

Integration of Technology In Elementary Education of Bargarh District of Odisha: A Road Ahead

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Abstract

Technology has become integral part in the teaching learning process. Computer Aided Learning (CAL) is transferring instructional content and learning of the students via computers. Computer Aided Learning (CAL) programme in elementary school has been introduced with the aim to develop the learning capacity of the students and increase the teaching productivity and effectiveness of instructions. The present study aimed to assess the status of elementary education in relation to provision of Computer Aided Learning (CAL) in Bargarh District. The study further aimed to study the challenges and opportunities of integration of technology in the elementary schools of Bargarh District. Descriptive survey method was used in the study where the researcher selected 283 elementary schools on the basis of purposive sampling. Data was collected using the Data Capture Format (DCF) and conducting interview to the headmasters of the selected schools. It was found that majority of the upper primary schools of urban areas had computers and other accessories under CAL. In all these schools few teachers had attended the training programmes. However, in the schools of rural areas CAL were not functioned properly. Similarly, children from the schools of rural areas had less confidence to handle computers due to lack of knowledge about the device. There is a need to integrate technology in school curriculum and due attention should be given to digital literacy of the children, right from primary school level. The government should establish smart classroom and separate computer rooms with supporting accessories with power back up for every school. There should be provision of digital training for all the teachers, so that they can manage the computer labs and teach computer education to the children.

Keywords: Computer Aided Learning, Elementary School, Sarva Shiksha Abhiyan, Technology.

Introduction

Computers are an important part of our day to day life and it has become essential for many people, educational institutions and establishments. (Tosun N, 2006) Computer Aided Learning (CAL) is transferring instructional content and learning of the students via computers. (Jacoby R, 2005). Computer based learning produced positive effects in the classroom and students seemed to be motivated by learning through this mode of delivery. (Tolbert, 2015)

The COVID-19 pandemic has become a global concern and has had a serious impact on education. The educational institutions across the globe, including India had no choice but to adopt online mode to continue the teaching and learning process. Even before COVID-19 pandemic, digital learning was not a new phenomenon in the educational institutions of India. Technology has become an increasingly influential factor in education today. Computers are used in develop countries for improvement in educational practice and to developed new way of learning. When it comes to elementary education, the government of India and respective government have already started working on digital literacy. Technology provide new learning tools and provide new ways to engage students in school. Computer Aided Learning (CAL) programme in elementary school has been introduced with the aim to develop the learning capacity of the students and increase the teaching productivity and effectiveness of instructions. With the help of advance computer-based technology under the Sarva Shiksha Abhiyan (SSA), CAL programme is an innovative intervention to create interest and motivation among the students towards education. Computer Aided Learning has been introduced in Odisha since 2002. It forms the part of curriculum at the upper primary level. But, there are also many primary schools in Odisha, where computer facilities are available for the children. This system adopts the newest computer technology illustrating with the attractive picture and animations, playing with music voice. Computer Aided Learning in at elementary schools aims at providing joyful interactive and interesting ways of

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learning through illustrations. However, there is dearth of studies which can reveal how successfully the CAL has been implemented in the schools of Odisha, specifically at upper primary schools. Furthermore, no studies have been conducted to explore the challenges and opportunities to integrate technology in learning of the children in the coming years.

Objectives of the Study

The present study aimed:

1. To assess the status of elementary education in relation to provision of Computer Aided Learning (CAL) in Bargarh District
2. To study the challenges and opportunities of integration of technology in the elementary schools of Bargarh District.

Research Procedure

In the current study descriptive survey method was used where the researcher selected 283 schools (141 primary and 142 upper primary schools) on the basis of purposive sampling. Out of 12 blocks, two blocks (Ambabhona and Jharbandh), and out of three urban areas two areas (Bargarh municipality and Padampur NAC) were selected from the district. The data was collected in the years 2017-18. Elementary education covers eight years of schooling from class I to Class VIII. For collection of relevant data following two tools were used.

1. .Data Capturing Format (DCF) was prepared by a group of experts in the field keeping in view the objectives of the study. The group consists of Teacher Educators, BRCCs, and CRCCs Consultants of State/District Project Office implementing RTE-SSA. The DCF was prepared through workshop mode. The detailed of DCF was reviewed by the researcher along with her supervisor to make the tool more objective and systematic. So far validity of the tool is concerned content validity was obtained. Content validity is whether content of the test valid and relevant for measuring what it claims to measure. This type of validity addresses the degree to which items of an instrument sufficiently represent the content domain. In the present study the draft DCF prepared through the workshop and fine-tuned by the researcher and her guide was given to another group of experts for estimating the validity of the tool. The group of experts through content analysis ascertained the validity of the tool which was found to be high. This part of the comprise the information related to the provision of computers and computer related facilities in the schools.
2. Interview to the headmaster's. The researcher met the headmaster of the respective schools to get the answers of the questions, 'Is there CAL programme in the school' and 'Is it operational'. Also she asked the challenges and opportunities of the use of technology for the children's learning.

The researcher visited all the selected schools and did observation to confirm the availability of the computers, its accessories and computer rooms. Further, she interviewed the respective headmasters to cross check the collected evidences. Collected data were analyzed and interpreted in the light of the objectives of the study. Simple statistical techniques (percentages) were used to analyze the data.

Results and Discussion

The present study aimed to measure the status of status of elementary education in relation to provision of Computer Aided Learning (CAL) in Bargarh District. The study further aimed to study the challenges and opportunities of integration of technology in the elementary schools of Bargarh District.

In Bargarh municipality, 5 (24%) and in Padampur NAC, 2 (29%) primary schools had availability of computers and accessories in the schools. All these schools had separate rooms where all the computers and essential accessories had been installed. In those schools, the condition of the computer rooms was found to be good and all the available computers and accessories were functioning properly. However, none of the primary schools of Ambabhona and Jharband block had computers or accessories for the children. Since, CAL programme was meant for upper primary schools, the use computer at primary schools was very less. In contrast, it was found in the study conducted by Suwana (2010) that the CAL programme had significant impact in learning different languages and no problem was seen in operating CAL.

At upper primary level, all the schools of Bargarh Municipality and Padampur NAC had computers along with the accessories received under CAL. In Ambabhona block 36 (84%) and in Jharbandh block 61 (86%) upper primary had computers and other accessories under CAL. There were separate computer rooms in these schools where

computers had been installed. The conditions of the computer rooms in these schools were found good and all the available computers and accessories were functioning properly.

When the whole district was taken into consideration, it was seen that out of 151 (53%) schools did not have computers and essential accessories for the children. Of the total, 132 (47%) sample schools of Bargarh district had computers and majority of them were in upper primary schools. All the available devices were functioning properly. These devices were being kept in separate computer rooms and all the rooms were in good condition.

At upper primary level, 36 (84%) schools of Ambabhona block, 61(86%) schools of Jharbandh block and all the schools of Bargarh municipality and Padampur NAC had availability of subject and topic wise list of digital/multimedia materials.

Regarding teachers' knowledge about digital materials, in 5 (24%) primary schools of Bargarh municipality and 2 (29%) primary schools of Padampur NAC, some teachers had full knowledge about the topics of the digital/multimedia materials. However, none of the teachers from Ambabhona and Jharbandh blocks' primary schools had the knowledge of digital materials. In case of upper primary schools, some teachers from 36 (84%) schools of Ambabhona block, 61(86%) schools of Jharbandh block and all the schools of Bargarh municipality and Padampur NAC had full knowledge of on the topics of the digital/multimedia materials. All these teachers had received some computer related training under CAL.

Children from only those primary schools of the district learned to operate computers, where computers were available and teachers had knowledge of digital materials. In case of primary schools, children from only few schools of Bargarh Municipality (24%) and Padampur NAC (29%) learned to operate computers. Further, the table revealed that none of the children from the primary schools of Ambabhona and Jharbandh block had the knowledge to operate computers.

With regard to upper primary schools, children from 36 (84%) schools of Ambabhona block, 61(86%) schools of Jharbandh block and all the schools of Bargarh municipality and Padampur NAC had shown interest in learning through CAL and all of them had knowledge to operate computer. The result of the present study is similar with the findings of the study conducted by Dalal and Rani (2013) where it was found that computer based learning had significant effect on students English language learning.

When the whole district was taken into consideration, it was seen that more than half of the schools 158 (56%) did not have subject and topic wise lists of digital/multimedia materials. Of the total, 132 (47%) schools had some teachers with the knowledge of digital/multimedia materials. Further, teachers from more than half 158 (56%) schools did not receive any digital training under CAL. Children from only 132 (47%) schools of sample blocks, municipality and NAC learned to operate computer.

When the headmasters were asked about the CAL programme, they responded that CAL programme had been implemented in the upper primary schools. At upper primary level, all the schools of Bargarh municipality and Padampur NAC had computers along with the accessories received under CAL. In Ambabhona block 36 (84%) schools and in Jharbandh block 61 (86%) schools had computers along with the accessories. CAL programmes were operational in all these schools

Challenges and Opportunities

During the COVID-19 pandemic, every teacher and student internalized the significance of online education. Proper knowledge to handle the computer or related gadgets benefit both teachers and students. Unfortunately, teachers from rural areas showed less interest to handle these technical devices. Another big challenge in rural areas was the frequent disruption of electric supply to run the devices. Many of the back-up devices including inverters and batteries were dysfunctional. The researcher also found in some schools that computer rooms were not maintained properly. Computers were also not in workable condition. The present study is in line with the findings of Meher et al (2018), where they found that in some of the upper primary schools Computer Aided Learning was functioning properly, whereas in some other schools it was not functioning properly due to certain problems like; shortage of computer rooms, shortage of computer teacher, etc.

The pandemic has come as a great opportunity for the schools to revive the use of technology in school level. It is high time to focus on digital technology. During the pandemic, both the students and teachers have got chance to use smart phone,

computers and other Information and Communication Technology (ICT) to continue education. All the teachers should get proper training to manage CAL. Now time has come to promote digital literacy for the children at both primary and upper primary level.

Conclusion

The future education is going to rely on technology. Both the state and central government have to work together to bring changes in our educational system inclusive of elementary education. There is a need to integrate technology in school curriculum and due attention should be given to digital literacy of the children, right from primary school level. The government should establish smart classroom and separate computer rooms with supporting accessories with power back up for every school. There should be provision of digital training for all the teachers, so that they can manage the computer labs and teach computer education to the children.

References

1. Meher V and Baral R (2018). *Functioning of Computer Aided Learning (CAL) in Upper Primary Schools under SarvaShikha Abhiyan (SSA)*. *International Multilingual Research Journal Vidyawarta*. v12, (22), pp.44-50.
2. Tosun N. (2006). *The effect of computer assisted and computer based teaching methods on computer course success and computer using attitudes of students*. *The Turkish Online Journal of Educational Technology*. v 5 (3).
3. Jacoby, R. (2005). "Computer Based Training: Yes or No?", *Journal of Health Care Compliance*, v7, pp45-48.
4. Suwana, R. (2010). *Effectiveness of computer aided learning for primary school students under SarvaShikha Abhiyan*. *Unpublished Phd Thesis, University of Allahabad*.
5. Dalal S and Rani R.(2013). *Effectiveness of Computer Assisted Instruction (CAI) improving the pupil's language creativity in English*. *International Journal of Engineering Research & Technology*. v2, (7).
6. Tolbert, E, (2015). *The Impact of Computer-Aided Instruction on Student Achievement*. *Education Dissertations and Projects*. 127. https://digitalcommons.gardner-webb.edu/education_etd/127