

Quality Enhancement in Teacher Education----Role of ICT in Quality Education

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Abstract

ICT that is Information and Communication Technology is not a new word to today's education system. ICT has an immense effect in the education system of this era. The days are gone when the teaching and learning was only a two-way process including teacher as the giver of knowledge and students as the receiver of knowledge. Now ICT is playing a major role in this process making the education interesting and more comprehensive. ICT has not only its impact on students but it is also a good partner for teachers and administration work. Technology is playing a great role in all the fields let it be banking, business, marketing, medicine etc. under the umbrella of ICT comes several devices such as television, mobile, radio, computer etc. Use of these ICT tools in education makes Education more interesting and has a deep effect on the minds of the learners or the students. As the ICT tools or devices include the more use of senses, thus it becomes a more qualitative process and has an impact for a longer time. Education through ICT devices grabs the attention of the learner and so is very effective than the traditional teaching process. The rapid expansion in the use of technology in the field of education is an incredible change. This paper includes the admirable role of ICT in making Education an engaging task and provides quality education. It also discusses the advantages and some of the limitations in its implication in Education.

KEYWORDS: Information and communication Technology (ICT), Implications, Qualitative process.

INTRODUCTION

ICT has become a very important part or we can say the medium of education in very short span of time. It is not very old phenomenon. Earlier, education meant to learn and write only. But now it is something more than it. Now the focus is on the development of the cognitive level of the children and to enhance their learning ability. For it, they are provided education since the very beginning of their study age. ICT plays the core role in the education system in this modern era at all the levels. Let it be nursery or the higher secondary. Rapid growth of the technology is not less than the boon to this world. At one level, developed countries are masters in the use of technology, the developing countries are also moving towards the education through technology. Education is being provided through ICT tools and technologies for number of reasons. It enables the formation of knowledge society. Young generation is being provided with such facilities that they get whatever they want right at a click. ICT provides best educational facilities required by children to enhance their ability to use their cognitive level to the full extent. ICT not only provides the basic facilities in teaching and learning process. But it also enhances the maintenance and proper

functioning of the schools. For example, online libraries, administrative work, record keeping, attendance etc. Use of ICT in all these areas has also improved the quality of education system. ICT plays an important role in these areas. Use of ICT reduces the need of physical availability and is a good source of distant education. For example, video conferencing, online assignments, notes uploaded by the teachers. Hence it enhances the rate of educated youth. Now ICT acts as the foundation of the education. ICT enriches the knowledge and makes a person efficient and more resourceful.

USE OF ICT IN SCHOOL

Apart from the teaching-learning process, ICT also plays a major role in functioning of the school. There are several levels where the technology affects the whole school system.

- Administrative work
- Record keeping
- Attendance of teachers and students and other staff members
- Formation of results
- Library
- Time-table management
- Management of events(schedule)
- Teaching learning

Use of ICT in all these areas has a tremendous effect and it enhances the quality of management and coordination of the school and thus making the education process more comprehensive and systematic. It reduces the work load of teachers and they can utilize maximum of their times in making their teaching more creative and effective.

ROLE OF ICT IN TEACHING-LEARNING PROCESS

ICT can be considered to have a major contribution in the modern education system. Education without ICT is like food without salt. Like salt, ICT also work as adding flavor in the education system. The process of teaching and learning becomes interactive, engaging and interesting in education system. It breaks the door of knowledge and provides the access to another world where one can reach and become a person of more worth. ICT gives the opportunity to teach and learn each concept or lesson in a different way. It is useful for all the subjects. It can be understood easily by dividing it into two parts: teaching and learning.

ICT useful in teaching:

- Use of ICT provides a new way to teach the same thing. Same thing can be explained more innovatively and interestingly with the use of ICT.
- It enables the teacher to focus on each and every child to the same extent.
- It enhances the engagement of the children and it becomes easy for the teacher to grab the attention of the children on the particular topic.
- It also reduces the administrative work load of the teachers. Teacher can utilize more time on creativity than other works.
- It also takes less time in the lesson planning.
- Without any doubt, it is a more comprehensive approach.

So, the teachers have a great use and advantages of ICT and they can use the technology to enhance the quality of their teaching.

Teacher can use several approaches to improve the teaching quality like:

- Drill and practice
- Tutorials
- Simulations
- 3D modeling

ICT useful in learning:

- ICT provides the opportunity to be more creative and innovative.
- It is the best source of independent learning. It doesn't require the presence of teacher to learn. Students can actively learn on their own and do creative things.
- It also enhances the team work and develops skills in the students to work in a collaborative manner.
- The learner can learn depending upon the need and the availability of time. Thus, it is a flexible source.
- The learner remains more engaged and take interest in the subject.
- There is no lack of information. One can access to the information at the one wants to.

So, this is how ICT is very much helpful in the learning process. It enhances the cognitive development of the learner and leaves a great mark on the learner. Learner learns same things but in a new and interesting way. ICT undoubtedly is a boon to the teaching learning process as it enhances the quality of education which one provides and the other gets.

Use of features like CAI (computer assisted instructions), CAL (computer assisted learning), CMI (computer managed instructions) adds a good quality in education. It provides the easy and quick assessment and evaluation of children. Thus, it provides students opportunity to improve themselves

COMPREHENSIVE APPROACHES

Teaching with the help of ICT resources means teaching in traditional manner but with new innovations. The basic concepts of the subjects are same today as well but the method of teaching has been changed. Child centered education is the main focus where the needs of children are kept in center. Following are the approaches for the use of ICT in schools for making the students to actively participate in teaching learning process:

- Interactive boards or smart boards are used in teaching process
- The processes involved in the experiments can be made more clear and understandable using ICT resources.
- Experiments are basically involved with science subjects. The use of ICT makes it more interesting.
- PowerPoint presentations help the teachers to provide knowledge to students in a compact manner. Using animations, presentations can be created more attractive.

- For teaching moral values and lessons in primary sections, storyboard and storytelling features help in engaging students. By watching videos and listening audios they learn in a better way.
- Use of internet for finding information's.
- E-mail facilities make communication easy.
- Distant education courses can be provided to the students.

MERITS OF ICT IN EDUCATION

Information and communication technology (ICT) is widely used in education in giving instructions, learning and in assessing students. ICT is a medium of bringing change in education system. Through ICT teachers and students are able to connect their problems with real life situations. Learning is a continuous and life long process. Making students learn with the help of ICT resources helps in developing interest of the students. Students then actively participate in the process of teaching and learning. There is no barrier of time and place. A student can learn with his own space and time. ICT has helped in fostering child centered education. For example, online course materials can be easily accessed at any point of time in a day, in a week, in a month or a year. Maximum of the online educational materials available can be downloaded and can be seen number of times based on the choice and speed of understanding the concept of the learner. Students who are not able to attend schools or want to pursue courses while working, for them, ICT is a boon. Online test series helps them to access themselves on their own and the areas of improvement are highlighted. With the help of teleconferencing one can learn and interact with the teachers simultaneously. To get their doubts cleared, they need not to wait for a long time. Internet is now like a sea of knowledge, where every piece of information is available just at a click of mouse. Knowledge can be gained in the form of videos, audios, presentations etc.

Technology also helps students to compete globally with other students. It is seen that schools with sufficient ICT resources achieve better results than those that are not well equipped. Improvement can be seen in student's performances. It helps the learners in completing their assignments. It helps in improving social relationships of the learner as sometimes group tasks are assigned for completion of projects.

Technology has advanced so much that through games, students can be made to learn by establishing virtual reality. Virtual reality is a technology that uses virtual reality headsets or multi- projected environments or sometimes in combination with physical environment or props to generate realistic images, sounds and other sensations that stimulate a user's physical presence in a virtual or imaginary environment.

ICT has helped to foster inclusive education. Many children, young people and adults with special needs require additional technology in order to access learning and other activities. Devices such as automatic page turners, book holders, wheelchairs, hearing machines helps the children with special needs to gain knowledge while sitting between other children. Few other technologies include text-to-speech assistive tools, sip and puff systems, Intel Reader, Maths tools and many more.

BARRIERS

In spite of the various benefits of ICT in education, both at schools and homes, we have to face various challenges in integrating ICT and achieving quality education. ICT act as a bridge between knowledge and literacy and helps in connecting people

globally. But these poses challenges to school in terms of infrastructure, investments, content, trained professionals, willingness of teachers etc. arrangements for infrastructure like sufficient number of computers, projectors, LCD screens is not an easy task as it requires both space and money. Rooms need to be constructed with all the facilities such as uninterrupted power supply, internet connectivity, furniture, fire extinguishers for safety issues and also teachers and students must be trained in using it. All these cannot be achieved in a small span of time and also it requires huge amount of investments. Private schools can afford to some extent but government schools rely on the government for the issue of funds. Although some percentage is issued by the government but much time passes in the process of establishing ICT resources in the schools.

ICT IS A BOON OR A BANE :

BOON	BANE
IT PROMOTES CCE (CHILD CENTERED EDUCATION)	HUGE INVESTMENT IS NECESSARY
INCLUDES ACTIVE PARTICIPATION OF STUDENTS	MAINTENANCE PROBLEMS
STUDENTS CAN LEARN ON THEIR OWN	REQUIREMENT OF TRAINED TEACHERS
INTERNET-OCEAN OF KNOWLEDGE	TIME CONSUMING
NOT EFFECTED BY DISTANCE OR CLIMATE	NOT ACCESSIBLE BY EACH CLASS OF PEOPLE
MORE ENGAGEMENT OF STUDENTS	
MORE NUMBER OF CHOICE FOR STUDENTS	

Sampling and Delimitation

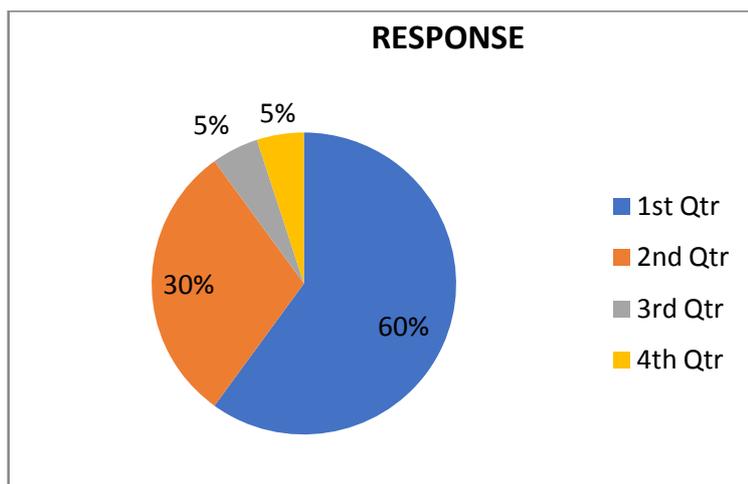
The research is based on data collected from 50 people including students and teachers from Delhi and NCR.

Objectives and Interpretation

- A. Objective** -To study the use of ICT in schools and to what extent do the schools really use ICT resources

Analysis and Interpretation of Data

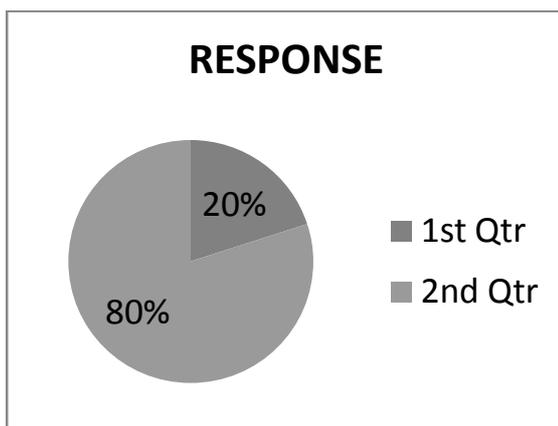
The analysis is based on the survey conducted, in which 60% people believe that there is average utilization of ICT resources in schools. Whereas 30% people believe that there is utilization of ICT resources in schools.



B. Objective -To study whether ICT is a burden for students or not?

Analysis and Interpretation of Data

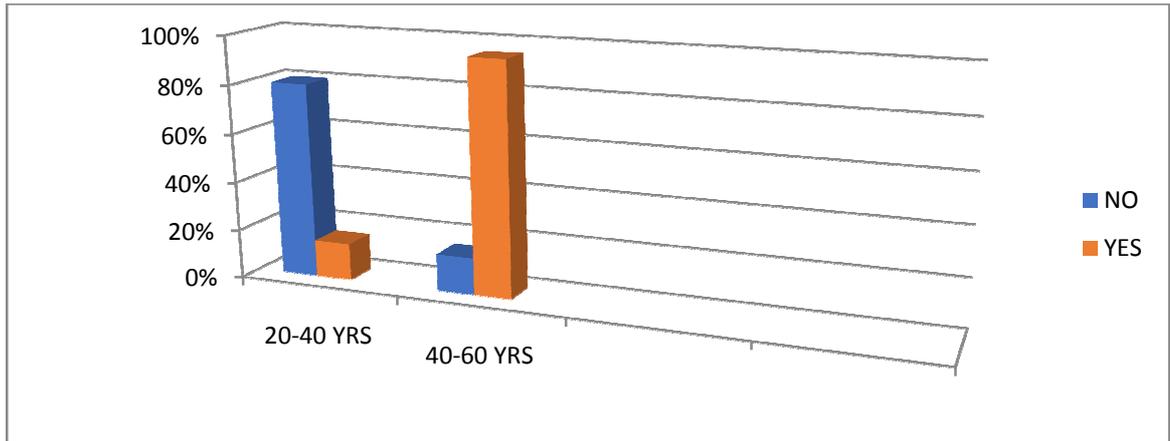
The analysis is based on the survey conducted, in which 20% of students consider ICT as a burden whereas a majority of students do not. So, we conclude that ICT is not a burden for students as maximum students do not consider ICT as a burden.



C. Objective -To study whether ICT is a burden for teachers or not?

Analysis And Interpretation Of Data

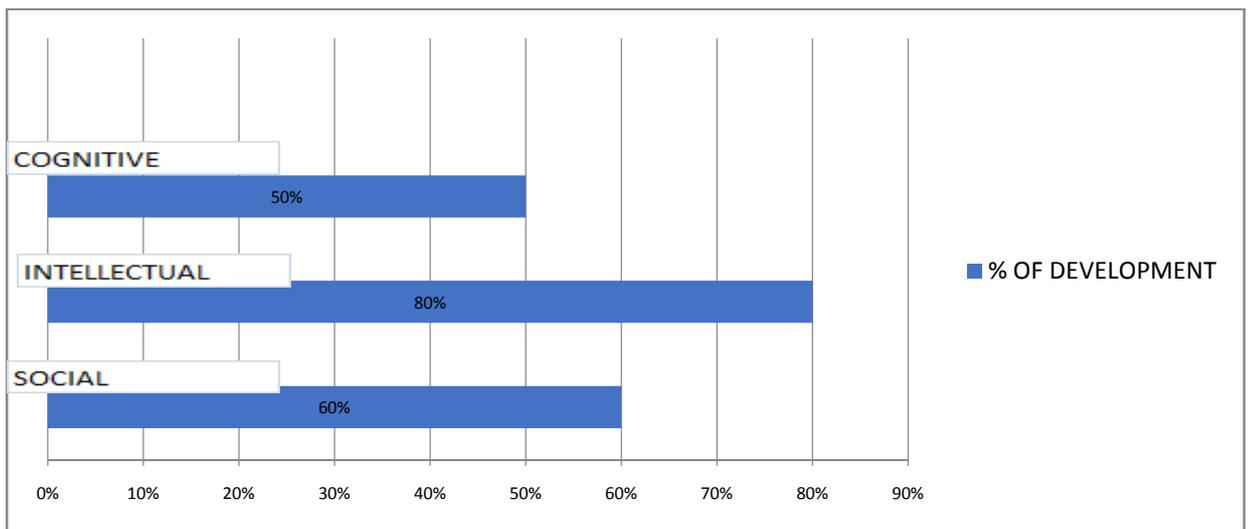
This data from survey clearly shows that younger teachers of age group 20-40 do not consider ICT as a burden while the experienced teachers of age group 40-60 years find ICT as a burden.



D. Objective --To study whether ICT is helpful in the development of children?

Analysis and Interpretation of Data

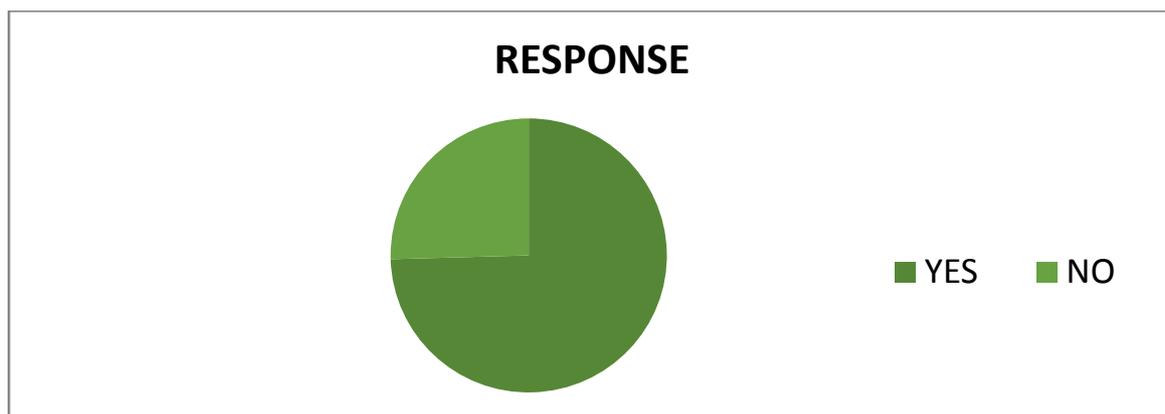
In this survey three measures were taken as to define the overall development of child and the role of ICT in it . As one can conclude that ICT helps maximum in the intellectual development of child where as it is a average contributor for social and cognitive development of child.



E. Objective -To study whether ICT is promoting inclusive education or not?

Analysis and Interpretation of Data

The survey was in favor for the fact that ICT is promoting inclusive education. the response was fair as certain amount of people also denied the fact but Maximum responses were in favor of the fact.



CONCLUSION

From the data collected on the basis of research, it is concluded that the use of ICT in education helps to enhance the quality of education. As it has numerous advantages. ICT bridges gaps between the teacher and the students. We have included different age groups of teachers and students. On the basis of their opinions most of the people think that ICT is playing a good role in providing the quality education, while there are few who look on the other side of the coin. So, ICT is undoubtedly a boon to the education system but it also has its barriers in the education process which can't be neglected.

REFERENCES

Livingstone, Sonia (2012) Critical reflections on the benefits of ICT in education. Oxford review of education, 38 (1).

Sharma, P. and Nigam, S. (2014). ICT Mediated Education. Meerut: Vinay Rakheja

<https://www.slideshare.net/atulunik/teaching-methods-and-ict>