Problem Faced by Schools in Implementation of ICT

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ABSTRACT: Information and Communication Technology (ICT) has a capability to improve the education system to a great extent. But this is not the case in India because of certain problems and challenges. Now a day today's era is the digital era which allow the students to work more effectively and productively than in past experience. Role of the teachers in the digital era is more demanding than before. ICT has a great potential to explore the nature of education. But in India we have to face some problems and challenges to implementation the ICT in schools.
The aim of this research is to present a case base study report of the implantation of ICT in schools system by evaluating the current use of ICT as well as problems encountered when introducing ICT in classrooms. This case study was done in different school of Delhi to collect the data in terms of region, location (Rural/Urban) and type of schools run in Delhi region i.e. DoE, MCD, NDMC, KVS, NVS, Aided School, Unaided, and Private School etc.

KEYWORDS: ICT (Information and Communication Technology), Problems, Education, Digital Era, Directorate of Education, Delhi (DoE)

INTRODUCTION:

Information and Communication Technology (ICT) play a significant and important role in the field of education in all over the world. It is an effective educational tool which promotes the dramatic changes in teaching and learning process. ICT provide the powerful learning environments and can transform the learning and teaching process so that students can receive the knowledge in active mode, self directed and in constructive matter. Now a day's ICT is use as an important tool to promote new methods for learning and teaching. It use to develop student skills, cooperation, communication problem solving and lifelong learning [1]. As we know that education is the one of the fundamental factor of development of any natioin.No country can achieve sustainable economic development without sustainable investment in human capital education raises peoples productivity, creativity and promotes technological advancement. It is an important contributor to technological capability and technical change in organization.

ICT is an essential educational technology tool that can enhance impressive changes in the teaching and learning process. ICT tools are use for making dynamic changes in society. They are influencing all aspect of life. The influence are felt more and more at schools because ICTs provide both student and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing schools adeptly respond to this technical innovation [2].

The aim of this study is to present a review of the state of ICT in Senior/Secondary schools education system located in Delhi region they face the some problems encountered when introducing the ICT in classrooms. In Delhi region schools, introduction of computers in primary and senior/secondary school education is recent phenomenon [3]. High subscription   and ICT information costs coupled with poor quality of service provider and the lack of basic infrastructure such as Poor Connectivity of Electricity, Lack of power backup, working with old system, no technical assistance these are act as barriers to the use of ICT in school education system.

In the Table I shows the total numbers of Senior/Secondary school registered in Delhi Region and others by run different agencies and Table II shows the schools that had a computer for use ICT in teaching and learning process in the year of 2022 (as per the Times of India Report).Approximate 35 % of the schools were in rural area and 19 % in the urban area of the country but in the case of Delhi region all the schools are located in urban areas. All the private schools have adequately equipped with computers laboratories.

Table 1: Type of Schools

Type	Senior/Secondary Schools		
	Total No of School Registered	No of School Having ICT Infrastructure	Use of ICT in school (%)
DoE	2784	2666	95.7
MCD	1535	15	0.9
NDMC	53	45	84.9
KVS	1243	1233	99.2
NVS	649	450	69.3
Grand Total	6264	4409	70.3

Source: Times of India Report (2022) and Annual Report of School (2022)

Table 2: Schools offering computer facilities and curriculum

Region	Rural schools	Urban schools	Curriculum/ Board
DoE (Delhi)	Nil	252/2666	NCERT/CBSE/Delhi Board of Education
MCD(Delhi)	Nil	15/1535	NCERT
NDMC(Delhi)	Nil	45/53	NCERT/CBSE
KVS(Delhi/Others)	Nil	1233/1243	NCERT/CBSE
NVS(Delhi/Others)	450/649	Nil	NCERT/CBSE

Source :Times of India Report(2022) and Annual Report of schools (2022)
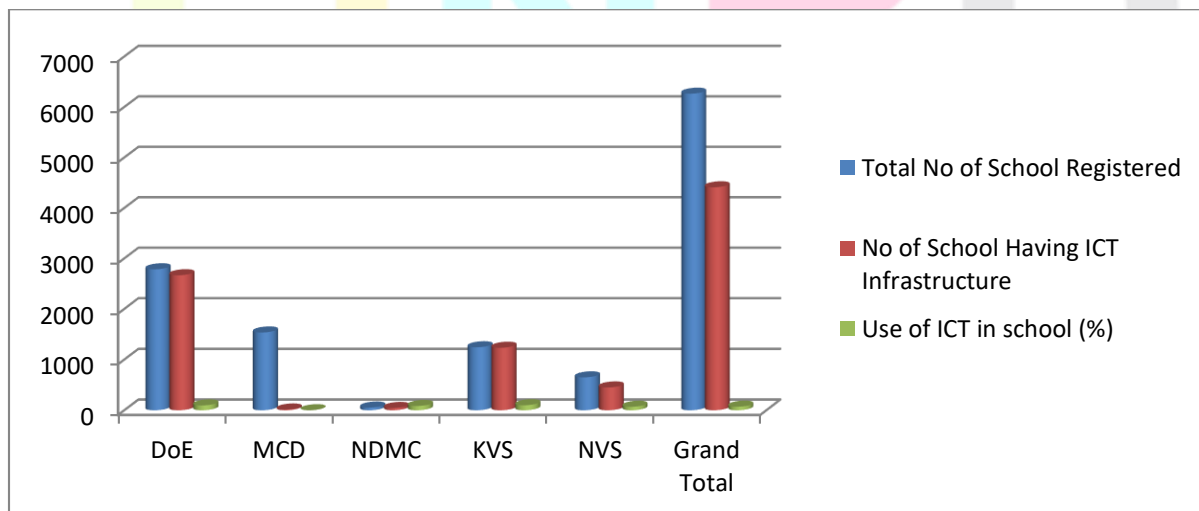
Graph-I Show the status of ICT infrastructure
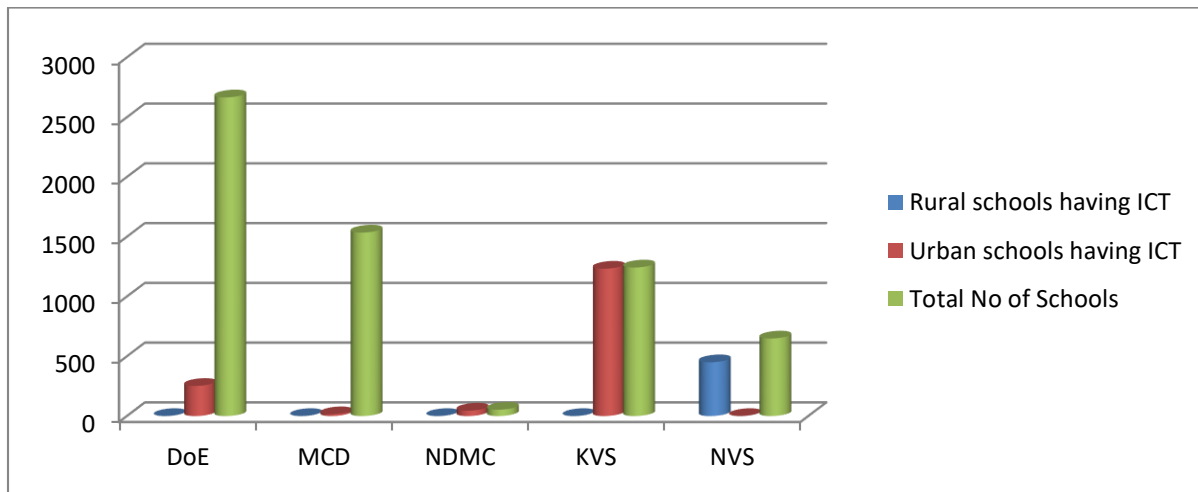
Graph-II Show the School use the ICT infrastructure

As per the above mention Table I shows that the use of ICT in urban area Senior/Secondary Schools is higher than the use of ICT in rural area except the Navodya Vidyalaya Samiti School (NVS) because these are the residential school and located in the rural area of India.

According to the implementation of ICT policy which clearly emphasis on ICT to implement in Rural Areas of India especially in schools to promote the computer base quality of education by using ICT tools. Ratio of computer in ICT classrooms should be 1:20 as per the standard education policy.

In above Table I clearly shows that total Number of 4409 school having ICT infrastructure out of total number of 4264 registered school in Delhi and others region. These school has no set curriculum to be followed by Primary /Middle / Senior/ Secondary School on ICT subjects because the shortage of qualified ICT teachers in the schools.
A Case study was done in 2022 with the sample of schools that have ICT both in Urban and Rural area. This study shows that approximate 35 % of the teachers teaching ICT are a bachelor degree holder they are work for other subjects like Mathematics, Science, Social Science, General Studies and other Skill base subjects which are not directly related to ICT background.
Most of the 32 % teachers are regular teachers to teach ICT and they are looking for jobs in industry and others sectors. Some of the teachers are engaged in the others school activities like Distribution Mid Day Meal, Office Work, Admission Work, Fee Collection work ,Seminars, Election Duty and many more other duties assigned by school authority time to time.

By using the ICT tools students deal with knowledge in active mode and in self-directed way through the use of computer and internet facility. It must be noted that television is playing as important role in Education especially in rural and urban area of the country. To spread the Information among the students and citizen of country government has takes the lots of decision to teach the students and society via digital mode by using the different type of services like. Education through Satellite, Education through TV channel Some example are such as DD GYAN Darshan, SWAYAM Prabhat TV, YouTube Channel, KISHOR Manch, VYAS Channel and many more.

METHODOLOGY:
This study was done in two parts which is based on descriptive method Part-I is based on close ended questionnaire and Part-II was base on interviews with all school located in Delhi region through online mode by sharing Google Form. School that were used in Part –I study is based on the report publish in various new paper, articles and research papers etc. In this we use the target population was the schools that have ICT base computer laboratories. These schools were selected accordingly to their infrastructure point of view such as region, location (urban, rural) and type of school whether it is a government school, Aided School, Unaided School, Private school, Missionaries and Community school etc.

Method use: Systematic Sampling method was used in the school to identifying the problems faced by the school when they want to introduce the ICT in their classrooms.

PROBLEMS FACED BY THE SCHOOLS WHEN THEY INTRODUCING ICT IN THEIR CLASSROOMS

Problem faced by the school to introduce the ICT in their curriculum as we know that every government is committed to provide good quality of education to each every students of school by implementing ICT in their schools however, the process is hamper by the number of barriers generally we all faced the two type of barriers which are such as –

- ✓ **External Barriers**
- ✓ **Internal Barriers**

External Barriers: include the lack of equipment, unreliability, lack of technical support, lack of Infrastructure, lack of power backup and others resource related issues.

Internal Barriers: This is the most commonly use barriers in the implementation of ICT in schools which include both school level factors such as organizational culture and teachers level
factors. There are many type of problems in implementation of ICT in schools education system are such as External and Internal Barriers, these are very common in others country school education system.

Lack of Knowledge and Technical Skills:
Teacher's lack of knowledge and technical skills is the one of the major factor in the use of ICT in education. A study of 53 school in Delhi shows that more than 65 % teachers that teach ICT in school have not been taught because of they don't knows how to teach and how to use ICT tools in their classrooms. Many of the teachers not belong to the ICT background so that they face the problems to use ICT in classroom. They have lack of knowledge and technical skills on ICT tools and software. So that they can limited use of ICT in their teaching and learning process. There is also a shortage of staff and lack of staff training and quality training for teachers so that the result will be very poor due to the lack of knowledge and technical skills.

Lack of Time: Teachers have been playing an important role to teach the students by using the new technologies. But in many time it found that teachers teach more than one subject by using ICT which means they have very heavy load during the classes. These teachers do not have time to design the lesson plan, develop new strategies and incorporate the technology in to teaching and learning process [3].
It is the need of hour's teacher needs time to collaborate with other teachers as well as learn how to use ICT tools in their Teaching methodology.

Lack of equipment: ICT infrastructure in a country is depends on the availability of resources. In urban area number of school having no electricity problem but in the rural areas school availability of electricity is a big problem in our country. Firstly we need to provide proper electricity for the implementation of ICT in rural area to teach the students. There are other resources that are needed such as computer, printer, multimedia projector, scanner, smart board etc which are not available in the schools many of schools have computer and one printer but other resources are not available. As we know that the updadtion of software and hardware is the key feature in the diffusion technology [4].But this is a rare experience in education. In many of schools computer are not enough some classes are very large as per the enrollment therefore it create the problems between teachers and students in their teaching and learning process. However in private school have proper updated resource.

Maintenance: Maintenance of the ICT tools like computer; scanner, projector, speaker, etc are very costly due to the labor charges and updation   of technology. Many schools that had computer donated by NGO, private sector or brought by government had challenges in the maintenance   and updating the computer equipment. It is found that many of schools having ICT infrastructure but they charge the maintenance fee of computer hardware, software and internet facilities has to be borne by the students.

Lack of Internet Facilities: Now a day's internet play an important role in the education sector for exchanging the information from one person to another person, sharing of information, uploading and downloading the information. In education internet delivery demand extensive use of ICT and libraries are no longer the only source of information. Internet is available only in urban area not in rural area due to the problem of electricity and Internet service is very poor during the study we found that many of the schools in rural area and urban area they charge the additional fee to the students for the maintenance of Computer and other resource available in school[5].It clear show that schools have not enough fund for the maintenance and support to the computer facilities.

Lack of Insufficient funds: Implementation of ICT in schools need maintenance and technical support for the proper use of ICT tools in classrooms but due to the insufficient funds provided by government to school which create the problems in the implementation of ICT in teaching and learning process. Teaching aid for ICT demand a lot of funds and setting up the infrastructure, maintenance and technical support of ICT facilities are the some problems that the schools are facing day to day routine work.

CONCLUSION:

Lack of resource in an educational institution which hampers the implementation of ICT in education sector due to the limited resource so that we cannot give the ICT base education to the student and teacher. It's the primarily responsibility of the each and every school. Government to provide the basic and adequate facilities and resources for effective implementation of ICT in schools. This effective implementation of ICT largely depends on the trained teachers and the school administration. Government can help by providing in-service training to the ICT teachers and non ICT teachers time to time and to motivate the teachers to use ICT in their regular classrooms activity [6]. In our society there are three main type of pillar in education   are such as

- ➢ Teacher
- ➢ Parents
- ➢ Student

These three pillar are interconnected with each other without three pillar of education we cannot overcome the barrier of the implementation of ICT because government can trained all the teachers to give the in-service training and also trained the teacher how to use ICT tools in their classrooms by giving the practical training to improve the teaching and learning environment [7].

Parents can deposit the school fee on time which include the development charge, computer facility charge and other charges it will help the school to overcome the barriers in implementation of ICT in schools so that students can use all the ICT tools to learn digitally   and also enhance their knowledge by using the proper use of ICT tools in their classroom activity like computer, smart classes, digital libraries, online and virtual classes, Atal Tinkling lab, Palika Tinkling lab etc

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