

Instrumentality of Social Science Teachers in Utilizing ICT: Experiences from Secondary Schools in Rural Kerala

Arunima Anil¹, Dr. M.S Jayakumar²

¹(ICSSR Doctoral Research Scholar, Dept. of Sociology, University of Kerala)

²(Assistant Professor, Dept. of Sociology, University of Kerala)

ABSTRACT: In the face of a huge digital revolution, the integration of information and communication technology (ICT) in education has not raised to the expected standard. Mostly the impact is assessed in relationship with ICT policies, infrastructure build-up, quality improvement, student achievements etc. ICT's have brought new possibilities in the education sector, at the same it has placed more demands on teachers in becoming ICT- capable ones. They are to be prepared to teach their subjects using technology in its most effective manner. Obviously, they should be mastered in using hardware and software, learn how to cope with digital medias ranging from classroom technologies to instructional design and delivery. The need of the hour is to equip the teachers with adequate skills in order to move towards ICT- enabled education. The paper is an endeavour to explore the ICT integration from the perspective of teachers, as they are the key drivers in the teaching- learning process and to understand the levels of access and extent of utilization of ICT based on qualitative method. The findings show that teachers has limited access to computers, internet and other ICT peripherals in schools which results in low level of ICT integration in the subjects being taught. They have restricted use. Frequency of technology usage is also minimal. In addition, attitude and beliefs, ICT literacy skill level, personal constraints, lack of time, inadequate content and limited training also makes restrictions in their access and usage.

Key Words: Digital Divide, ICT, Rural School, Secondary education.

Date of Submission: 14-09-2017

Date of acceptance: 23-09-2017

I. INTRODUCTION

Kerala has achieved high literacy rate and bagged the status of first “Digital State” in India and also stood forward in implementing full length ICT – based projects. Though Kerala shows comparably low rural – urban divide, there is a divide in case of ICTs as there are controversies in fully utilizing the benefits of ICTs in rural areas. The nature and extent of its use varies in rural school. More than 80 percent of the schools are situated in rural areas. The twin issues of digital divide and social exclusion in rural areas need to be addressed seriously. ICT is a tool for increasing access to and improving the quality of education.

Digital age has transformed the human life by providing various labels such as digital era, information revolution, e-society, Neo-Millennial, technologically advanced or 21st century. The present society is characterised by interconnected networks, wireless communications, satellites, etc. ICT acts as a powerful tool in transforming the conventional education system. Today's schools are becoming smarter with the introduction of smart class rooms, multimedia, Digital collaborative textbooks, etc. Innovation, technology and research are indispensable tools of education in the 21st century. Failure to construct new practices and following yesterday's methods is a major barrier towards educational development. ICT finds a better way ahead to leap frog these challenges (Asia and Pacific Programme of Educational Innovation for Development, 1991).

In the age of digital delivery teachers are considered as ‘Digital Immigrants’ and students as ‘Digital Natives’. The Digital immigrant teachers today need a strong understanding of instructional technologies as they are addressing the digital native students. Therefore, the question, to what extent today's teachers are able to uptake the integration of ICT in teaching and how far they are capable of addressing the digital native students seeks peculiarity. Teacher is one who can meet the needs of students in the changing educational scenario. For better understanding and for live and interesting experiences, integration of ICT is an essential component. “Schools of Tomorrow” should envision a digital platform equipped with ICT trained staffs, since they are the facilitators for its effective dissemination.

II. NEED FOR THE STUDY

The teaching of social studies subjects can be greatly enhanced by the use of ICT. It is essential that teachers have to familiarize to handle the technology effectively (Thamarasseri, 2012). 'Teaching of Social Studies' has become a challenging task at secondary level as it is concerned about natural and social phenomena that cannot be easily expressed without the support of graphics, maps, audio – visual aids (Joshi,2012). Teachers need to use them effectively to make social science vivid, real and interesting. But social studies teachers are still adopting traditional ways of lecturing using textbooks and black boards. The determinant factor in enabling ICTs into the classroom relies upon the attitude, motivation and confidence level of the teacher. As teachers are the key facilitators, they have to acquire digital literacy and should update their knowledge and skills continuously with the addition of newer technologies. Having a proficiency in ICT has to be prescribed as an additional qualification for teachers. Ensuring access to computers and internet in school enables the teacher to fully utilize ICT in teaching. Moreover the advancement of modern technologies challenges the traditional methods of teaching and learning. Although new gadgets are popular among educator's lives, personal use does not automatically guarantee to be prepared them to use for educational purposes. Since new applications such as blogs, wikis, Twitter, virtual worlds, etc. are emerging; facilitators are rarely trained on their effective use (Arul, Balaji & Pandey, 2014).

III. BACKGROUND OF THE STUDY

In 2000, serious effort for the realisation of IT enabled Education in Kerala was studied by Prof. U.R. Rao commission and in 2001 IT@SCHOOL Project was launched with an intervention to integrate ICT as an effective tool in teaching learning process. It took efforts to include technology into the school curriculum, develop necessary content, conducts teachers training and laid down the foundation for enabling the skills of teachers and curricular comprehension of the students to make them active users of technology. Envisioning a knowledge based society, Government of Kerala constituted a task force to formulate "IT in Education Vision 2010" as impetus to enhance the quality of school education by redefining the scope of ICT. Mere provision of hardware in schools would not do any improvement in the use of ICTs; rather the incorporation of ICT into the school curriculum is the need of the hour. There is no claim that ICT can replace the teacher in a classroom rather it is an enabler and effective tool to learn deeper, better and faster. It helps teacher as a potent instructional and reference tool to make use of the immense possibilities of ICTs. One of the major pillars of ICT enabled education is capacity building. In order to impart ICT literacy and to empower teachers of the secondary schools, they were given ICT training along with specific training to subject teachers to teach their subjects using ICT. Literature shows that lack of skills and knowledge of the teachers are the major drawback in employing these tools.

The Computer Education Plan of Kerala (CEP – Kerala) as well emphasised the use of ICT as an education tool for bringing a major shift in the teaching and learning process in the secondary schools. There are no separate ICT teachers. Each and every teacher teaches their subjects using technology in its most effective manner. More attention was given to make the regular subject teachers as an IT expert rather than appointing a separate computer instructor. Introduction of ICT in schools is not a simple process but involves a continuous process of the provision of academic, human resource development, technological, financial and institutional elements. In this context, the present study aims to understand the integration and utilization of ICT by Secondary school teachers of Social Sciences in rural schools.

IV. RESEARCH QUESTIONS

This study aims to understand the instrumentality of social science teachers in using ICT for effective teaching:

1. Whether teachers have access to technology in the school?
2. Whether teachers have the knowledge and skills for the effective use of ICTs in the classrooms?
3. How effectively teachers utilize ICT in teaching process?
4. What are the key impediments that prevent their usage?

V. PARTICIPANTS, SETTING AND DATA COLLECTION

The participants of the study include social science teachers at secondary level (8th, 9th &10th) giving representation to age, gender and teaching experience. Through the application of qualitative research methods, the study examined teacher's integration of ICT in teaching process. In- depth interviews and focus group discussions were conducted during the interval time at staff rooms and it covered a wide range of complex issues regarding the use of ICTs in teaching. Both junior as well as senior teachers from all grades are included in the sample. Government and Private -Aided rural schools from three educational districts were selected. The data was collected using a semi-structured interview schedule.

VI. KEY FINDINGS AND DISCUSSIONS

The key points drawn from the data are summarized in the following subsections. The results uncovered a range of issues regarding the level of accessibility and extent of ICT utilization among Social Science teachers. Teachers today need a strong understanding of the use of instructional technologies into the course content.

VI.1. Accessibility to ICT

Access to ICT facilities is a major challenge faced by the teachers. Effective utilization of ICT among teachers largely depends upon the availability and accessibility of existing ICT resources in the school. Every school visited has a computer lab being equipped with computers. The study found that schools had about minimum number of computers, out of which only a few are in working conditions and were inadequate for teaching. Internet connectivity is not available in the computer lab and was mainly used only for administrative purposes. Internet has been disconnected for several months in schools situated at remote areas. "Due to the failure of internet connectivity, the classes have to be stopped frequently."

Teachers had limited access to computers and internet in their schools. Most of the teachers access computers located at the administrator's office. None of the teachers had access to computers or internet at the staff room or at the library. Availability of ICT equipments like desktops, laptops, multimedia projectors, internet facilities and interactive white boards for effective instructional delivery is relatively low. Most of the ICT resources were not adequately available in schools; this prevents them from utilizing ICT in their subjects. "Since there is only one projector for the whole school, it keeps on moving from lab, classes and office." Moreover internet connectivity, printer, scanner, etc. were placed at the office and being utilized for administrative purposes only.

Teachers can access computer only with permission. They can use the computers in the office only when it becomes free. If they want to use computer, they have to depend upon the computer in principal's room that too only when they are available. None of the computers in the lab were connected to internet. Most of the CD ROMs are not in good condition. Only a few teachers had computers and laptops at home but do not have access to internet. They depend upon mobile data. "Most of the ICT equipments were under repair for several years". Teachers are in queue and have to wait long time for the computer labs to become free. Subject teachers do not get access when they actually wanted it mainly due to the unavailability of smart classrooms. Most of the computers were old and are kept apart as E-waste. In less than two or three computers new software Ubuntu 14.4 was installed.

"If adequate infrastructural facilities are available, technology could be utilized in a better way." None of the school has a digital library for teacher's access and use. School websites are non-interactive in nature. Also they lack online platforms such as blogs for active discussions and interactions between teachers and students. The result shows that there is deficiency in the availability of most of the ICT infrastructure in rural schools.

VI.2. Extent of ICT utilization

The available ICT resources are being utilized to a very low extent. The frequency of using laptop, projectors and interactive board for delivering lessons also seems lesser. The usage of ICT in teaching for lesson preparation, collecting reference materials and power point presentations are also to a lower degree. While ranking teachers expertise levels most of them are able to do basic tasks on computer such as opening or saving a file, creating a document, using word processing etc. but finds difficulty in creating a presentation, using spread sheets, emailing and printing a document. Most of the social science teachers showed a great interest and eagerness in using ICT as a tool for instructional purposes. They have of the opinion that, "classes are more effective by the use of ICT even though it creates more efforts and strains". In general, the extent of utilization decreases since there is only one room which is equipped with ICT support. One of the respondents indicated that "Though I wish to take classes using ICT, it is not possible because the labs are already occupied by other classes".

They have constraints in integrating ICT into the normal curriculum. They do not use ICT regularly because "the classroom lessons are not able to be completed on time". Duration of a class period is about 35 – 40 minutes and it takes more than half of their time for taking the students from the classrooms to the computer lab, setting up of the equipments and making necessary seating arrangements.

"If we spent more time for ICT enabled teaching, then the periods are about to over since it requires lot of time for making the necessary arrangements." For conducting ICT enabled classes they had to do extra home works. A teacher commented, "I used my own creativity for lesson plan preparations such as charts, models and graphs etc., not ICT always".

It is found that frequency of ICT usage in teaching Social Science subject is also relatively very less. None of them integrate technology in day-to-day classes while teaching. One of the respondents said that "it is

not possible to teach all lessons using ICT, only certain specific topics are chosen". Most of them used it once or twice in a month and a few of them used it once in a week. "It's not practically possible to use ICT everyday".

They use ICT to a very low extent in preparing lessons, presentations, collecting reference materials and communicating with others. Only few teachers prepared PowerPoint presentations for the lessons being taught. One of the teacher adopted innovative practices in making use of ICT. There is a collaborative whatsapp group among social science teachers. New and up-dated contents are regularly uploaded in this group by teachers working in various schools which include clippings, documentary, Power Point presentations, etc. If they want, they can make use of it in the classroom as well.

Attitude of teachers also influence the utilization of ICT very much. Even those who undergo ICT training shows lack of interest and negligence in utilizing ICT. Information Technology (IT) is a separate subject at secondary level; therefore some teachers are of the opinion that those teachers handling IT subject can use it frequently in the classroom. But it is not easy to use it in other subjects. Some of them took keen efforts to make use of ICT but others never use at all. Compared to social science teachers, the language teachers integrate ICT in their subjects. Senior and experienced teachers have used ICT to a great extent than the junior ones. This is because they are more superior and authoritative than the latter. A teacher noted, "Senior teachers are much experienced in handling ICTs".

Even consecutive two class periods are not sufficient for integrating ICT in a classroom. "They have to hand over the class to the next teacher on time as per the scheduled time-table". Most often ICT based lessons are provided at the end of a chapter. The study revealed that teachers utilized ICT rarely in their subjects for varied reasons such as lack of time, difficulty for inculcating in the normal curriculum, limited facilities and restricted access in schools.

VI.3. Impediments in effective usage

The shortage of ICT infrastructures was mentioned by teachers as a major obstacle for integrating ICT in teaching social science subjects. Integrating ICT in curriculum and content also taken into consideration. It is hard for implementing ICT in the existing curriculum since curriculum based teaching modules with appropriate digital resources is unavailable. Poor physical infrastructure, frequent breakdown of ICT resources, lack of confidence and motivation, time constraints, deficiency in skills, and lack of interest of teachers are the other factors that hinders ICT utilization at school.

VI.4. Infrastructure related issues

The first and foremost hindrance remarked by the teachers is the absence of smart classrooms for the effective integration of technology. This includes issues such as lack of hardware, software, access to internet etc. They have the opinion that "It is not at all practically possible to use ICT, in respective classrooms". Most of the computers are out of service, more functional computers are therefore required. "Lack of necessary facilities acts as a major barrier in access and usage". Even the computer labs are not equipped with interactive whiteboards, projectors, scanners or printers. Old and damaged infrastructures prevent their smooth usage.

VI.5. ICT Literacy Skills

Majority of the teachers did not undergo any prior ICT courses. Most of them considered themselves as having limited knowledge of ICTs. Deficiency in skills is the major difficulty that teachers face. Having access to technology is only a first step but what is more important is learning how to use it. They would like to integrate ICT in their teaching as students acquire practical knowledge and grasp things easily by understanding, seeing and listening but are having limited knowledge to make full use of it. They do not get any support from school administrators for improving their ICT skills. There is a higher need for enhancing professional development.

One of the teachers expresses that "I am not comfortable to take classes using ICT since I am not capable of handling it. If there are any issues relating to the functioning of ICT while taking classes, I would have to seek help from other experts. It is disgraceful for a teacher to not knowing the functions of ICTs in front of the students". Teacher receives limited training in a year which seems to be insufficient to acquire digital literacy. None of the teachers take online courses or any other means so as to increase the use of ICT in their pedagogical practices. "I have not done any computer courses therefore lack confidence to operate". They have self-confident to on and off a computer, search/browse internet and download pictures, etc. but not able to print a document, create presentation with video or audio clips, use blogs or video conferencing, etc.

VI.6. Curriculum and Content

Lack of adequate content or material based on the requirements of the curriculum is also a major obstacle. In most of the schools, teacher's uses existing materials supplied from educational authorities/sources. CD-ROMs provided by the State Institute of Educational Technology (SIETs) do not fit with the present

curriculum due to the revised textbooks. Digital resources are not so interactive and textbook based contents are absent. Teachers rarely collected materials from internet.

VI.7. Personal Difficulties

Personal constraints of the teachers also create restrictions. They are struggling a lot to cope up with the situation both in the family and the school. Many of those working in these rural schools do not have a personal computer or laptop for their use at home. Even if they had computer, they have used it rarely because it is being used by their husband or children. Apart from the ownership of ICTs, the constraints of having internet connectivity at home matters more. Lack of time is also a major factor that restricts usage of computer. Some of them travelled long distance to reach the school. It also leads to limited time to spend for the extra activities such as technology use and ICT preparation. Though they emphasised that ICTs are effective in making teaching-learning vibrant, it increases their work-load.

VII. CONCLUSION

ICT has the magic to change the classroom atmosphere. Students feel bored by continuously seeing the faces of the teachers alone since classes using ICT are more effective than the normal lecture methods. Students acquire practical knowledge by understanding, seeing and listening which keeps them active to grasp things easily. Therefore teachers have a positive attitude towards ICT but they are frustrated by external and internal inhibitions. This study focused on the levels of access, the extent of utilization of the available resource and the factors hindering their full-fledged utilization revealed that lack of infrastructure facilities is one of the many reasons for the poor ICT integration among teachers. Most of the ICTs are neither adequately available nor being fully utilized in schools. The result shows that they are being utilized to a very low extent. The conditions of most of the secondary schools in rural areas are worse resulting in poor infrastructure build-up and internet connectivity. ICT is not considered as a separate subject but should be used as a tool in all subjects being taught. But it remains as a distant goal to be achieved. Teachers need appropriate training and better digital learning resources with a major focus in improving infrastructures and enhancing teacher competence in ICT.

REFERENCES

- [1]. Asia and Pacific Programme of Educational Innovation for Development (Bangkok:UNESCO, 1991)
- [2]. Ismail, Thamarasari, Teaching of Social Science for the 21st century (New Delhi: Kanishka Publications, 2012)
- [3]. Dhananjay, Joshi, Methodology of Teaching Social Sciences(New Delhi: Dorling Kindersley, 2012)
- [4]. Jothi, Arul, Balaji, D.L & Pandey, Amrita, Teaching of Social Sciences-I (New York : Routledge, 2014)
- [5]. Pearsons Series in Education, Teaching of Social science (New Delhi: Dorling Kindersley, 2012)
- [6]. Computer Education Plan (CEP)-Kerala, 2005, Directorate of Public Instruction, Thiruvananthapuram, Kerala
- [7]. IT in Education Vision 2010, Report of the IT Task Force, Department of General Education, Government of Kerala

IOSR Journal Of Humanities And Social Science (IOSR-JHSS) is UGC approved Journal with Sl. No. 5070, Journal no. 49323.

Arunima Anil. "Instrumentality of Social Science Teachers in Utilizing ICT: Experiences from Secondary Schools in Rural Kerala." IOSR Journal Of Humanities And Social Science (IOSR-JHSS) , vol. 22, no. 9, 2017, pp. 57–61.