

Impact of Technology in School Education: A Pilot Survey

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Abstract: The objective of this pilot survey is to study the transformation in Teaching-Learning process in schools made by digital technology. The survey focuses on the availability of digital infrastructure in selected schools. It also aims to study the impact of ICT inclusion in school education. The study also listed the difficulties faced by the teachers in digitalization of education. A thorough study is carried out to explore pedagogy with use of technology in education. At the end of study Pros and Cons along with some recommendations are presented.

IndexTerms - ICT, Digitalisation, Education, Technology, Teaching-Learning Process.

I. INTRODUCTION

According to UNESCO (2002) information and communication technology (ICT) may be regarded as the combination of 'Informatics technology' with other related technology, specifically communication technology. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counselling, interactive voice response system, audiocassettes and CD ROMs etc have been used in education for different purposes (Sharma, 2003; Sanyal, 2001; Bhattacharya and Sharma, 2007). The adoption and use of ICTs in education have a positive impact on teaching, learning, and research [8]. There is a need for well planned pedagogy to successfully use technology in teaching learning. If planned optimally, it will help learners to gain deeper knowledge of the concepts being taught. The important stakeholders of the education system namely teachers and students are performing better with the effective use of digital technology. Techno-savvy teachers are using ICT in a very much innovative way. They are coming out with their own you tube channels, blogs and digital contents for efficient teaching-learning process. Teachers are also helping to develop apps for school curriculum. Many schools observed increased interest and hence attendance of students in the schools. As a result it has reduced drop-out rate in schools. The effective use of multimedia and animation tools helps to keep students engaged in the learning process exploring pedagogy.

II. METHODOLOGY

The methodology aimed to conduct survey of use of ICT in School education system. The data is collected from randomly selected schools from Kolhapur district, Maharashtra state. Data collected from 26 different schools from 5 blocks – Karvir, Panhala, Gaganbavada, Chandgad, Radhanagari- in Kolhapur district. The survey tried to cover primary and secondary schools. 15 primary schools and 11 secondary schools were selected for data collection. 58% of selected schools for pilot study are primary schools and 48% are secondary schools. Majority of the schools selected are from rural area, 88% of the selected schools are from rural area and remaining 12% schools are from urban area. A total of 50 teachers from 26 different schools have been selected randomly for this survey.

III. FINDINGS AND OBSERVATIONS

1. Electricity supply is available in all schools but backup facility is not available in 81% of schools in case of power supply failure as shown in Figure 1. Uninterrupted power supply is required to ensure ICT based teaching.

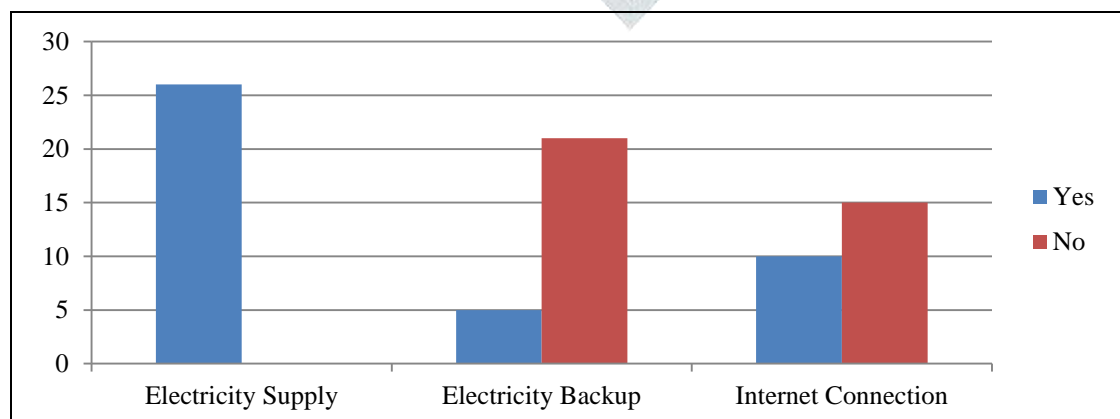


Figure 1: Electric Supply, backup, internet connection status in schools

2. Only 40% of schools are having internet facility but it is not available in the classroom, 60% of the schools do not have internet facility. As shown in Figure 2 in 92% of those schools, teachers access personal internal data pack readily available on their own mobile device during classroom teaching.

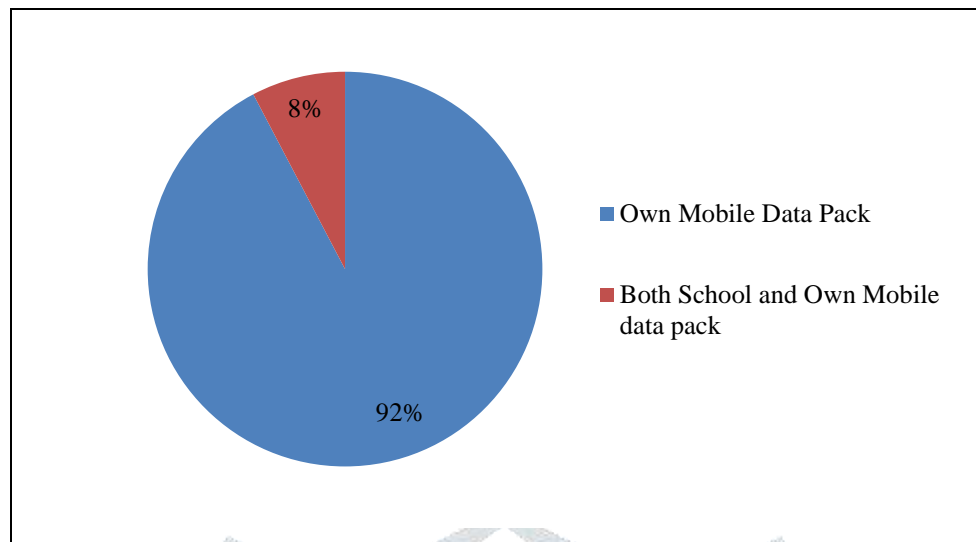


Figure 2: Which internet connection do teachers use in classroom teaching?

3. Out of 50 teachers 46 teachers received training about use of ICT in teaching learning process. DIET (District Institute of Education and Training) also known as DIECPD (District Institute of Educational Continuous Professional Development) provides training to teachers.
4. As a result of this training the teachers developed educational videos for students, and the number of videos developed varies from 0-240.
5. Though teachers are provided with Training about effective use of ICT in education, as shown in Figure 3, 74% teachers found it insufficient to implement it. Lack of continuous training about the use of technology for effective teaching is one of the major limitations in digitalisation of education in those schools.

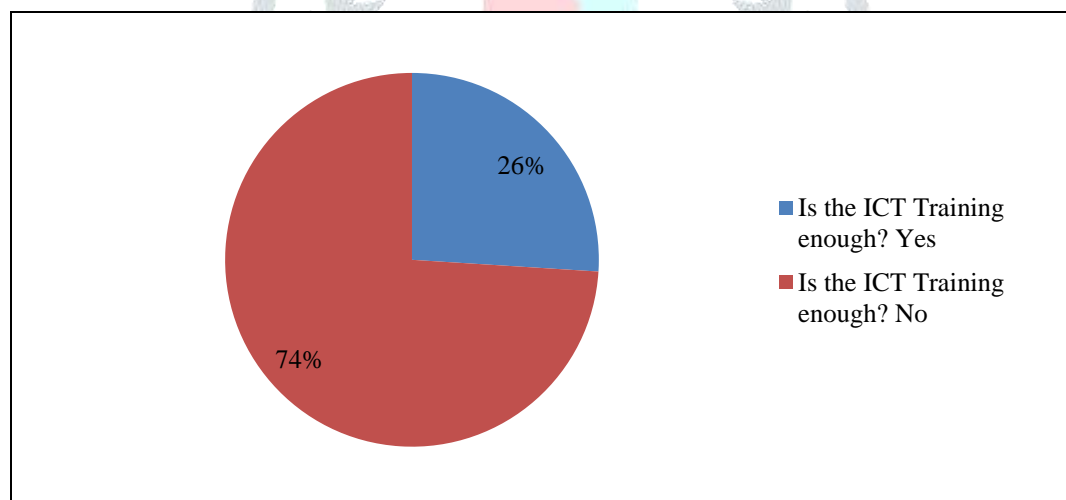


Figure 3: Is the ICT Training enough?

6. Lack of ICT infrastructure facility is another major limitation in digitalisation of education in those schools.
7. In case of technical difficulties faced by teachers while using ICT in education there is no technical assistance provided by any technical expert. In some schools there are techno-savvy teachers who help in setting- up as well as utilizing ICT infrastructure. But in most of the other schools the ICT infrastructure remains unutilized due to lack of technical support required for ICT setup and proper use.
8. The funds for creating ICT infrastructure for digitalisation in teaching learning process are being raised from Grampanchayat, Social Institutes, Govt. funds but it is not sufficient.
9. An ICT device per student ratio is almost zero. The devices like smart TV and projector are available hardly once in a week to each class. Individual availability of ICT devices in Nil.
10. Computers are not available to students. 528 students are using 1 computer. It is as good as not available for the students. 31% of the selected schools don't even have single computer. As shown in Figure 4, 74% of the schools don't have single laptop for use. Thus laptops are not available for teachers. Teachers are using either their mobile phones or their own laptops to get connected with the projector and share audio, video, pictures or any other educational material with the students using ICT.

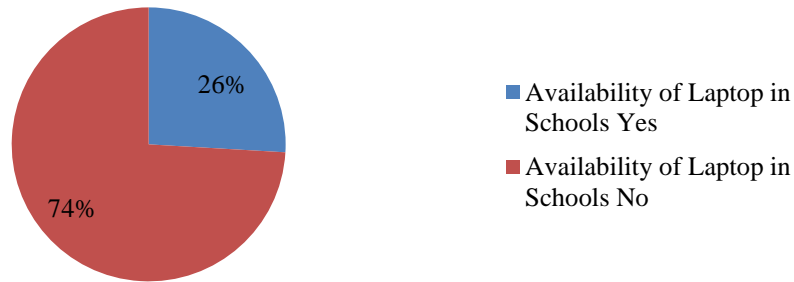


Figure 4: Availability of Laptop in Schools

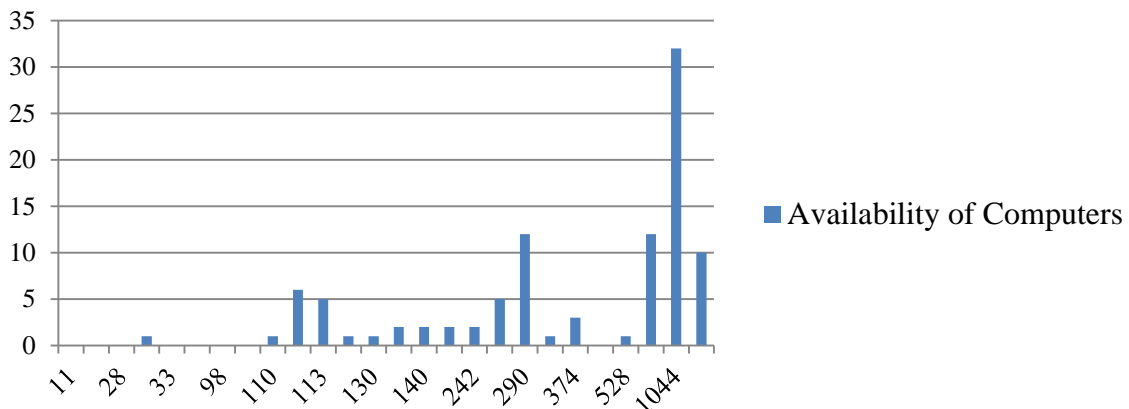


Figure 5: Availability of Computers in Schools

11. Pen Drives with educational materials are provided to schools and smart TVs are used to show the contents of curriculum based educational material to the students. As shown in Figure 6, majority of the primary schools 94% are having smart TV facility and majority of the secondary schools 73% are having projector facility.

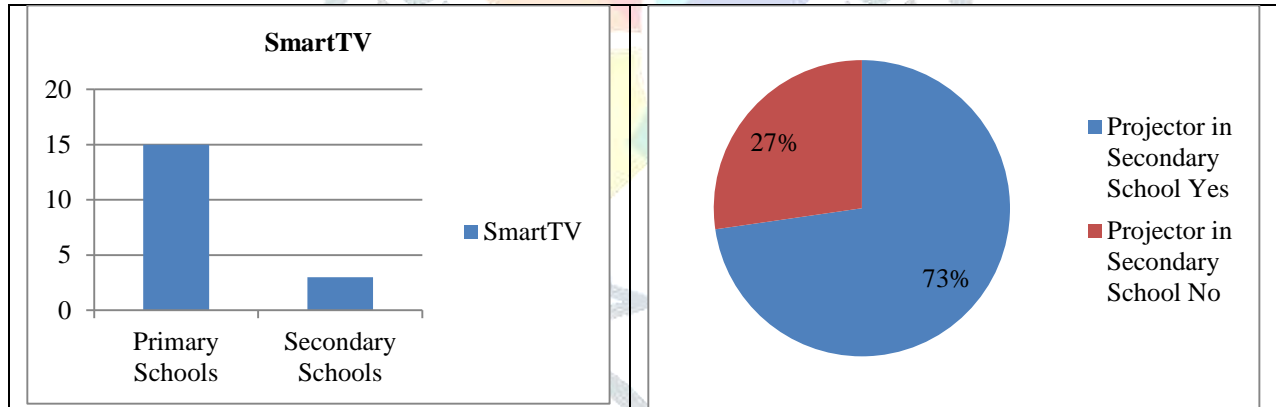


Figure 6: Availability of Smart TV and Projectors in Schools

It is found that 39% of the schools have no projector. Only one projector is available with 27% schools and 2 projectors available with 27% of schools. The details are shown in the Figure 7 below.

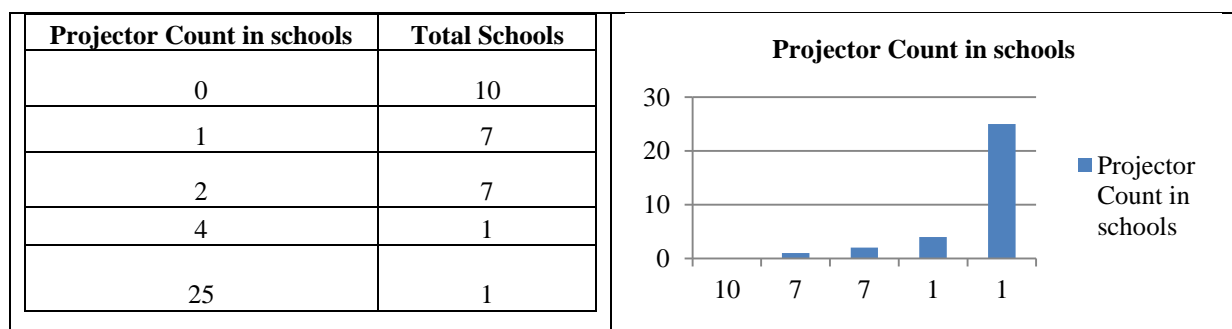


Figure 7: Projector Count in School

12. Teachers share different kind of digital content with the students. It includes digital contents developed by them. It also includes include e-content for school curriculum freely available in the form of PDF, power point presentations, YouTube videos, Komkin, along with subject specific software. Most of the freely available e-content is in English language and student may not understand it as it is. Therefore teachers prepare their own videos in the manner students can easily understand.

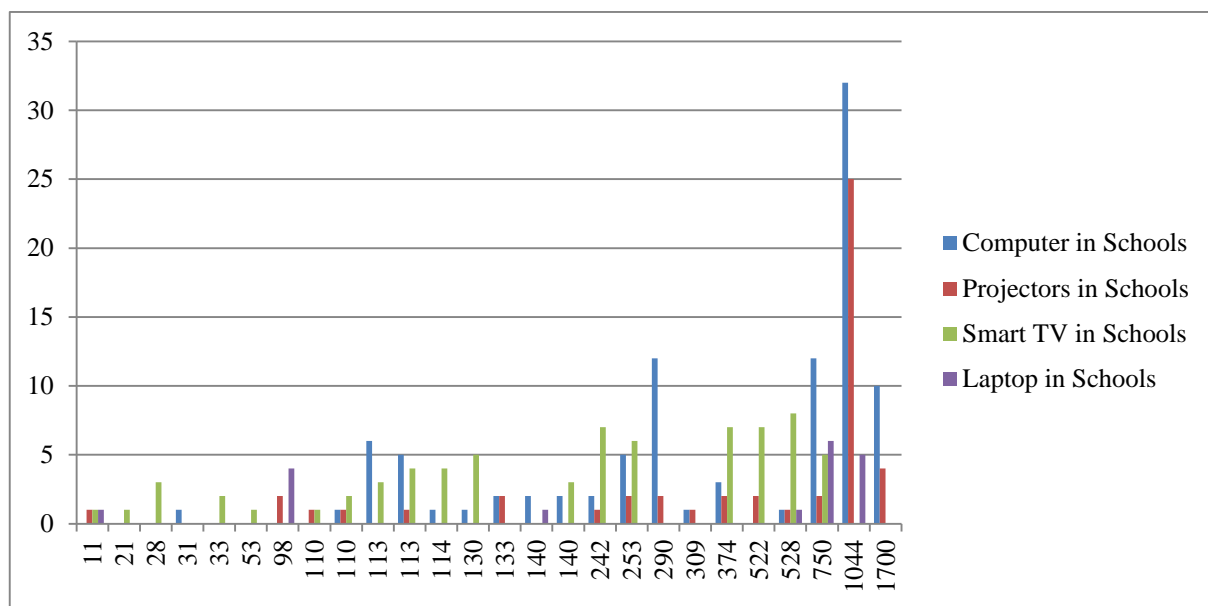


Figure 8: ICT infrastructure in School

13. In spite of all limitations teachers are doing great efforts in digitalization of education. They are using their own laptops, own mobile internet to overcome infrastructure limitations. Teachers are showing e-content made available to them by Zilha Parishad and involving students in technology based education. They are developing their own e-content in the form of audio, videos, pictures etc.. It is great to know that they also developed their YouTube channel. They developed their blogs. They are sharing variety of educational material useful for students. Its great effort that they are making maximum use of training they are getting from DIET/DIECPD, Kolhapur. They are becoming more and more techno-savvy and helping their colleagues to overcome fear of technology driven teaching learning process. The teachers are forming WhatsApp group for effective spread of digitalisation of education.

IV. RECOMMENDATIONS

1. Electricity backup mechanism is required for uninterrupted power supply while using ICT in education.
2. Proper internet set up should be provided in all Government Schools for effective digitalisation of education.
3. Training the teachers more frequently is necessary for the proper and effective use of digital technology in education.
4. Technical assistance is needed for proper maintenance of digital infrastructure in the school.
5. Infrastructure set up is required like computer, projector, smart TV in proportion to the student count and classroom count.
6. Appreciate techno-savvy teachers. Motivation to teachers.
7. Setting digital classroom with the facilities like a computer/laptop with good internet connectivity, projector for display, uninterrupted power supply may be using solar panels/inverter/battery, smart board/interactive board, speaker, printer etc. in school may enhance quality of education in schools.

V. CONCLUSION

Students today are very curious to handle mobile phones. The introduction of Digital technology in education is rightly using this curiosity among the students to make e-learning interesting for them. Funding support from Govt. bodies, social bodies, and from the community, is important for developing ICT infrastructure in schools. The management and administrative bodies in schools involved in strategic planning and decision making must also support and motivate teachers for effective use of ICT in education. The flexibility in learning process, the availability of best e-content for school curriculum helps in democratic spread of education. The findings of the pilot survey shows positive attitude of the teachers towards technology in education. ICT is found to be effective tool for reforms in school education worldwide.

REFERENCES

- [1] "Digitalisation of Education Study of District Dhule", Report 2018, NCPCR Delhi.
- [2] Dr. K.Nachimuthu, ., July-Dec 2012, "Need of E-Content Developments In Education", Education Today, An International Journal of Education & Humanities, APH pub, New Delhi, ISSN: 2229-5755, Vol. 03., No.02., pp. 72-80.
- [3] "Teaching and Technology: Case Studies From India", January 2017, British Council, Central Square Foundation Publication New Delhi.
- [4] Kiran Lata Dangwal and Shipra Srivastava, December, 2016, "Digital Pedagogy in Teacher Education", International Journal of Information Science and Computing 3(2), pp. 67-72

- [5] Ajay Kumar Gupta, 2017 , “Digital Classrooms in Government Primary Schools, Maharashtra: Four Case Studies”, Indian Institute of Management Ahmedabad.
- [6] Dr. Urvashi Mishra et. al., 2017, “E- Content: An Effective Tool For Teaching And Learning in A Contemporary Education System”, IJARIE-ISSN(O)-2395-4396, Vol-2 Issue-1, pp. 79-83.
- [7] Olsson, L. and Edman-Stålbrant, E., 2008, “Digital literacy as a challenge for Teacher Education”, , in IFIP International Federation for Information Processing, Volume 281; Learning to Live in the Knowledge Society; Michael Kendall and Brian Samways; (Boston: Springer), pp. 11–18.
- [8] Syed Noor-Ul-Amin, 2013, An Effective use of ICT for Education and Learning by Drawing on Worldwide Knowledge, Research, and Experience: ICT as a Change Agent for Education (A LITERATURE REVIEW) , Department Of Education, University Of Kashmir

