%)
- b) ICT helped to make lesson plan more effective and made learning joyful and interactive (1%).

**Q2. How ICT component of your training program help**



**Fig 4:** ICT as component of training program

**Q3. How many ICT tools with their usage have you learnt during the ICT training program? Please specify**

Some teachers responded that they had learned some ICT tools like Ms-office (20%), e-mailing (12%), internet (4%).

But rest of the teachers said that they had not received any training based on ICT tools. As shown in Fig. 5, most of the teachers did not learn any of the ICT tools from the ICT based training program.

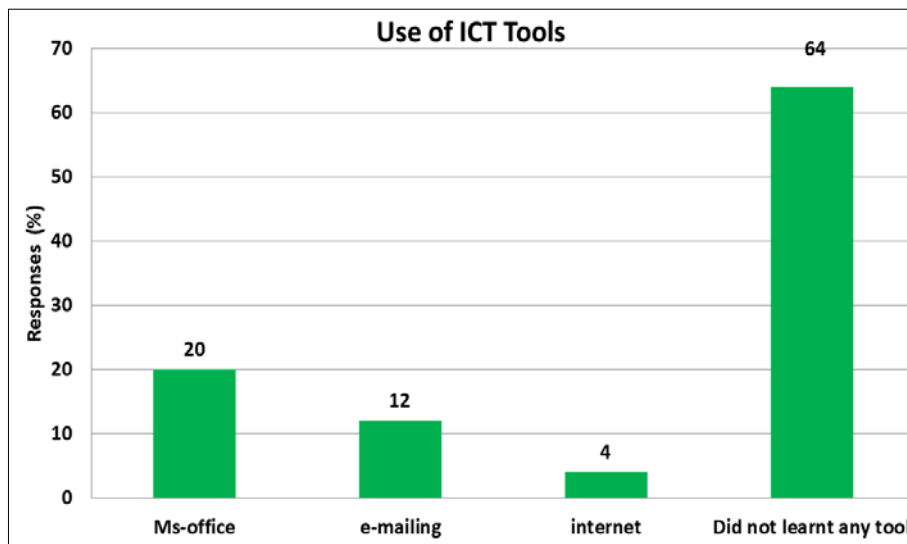


Fig 5: Use of ICT tools

**Q4. Which ICT tool are you using in your teaching?**

Responses indicate that 62.67% of the teachers were not using ICT tools in their teaching. As shown in Fig.6, only 22.67%

were using internet and 14.67% using computer software mainly for the official work.

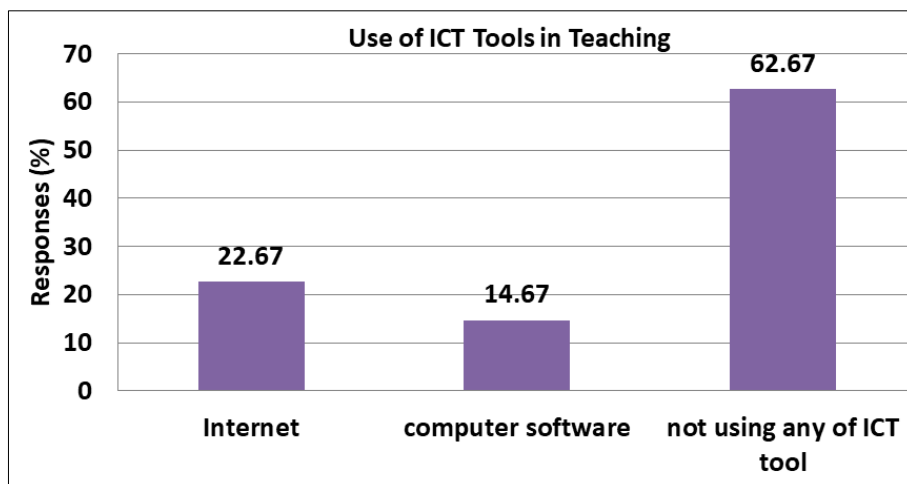


Fig 6: Use of ICT tools in teaching

**Q5. Which ICT tool are you using effectively in your teaching?**

Responses (fig. 7) indicate that 80% of the teachers can't use any of the tools effectively. Other teachers said that they can

use internet (17.34%), e-mailing (1.33%), computer software (1.33%) but for accessing information and for the official work.

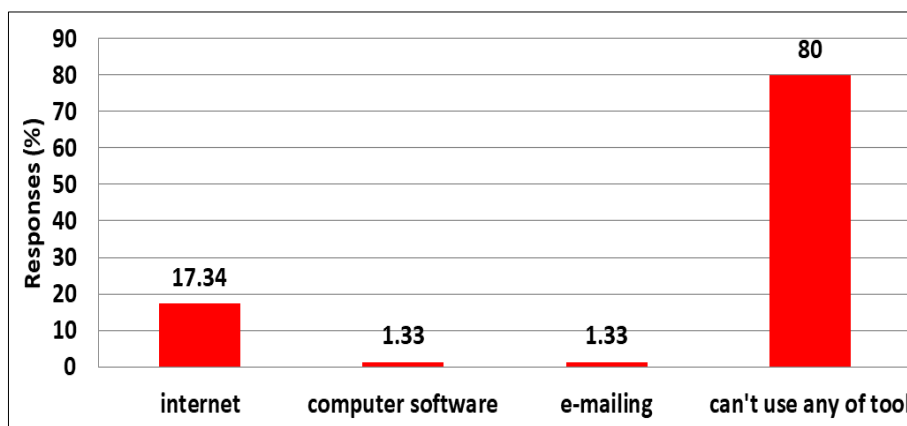
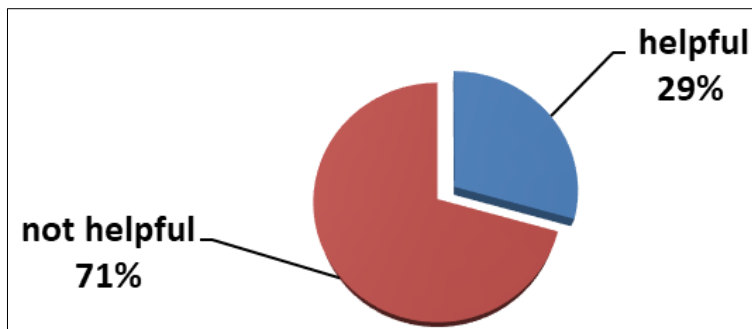


Fig 7: Highly used ICT tool

**Q6. Did ICT component of your training program help you in your professional development? If yes, then how?**

Only 29% of teachers said that ICT training helped them for their professional development as it enable them to use

internet to access information and to use effective methods of teaching and communicate with teachers and institutions. But rest were not satisfied with the ICT training and said that ICT training didn't helped them for their professional growth.

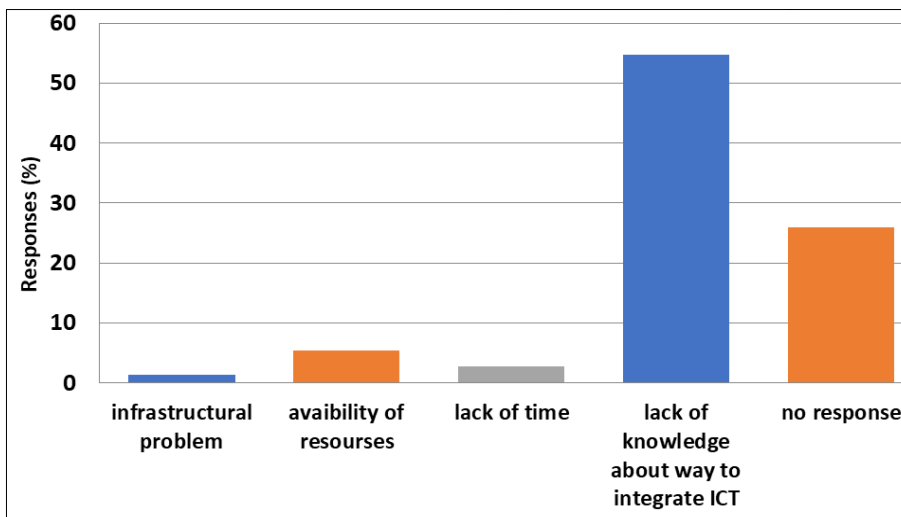


**Fig 8:** Usage of ICT

**Q7. Which difficulties do you think can be encountered while developing or transacting lesson using ICT?**

Teachers were asked to indicate the difficulties faced by them while developing or transacting lesson using ICT. 64% teachers responded and as shown in fig 9, difficulties faced by

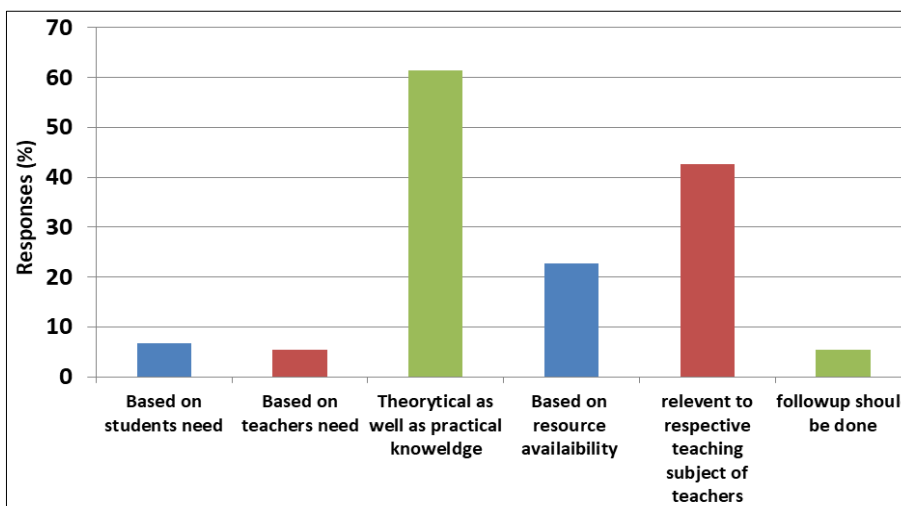
the teachers were infrastructural problem(1.33%), availability of resources (2.67%), lack of time(5.33%), and lack of knowledge about ways to integrate ICT to enhance curriculum (54.6%).



**Fig 9:** Barriers in the usage of ICT in teaching

**Q8. Would you like to have more ICT training program in future? If yes, what will be your requirements or**

**expectations from ICT training Program?**



**Fig 10:** ICT training need of teachers

Responses (fig. 10) indicate that 86.67% teachers do want to attend ICT training program and 70.67% teachers specified their needs for future ICT training program as it should be based on student's need (6.67%), on teachers' need (5.33%), on resource availability in school (22.67%) and on respective teaching subjects of teachers (42.67%). Also theoretical as well as practical training should be given (61.33%) and evolution of the program is necessary (5.33%).

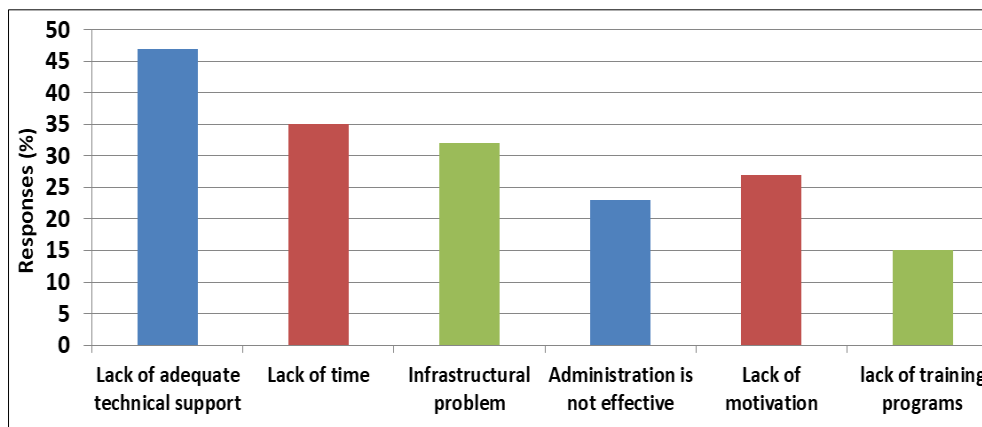
**Q9. Please give your views on the effectiveness of ICT in teaching learning process.**

In general teachers broadly agree that the use of ICT make them more effective in their teaching and enables them much

more to meet the varying needs of students. In general, the teachers broadly agreed that with the use of internet and technology they can make their teaching more effective and can motivate students in their learning.

**Q10. What are the chief problems which you face / have faced in the usage of ICT in your institution?**

Teachers were asked to indicate the problems which they face /have faced in the use of ICT in their institution. The barriers identified were lack of adequate technical support (47%), lack of time (35%), infrastructural problem (32%), administration is not effective (23%), lack of motivation (26%), lack of training programs by school (15%).



**Fig 11:** Institutional barriers for the ICT

**Findings**

**Findings of the present study are as follows**

1. Study revealed that majority of teachers (77%) was not aware of ICT.
2. Majority of teachers had no technical skills for the use of ICT tool.
3. The responses received from the teachers were analyzed in the light of their knowledge about different authoring tools. Majority of teachers (64%) did not learn any ICT tool from ICT in-service training program. Few teachers know its application like internet (22.67%) & computer software (14.67%).
4. Responses revealed that the rate of using ICT tool for classroom teaching and for professional development is low.
5. Analysis revealed that teachers were comfortable with using internet and Ms-office for official task /personal work.
6. Study revealed that majority of teachers (98%) felt that ICT component of in-service teacher training does not aid their classroom teaching.
7. Majority of teachers (71%) agreed that ICT component of in-service teacher training program did not help them in their professional development.
8. ICT component of in-service teacher training program did not help to make them aware of ICT.
9. Major barriers in the use of ICT for teaching identified were lack of knowledge about way to integrate ICT to enhance curriculum (54.6%), lack of time (5.33%), lack of technical support or availability of resources (2.67%) and infrastructural problem (1.33%).
10. Obstacles faced by teachers in their school identified were lack of adequate technical support (47%), lack of time in the school schedule for project involving ICT

(35%), infrastructural problem(32%), administration is not effective (26%) and inadequate teacher training opportunities by school (15%).

11. Teachers broadly agreed that with the use of internet and technology they can make their teaching more effective and can motivate students in their learning.
12. Majority of teachers (86.67%) do want to attend in-service teacher training program (on ICT) in future.
13. Future needs identified for ICT based in-service teacher training program were:
  - a) it should be based on students needs,
  - b) it should be based on teachers needs,
  - c) it should be based on resource availability in schools and
  - d) it should be based on respective teaching subjects of teachers.
  - e) Also theoretical as well as practical training should be given with follow up.

**Suggestions**

By the virtue of the investigator's experience gathered during the course of present study, a few suggestions are offered for further researches in in-service teacher training program with ICT component.

1. An exploratory study of administrative effectiveness for the use of ICT in government schools.
2. A study of principal leadership qualities in order to ensure effective IT development in schools
3. .A comparative study of teacher's competencies for the use of ICT in government and non-government schools.
4. An exploratory study of ICT readiness of school teachers.
5. A comparative study of effectiveness of training program for integration of ICT in teaching-learning process at pre-service and in-service stage.



## Conclusion

The present study revealed that majority of teachers was not aware of ICT and had no technical skills for the use of ICT tools. Teachers broadly agreed that with the use of internet and technology they can make their teaching more effective and can motivate students in their learning but the present status of ICT training programme does not aid their classroom teaching. They identified lack of knowledge about the ways to integrate ICT to enhance curriculum, lack of time, lack of technical support and infrastructural problems are the major barriers in the use of ICT. Study further revealed that majority of teachers do want to attend the ICT teacher training programme in future therefore the relevant educational authorities, society at large can look forward to the future positively knowing that the teachers possess positive attitude towards the use of ICT.

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