



INTERACTION EFFECT OF AWARENESS OF ICT, USE OF ICT AND ATTITUDE TOWARDS ICT ON THE TEACHING EFFECTIVENESS OF PRIMARY SCHOOL TEACHERS.

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Abstract

Digital technologies are changing the ways teachers interact with students in the classroom. There is immense potential of ICT which can be grabbed by the teachers using ICT optimally and maximally in their class instruction and for their professional developments. An attitude is a preparation or readiness for response. Effectiveness of a teacher can be described as their success in helping students to learn. The present paper entitled as interaction effects of awareness of ICT, use of ICT and attitude towards ICT in terms of their influence on the teaching effectiveness among primary school teachers. Effects of high and low awareness of ICT, use of ICT and attitude towards ICT influence on teaching effectiveness of primary school teachers. Teachers can integrate ICT into teaching-learning process effectively if he developed various skills and competences like, creativity, flexibility, logistic skills, skill for project work, administrative and organizational skills and collaborating learning skill. Teachers should be concerned about learners' learning, their own professional development and keeping him/her self updated to have positive attitude and becoming technology competent.

Key words : Awareness of ICT, Use of ICT, Attitude towards ICT, ICT, Teaching Effectiveness

Introduction

Teachers are the key persons to use ICT in educational settings productively and to help integrate ICT into the curriculum. They are the vital players in any initiative which aims at improving teaching and learning process. In classroom there are no more lecture methods or other traditional methods used, teachers are required to decide how to make appropriate educational use of ICT in classrooms. So, role of teacher is important, if teachers are not actively involved in integrating ICT in all phases of curriculum then ICT at schools will have little impact.

Technology using teachers plan classroom instruction on a large scale, students initiate, think and make decision daily in the classroom. Teachers think of wide things they want students to explore, find both print and electronic material related to the things and prepare students to deal with gathering and organisation and sharing their new found knowledge with others. Most teachers who recognise the benefit of using technology across the

curriculum are now spending time locating materials on the internet that will support their thematic activities. Teachers are becoming better facilitators, helping students stay active in their pursuit of knowledge.

Teachers today are making more authenticated assignments and engaging students in topics that have themes of high interest to them. They are motivating students through the use of computers and telecommunication in ways that ensure that the student will participate in various literacy projects. They also are helping students design presentation of their research finding to share with their classmates, parents and people around the world.

Out of necessity, teachers are helping students learn to filter information because of the unbridled nature on internet. They are using filtering systems that block certain sites and are having students sign agreements that promise that they will not purposely visit inappropriate websites. Teachers also are monitoring where on the internet students are or have been on specific computer. This can be done easily by looking at the browser's history; if browser history is deleted then it can be recovered through system restore, desktop search programmes, log files and data busters and many more other ways.

There is a need to change in each and every sphere of the society according to the tune of information and communication technology. It has the ability to enhance every type of development in the society. Education is the only means to incorporate information and communication technology in the developmental aspects of the society. ICT can also be used as a tool to improve the quality of education for preparing the society and its manpower to face the challenge of the future. It requires the proper manpower to handle and use ICT in school in a proper way. Therefore, teacher needs ICT resources to integrate in education and he may require some kind of skill training to use ICT for classroom teaching, for professional development and for personal development.

In this new technology era, the role of teachers has changed and continues to change from being an instructor to a constructor, facilitator, and coach to create learning situation and environment. ICT is very useful for teachers with these new roles. Teachers can integrate ICT into teaching-learning process effectively if he developed various skills and competences like, creativity, flexibility, logistic skills, skill for project work, administrative and organizational skills and collaborating learning skill. So teachers should use all these ICT resources to justify his new role as a facilitator, constructor and coach for his classroom teaching, professional development and personal development.

Awareness of ICT

The digitization of technologies has made a great impact on teachers' role. The impact can be felt in many ways. Digital technologies are changing the ways teachers interact with students in the classroom. As the importance of language to learning, the ways organizing and relating information facilitates understanding and the influence of social factors in the classroom are all impacted by digital technologies. Now the instructional approaches are also influenced greatly, as they are incorporated by a variety of technologies. Now teachers and students alike are interacting in new ways afforded by digital technologies. Teachers and students have virtual discussions related to course content, advice and counselling in a wide variety of times and paces through email and

other features of the web. Teachers and students now produce documents with more information and in far more diverse formats as a result of desktop publishing, online libraries and databases and file transfer capabilities. The pervasiveness of digital technologies motivates a thorough review of technological impact of instruction in education. Present school education courses should take advantage of the capabilities of technology and extend instruction beyond or significantly enhance what can be done without technology. Teachers should experience technology as a means of helping students explore topics in more depth and in interactive ways. As a large number of teachers are not computer and ICT literate, they have to face a tuff time in near future due to gradual shifting interest of students towards ICT. The time may be imagined to see the miserable conditions of an ICT illiterate teacher teaching ICT literate students. In this context, now it is the high time for every ICT illiterate teachers at least to create awareness about ICT, ICT literate teacher to be the ICT masters and the ICT masters to see it as sky is the limit.

Use of ICT

The extensive use of ICT may include the evaluation of educational software and courseware, search on internet for resources and use of e-mail, chat, new ICT based instructional principles, research and appropriate assessment practice, effective multimedia based presentations to support teaching learning, integrate ICT tools into learning activities throughout the curriculum, create hypertext documents and understand about network, and keep up-to-date as far as ICT or educational technology is concerned. There is immense potential of ICT which can be grabbed by the teachers using ICT optimally and maximally in their class instruction and for their professional developments.

Attitude towards ICT

A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related". Anastasi (1968) defines attitude as a "tendency to react favourably or unfavourably towards a designated class of stimuli such as a nation or a racial group, a custom or an institution. An attitude is a preparation or readiness for response. It is incipient rather than overt and consummator. It is not behaviour, but the pre-condition of behaviour.

The importance of teachers' attitudes toward new innovations has been universally recognized (Gressard & Loyd, 1985; Watson, 1987; Woodrow, 1992), in the process of technology implementation in schools. Implementation of ICT can be unproductive unless teachers develop positive attitudes toward the new technologies. Demetruadis *et al.* (2003) assert that teachers' attitudes regarding ICT use in schools not only pose difficulties in the use of technology but also cancel the learning benefits expected to spring from the instructional reform. An innovation is a multidimensional process that involves changes in beliefs and attitudes as well as practices [Fullan & Stiegelbauer (1991)]. For change to occur, identifying teachers' attitudes would be the first natural step. This explains the regular calls for conducting more studies on teachers' attitudes.

Teaching Effectiveness

Effectiveness of a teacher can be described as their success in helping students to learn and the related characteristics of effectiveness can be described as certain qualities which are related to teachers' effectiveness and which enable the teachers to achieve success in education (Walker, 2008). During last two decades, numerous researchers throughout the World have been studying related characteristics of Teacher Effectiveness. In order to discuss about these characteristics, they may broadly be categorized into three main streams i.e., School related, Teaching related and Teacher related characteristics according to the nature of assessing variables.

The role of teacher involved in all phases of ICT integration to the curriculum is important. Teachers are required to decide how to make appropriate educational use of ICT in the classrooms, where there are no longer lecture- based or didactic teaching methods in classrooms any more. In other words, teachers need to upgrade their skills and knowledge in the field of ICT (Hargreaves, 1999). The expectations placed on teachers seem to be expanding day by day. Their role is not only teaching specific content and mentoring students but also functioning as frontline social workers and competent in all the ways. To meet the challenges of schooling, teachers need to model in their own conduct the very qualities- flexibility, networking, creativity and also acquire and display these qualities to redefine their skills for the task of teaching through ICT that are now key outcomes for students.

NCET (National Council for Educational Technology, 1997) asserts that "Information Technology is rapidly changing the world we live in". ICT is changing the nature of society and employment and therefore in turn changing the requirements of schools and colleges. Across the curriculum ICT is used to enhance students' learning. Word processing improve the quality of their written work in any subject which allows them to reflect on what they have written and make changes easily. Animated graphics and computer simulations made the difficult concept simpler. Students can access high-quality information more easily by using CD-ROMs, and the Internet. Motivation of the learner consistently increased with use of ICT. It has the flexibility to meet individual student needs, to present information in new ways; power to try out different ideas and to take risk; and make learners more confident. Teachers can use ICT tools to produce high-quality teaching materials which will stimulate and develop interest among students. All this is possible if teachers themselves have teaching effectiveness.

Review : An Overview

A review of the related studies, most of the studies are either related to awareness or use of technology. It can be further stated that most of the studies are specifically related to the computer and internet further looking at a glance to the above studies, it can be revealed that most of the studies were conducted abroad and very few studies were conducted in India. Many of the studies revealed that a great degree of awareness about the ICT of teachers but less usage due to one or other reasons. Further, it was found that there were many studies carried out related to teachers' awareness of technology and teachers use of technologies but only few studies conducted which are related to the teachers need of technologies.

No study was found with the combination of ICT awareness, use and need of teachers in integration whole. Hence the present study is an attempt in this direction to study the ICT awareness, use and need of secondary and higher secondary school teachers. Some of studies revealed that 100% ICT awareness of ICT prevailed among the teachers while some other studies revealed moderate or less awareness of teachers about ICT. Most of the studies revealed that the use of technology is more among the young teacher in comparison to the old teachers. Use of technology was found more among teachers in abroad where as less usage of technologies were found among Indian teachers.

The variables teachers' attitude towards ICT and their teaching effectiveness are explored vastly and independently in some studies. The investigator feels that there is a need to further explore the influence of these variables in order to improve teaching learning process. The review of related literature presents a glut of researches presently being conducted in field of variables like use of ICT, their attitude towards ICT and teaching effectiveness. Based on the research studies, the researcher felt that there is a need to explore the use of ICT by teachers in relation to their attitude towards ICT and teaching effectiveness in schools that it will help to adjudged the extent of all the variables related to teachers and suggest measures to overcome the problems of teachers in the application of ICT in teaching learning Process. With this background, the next chapter follows the research methodology.

Statement of the Problem

The present study entitled as *“Interaction Effect of Awareness of ICT, Use of ICT and Attitude towards ICT on the Teaching Effectiveness of Primary School Teachers”*.

Variables

Independent Variables

- i. Awareness of ICT
- ii. Use of ICT
- iii. Attitude towards ICT

Dependent Variable

- i. Teaching Effectiveness

Objectives

Following objectives are formulated to realize the present study :

1. To investigate the effect of “Awareness of ICT” on the teaching effectiveness of primary school teachers.
2. To investigate the effect of “Use of ICT” on the teaching effectiveness of primary school teachers.
3. To investigate the effect of “Attitude towards ICT” on the teaching effectiveness of primary school teachers.
4. To investigate the interaction effect of Awareness of ICT X Use of ICT on the teaching effectiveness of primary school teachers.

5. To investigate the interaction effect of Awareness of ICT X Attitude towards ICT on the teaching effectiveness of primary school teachers.
6. To investigate the interaction effect of Use of ICT X Attitude towards ICT on the teaching effectiveness of primary school teachers.
7. To investigate the interaction effect of Awareness of ICT X Use of ICT X Attitude towards ICT on the teaching effectiveness of primary school teachers.

Research Hypotheses

Following hypotheses are formulated to realize the above mentioned objectives :

1. Effects of high and low awareness of ICT of primary school teachers differ significantly in terms of their influence on teaching effectiveness.
2. Effects of maximum and minimum use of ICT of primary school teachers differ significantly in terms of their influence on teaching effectiveness.
3. Effects of positive and negative attitude towards ICT of primary school teachers differ significantly in terms of their influence on teaching effectiveness.
4. There is an interaction effects of Awareness of ICT X Use of ICT differ significantly in terms of their influence on the teaching effectiveness of primary school teachers.
5. There is an interaction effects of Awareness of ICT X Attitude towards ICT differ significantly in terms of their influence on the teaching effectiveness of primary school teachers.
6. There is an interaction effects of Use of ICT X Attitude towards ICT differ significantly in terms of their influence on the teaching effectiveness of primary school teachers.
7. There is an interaction effects of Awareness of ICT X Use of ICT X Attitude towards ICT differ significantly in terms of their influence on the teaching effectiveness of primary school teachers.

Operational Definitions of Key Terms

A few terms appeared frequently in the report of the investigation and they have been used with specific meaning. These are as follows :

- i. **ICT** : For the present study ICT (Information and Communication Technology) means (computers for word processing, power point, spreadsheet, CAI (Computer Assisted Instruction) and related software, internet for e-mail, chat, searching, web designing, and for giving project work, LCD projector for Power Point presentation, and T.V. presentation and OHP, Television, and Radio) meant for classroom practice, professional development and personal development of teachers of primary schools.
- ii. **ICT Awareness** : It means the knowledge of teachers of primary schools regarding the components of ICT like, computers for word processing, power point, spreadsheet, CAI(Computer Assisted Instruction) and related software, internet for e-mail, chat, searching, web designing, and for giving project work, LCD projector for PowerPoint presentation, and T.V. presentation and OHP, Television, and Radio. For present study ICT awareness is defined operationally as the awareness score secured by a teacher in the awareness scale prepared by the investigator.
- iii. **ICT Use** : It means the use of the ICT components of ICT like, computers for word processing, power point, spreadsheet, CAI (Computer Assisted Instruction) and related software, internet for e-mail, chat, searching, web designing, and for giving project work, LCD projector for PowerPoint presentation, and T.V. presentation and OHP, Television, and Radio by the teachers of primary schools for classroom practice, professional development and for personal development. For the present study ICT is defined operationally as the score secured by a teacher in the scale prepared by the investigator.

- iv. **Attitude towards ICT** : Attitude is a settled way of thinking or feeling, typically reflected in a person's behaviour. In the present study, attitude refers to the feelings, opinion and beliefs of primary school teacher towards ICT use in classroom.
- v. **Teaching Effectiveness** : Teacher effectiveness had been defined in terms of the requisite competence attained, i.e., preparation and planning for teaching, classroom management (in terms of discipline, motivation, interaction and evaluation), knowledge of subject matter, interpersonal relations and personality characteristics of the teachers.

Research Design

Research Method

The present study was a descriptive survey research. The method deals with the interaction effect between the variables, the testing of hypotheses, and the development of generalizations, principles or theories that have universal validity. Descriptive research has been divided into several types, however, they are all attempting to find generalizable attitudes, and they all deal with present conditions. The study focused on the investigation of awareness of ICT, use of ICT, attitude towards ICT and their effects on teaching effectiveness of primary school teachers.

Sample

The list of all the primary schools of Chitradurga district (prepared by DIET of Chitradurga) constituted the scope of the study. Using stratified random sampling technique, 50 primary schools were selected. Primary school teachers from each school were selected using random sampling technique. In all, 548 primary school teachers were involved in the present study.

Tools Used

The following research tools were used to collect the essential data. They are : Awareness of ICT Scale, Use of ICT Scale, Attitude towards ICT Scale, Teaching Effectiveness Scale. The investigator ensured the content and face validity of the present scales since each item was judged by content experts. The investigator used Split Half method to compute the reliability coefficient of scales. Reliability of – Awareness of ICT Scale is 0.72, Use of ICT Scale is 0.78, Attitude towards ICT Scale is 0.69, Teaching Effectiveness Scale is 0.76.

Collection of Data

Data collection is one of the most important tasks of any research. As far as the problem under study is concerned, the data were collected properly, timely and precisely since it helps in finding the solutions to the problems. For the present study, the required data were collected from the primary school teachers by personally visiting the schools. For this purpose, the investigator personally contacted the school principals and explained the purpose of the study. After that scales were administered to the teachers and the completed tools were collected from the respondents. Self-rating scale was used in order to measure the teaching effectiveness of teachers.

Statistical Technique

The data on variable in the investigation in properly coded to suit for computer analysis. The analysis was carried out on the basis of objectives of the study and hypotheses formulated by employing appropriate statistical technique. In pursuance of the Objectives 1 to 7, the 3-way Analysis of Variance (ANOVA) technique was used. This provided an indication regarding the main effects and interaction effects of selected independent variables – awareness, use and attitude towards ICT on dependent variable – teaching effectiveness.

Analysis of Data

The following is the summary table of analysis of variance which describe the interaction effect of independent variables on dependent variable.

Table-1: Summary Table of ANOVA – Awareness of ICT, Use of ICT, Attitude towards ICT on Teaching Effectiveness

Sources of Variation	df	Sum of Squares	Mean Sum of Squares	F – Ratio	p - Value	Significance
Main Effects						
Awareness of ICT (AW)	1	5779.96	5779.96	33.5635	< 0.05	Yes
Use of ICT (U)	1	632.19	632.19	3.9610	< 0.05	Yes
Attitude towards ICT (A)	1	2860.12	2860.12	16.6084	< 0.05	Yes
2-way Interaction Effect						
AW X U	1	1379.34	1379.34	8.0097	< 0.05	Yes
AW X A	1	1906.14	1906.14	11.0687	< 0.05	Yes
U X A	1	91.84	91.84	0.5333	> 0.05	NS
3-way Interaction Effects						
AW X U X A	1	769.97	769.97	4.6513	< 0.05	Yes
Total	548	105857.87				

* NS : Not Significant

Interpretation

Significance of obtained F_A , F_B , F_C , F_{AB} , F_{AC} , F_{BC} and F_{ABC} ratios are determined by referring to Table – F (Garratt) with df 1 (numerator) and 548 (denominator). The corresponding tabled F-ratio for all these factors is 3.89 at 0.05 level of significance.

- (1) The obtained F-ratio in respect of the Factor – A is 33.5635 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the hypothesis is accepted.
- (2) The obtained F-ratio in respect of the Factor – B is 3.9610 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the hypothesis is rejected.
- (3) The obtained F-ratio in respect of the Factor – C is 16.6084 and the corresponding tabled F – ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the hypothesis is accepted.

- (4) The obtained F-ratio in respect of the interaction between the Factors – A and B is 8.0097 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the hypothesis is accepted.
- (5) The obtained F-ratio in respect of the interaction between the Factors – A and C is 11.0687 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.01 level, the difference is significant. Therefore, the hypothesis is accepted.
- (6) The obtained F-ratio in respect of the interaction between the Factors – B and C is 0.5333 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the hypothesis is rejected.
- (7) The obtained F-ratio in respect of the interaction between the Factors – A, B and C is 4.6513 and the corresponding tabled F-ratio is 3.89. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the hypothesis is accepted.

Findings

The following are the major findings derived from the interpretation of the obtained data.

- (1) There is a significant difference between the effects of teachers' high and low awareness of ICT in terms of their influence on teaching effectiveness of primary school teachers.
- (2) There is a significant difference between the effects of high and low use of ICT of primary school teachers in terms of their influence on teaching effectiveness of primary school teachers.
- (3) There is a significant difference between the effects of high and low attitude towards ICT in terms of their influence on teaching effectiveness of teachers of primary school teachers.
- (4) There is a significant difference between the interaction effects of teachers' high/low Awareness of ICT and high/low use of ICT in terms of their influence on teaching effectiveness of primary school teachers.
- (5) There is a significant difference between the interaction effects of teachers' high/low Awareness of ICT and high/low attitude towards ICT in terms of their influence on teaching effectiveness of primary school teachers.
- (6) There is no significant difference between the interaction effects of teachers' high/low use of ICT and high/low attitude towards ICT in terms of their influence on teaching effectiveness of primary school teachers.
- (7) There is a significant difference between the interaction effects of teachers' high/low Awareness of ICT, high/low use of ICT and high/low attitude towards ICT in terms of their influence on teaching effectiveness of primary school teachers.

Conclusion

The following is the conclusion drawn on the basis of the major findings derived from the study.

Effects of high and low awareness of ICT, high and low use of ICT and high and low attitude towards ICT influence on teaching effectiveness of primary school teachers. Interaction effects of teachers' Awareness of ICT and Use of ICT ; Awareness of ICT and Attitude towards ICT on teaching effectiveness of primary school teachers. But, Use of ICT and Attitude towards ICT do not effect on teaching effectiveness. Interaction effects of Teachers' Awareness of ICT and use of ICT and attitude towards ICT influence on teaching effectiveness of primary school teachers.

Discussion

The 21st century is an era of acute modernization and both teacher and students will have to cope with the changes and challenges. The information age requires a higher level of skill and knowledge of all individuals. Teachers' professional knowledge, skill and capabilities are enhanced by ICT as their subject knowledge is expanding. ICT enables teachers in planning and preparing them for more efficient teaching. Research by Sutton (2006) also shows that ICT enables effective learning. For creating learning environment ICT is recognized as an essential ingredient of education system. Power of technology to transform learning is recognized by educators worldwide. Teachers have been identified as major factor in fostering classroom ICT integration. They are the mind setters and torch bearers in the society. Hence, teachers must be able to increase conceptual understanding and analytical ability among students through the use of diverse Information and Communication Technology (ICT). Use of ICT definitely affects the performance of students and teachers in classroom. Through the ongoing and effective use of technology in the schooling process, students have the opportunity to acquire important technology capabilities. The teacher is responsible for establishing the classroom environment and preparing the learning opportunities that facilitate students' use of technology to learn and communicate. Consequently, it is critical that all classroom teachers are prepared to provide their students with these opportunities.

Most critical issues in developing and maximizing the benefits of ICT in teaching-learning process is the level of awareness, Attitude towards ICT and teaching effectiveness the teacher have in using ICT and accessing its benefits in their work.

Teaching in present schools requires teachers who are knowledgeable and skilful especially in using computer and other technology tools. Unfortunately researches (Yildirim, 2007) shows that teachers hesitate to use technology, don't feel prepared and fear to integrate ICT in their teaching in classroom. Their reluctance to use ICT is mainly due to their negative views towards accepting technology as part of their new teaching methodologies (Summar, 1990).

Akbaba and kurubacack (1999) also reported that if teachers already have negative perception towards the use of technology, this may affect not only their teaching effectiveness but more importantly they may become incompetent in using technology. The act of teaching along with high teacher awareness, positive attitude towards ICT and teaching effectiveness enforces the teacher to use ICT productively to enhance the effectiveness of teaching and learning process for giving the best output from the curriculum in the limited time in hand. It is important to evaluate teachers' attitude towards ICT and their teaching effectiveness as ICTs are being implemented in both private and government schools. Thus it is essential to investigate the impact of their attitude and competencies towards ICT in determining the success of educational system. A perusal of research studies reveals that teacher effectiveness is related to factors like high teacher awareness, positive attitude towards ICT and teaching effectiveness of teachers. So, the researcher has undertaken this study to find out the significance of teachers' awareness, attitude towards ICT and level of teaching effectiveness of secondary school teachers in the productive use of ICT.

Educational Implications

Findings from the study also suggested that majority of the teachers have moderate level of Awareness, neutral attitude towards ICT and moderate level of teaching effectiveness. These in turn have affected educational objectives in present scenario of technology. For effective use of ICT, teachers should have more use of ICT, positive attitude towards ICT, high level of teaching effectiveness. Therefore, there should be collaboration in working of the principal, teachers, administration and society for high level of teaching effectiveness in teachers.

Teachers should be concerned about learners' learning, their own professional development and keeping him/her self updated to have positive attitude and becoming technology competent. Training programmes should be run by administration bodies to make teachers competent in using emerging ICT in their classrooms. Teachers should be encouraged and motivated by giving some awards and incentives on integrating technology in their classroom by principles and administration to develop positive attitude towards ICT.

Curriculum and time table should be flexible for utilizing full potential of ICT in teaching and learning so that teachers do not hesitate in integrating ICT due to lack of time and taking it as separate from curriculum. It is concluded from the study that there is a positive correlation between use of ICT and all other variables. Efforts of teachers using ICT should be recognized and outstanding achievements of its teachers should be celebrated, so that it increases their awareness and attitude towards ICT. Efforts to provide opportunities to attend special awareness programmes of ICT use should be provided to such teachers so that they become technologically competent as well.

Parents and community should also create supportive learning environment, towards use of ICT, which in turn affect teachers' attitude towards ICT. To increase the level of teachers' awareness students' and teachers' collaboration across the world in sharing educational views on various internet facilities should be encouraged by school, teachers themselves and the parents. Teachers' requirements should be considered while developing educational software so that they use these ICT tools and develop a positive attitude towards ICT.

Today's teachers are taking greater responsibilities for learning that occurs when students visit their school computer laboratory. Previously, teachers could allow the lab assistant or computer teacher to instruct the classes. With the advent of more in service instruction for teachers and more in classroom use of computers, behaviours have changed. Now all teachers must know how to organize instruction in the ways that computers are being placed directly in classrooms.

ICTs also help teachers in the following ways:

- ICT enables to enhance the initial preparation by giving good teaching material to use.
- with the help of ICT, teachers can have access to colleagues, institutions, universities, centre of expertise, rich resources and cyber space and national organization like UGC, NCTE, NCERT, NAAC etc.
- ICTs enable to interact with students over a physical distance.
- ICTs enable to access online libraries, journals and research to enable individual learning.
- ICTs enable to give feedback of students performance and evaluating students' work objectively and fast without biases.

- ICTs provide lifelong and professionally developed courses at virtual situation, training on demand, orientation, and refresher courses through video conferencing or on-line.

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