Computer aided learning (cal) centers under sarva shiksha abhiyan: establishment and functioning

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Introduction

Education is the process of modification of behaviors. In order to enhance the effectiveness of this process, several techniques, methods and approaches have been evolved, tried out and tested from time immemorial. Both Central and State Governments and NGOs have tried many innovations at all levels of education through several schemes. One such scheme is the Sarva Shiksha Abhiyan (SSA) which is Government of India's flagship programme for achievement of Universalization of Elementary Education (UEE) in a time bound manner, as mandated by 86th amendment to the constitution of India making free and compulsory education to the children of 6 – 14 years age group as a fundamental right.

Computers in Education

The computer brings more enriched material to the classrooms and libraries for the teachers and students. They have provided opportunity for the learner to use maximum senses to get the information. It has broken the monotony and provided variety in the teaching-learning situation. Computers being the latest, can be used both at school and higher education levels in the following areas:

- Teaching
- Diagnosting testing
- Remedial teaching
- Evaluation
- Psychological testing
- Development of Vitual laboratory
- On-line tutoring
- Development of reasoning and thinking
- Instructional Material Development

Computer Aided Learning (CAL)

Computer Aided Learning (CAL) can be defined as learning or teaching subjects like Mathematics, Science, Geography and etc., through computers with subject-wise learning packages/materials. It may include all types of Technology-Enhanced learning where technology is used to support the learning process.

To improve the quality of teaching especially that of difficult subjects like mathematics, EVS, and English, Computer Aided Learning programme has been started in 282 schools in association with Azim Premji Foundation, Banglore. Multimedia content CDs developed by the foundation have been mapped to the Tamilnadu Board syllabi and have been distributed in the schools free of cost. The CDs are interactive and enhance the grasping abilities of the children. The programme is implemented through subject teachers who are being provided training and guidelines for effective implementation.

The Objectives of Computer Aided Learning are:

- o To improve academic learning levels of children.
- o To build cognitive and creative thinking skill.
- o To attract out –of- school children and mainstream in formal schools, to provide child- centered, joyful, interactive, self-paced learning to facilitate improvement in the attendance of children.

Computer Aided Learning (CAL) Centers

The main objective of implementation of CAL centers in the school in Tamil Nadu is to ensure and enhance the students learning with the usage of Technology. Initially CAL centers were allotted to the Selected Primary and Upper Primary Schools based on the strength of the students and teachers and the interest among the teachers to the students through computer. It was implemented in the academic year 2005-2006 to the limited and selected school in Tamil Nadu by SSA by providing two computer and its accessories and UPS units along with the 64-CD's to teach all subject to the students of Standard 1 to 8 developed by Azim Premji's Foundations. It has been extended from the academic year 2006-07 to all the CRC Center Schools of the concerned BRC's. The 64-CD's was distributed to all

the CAL centers and the CAL coordinator of the concerned BRC was in charge of those CAL centers. The Head Master/Mistress and a few among the teachers working in those CAL Center schools were given basic training in computers, maintenance of records such as Time Table, Utilization of Record, Stock Register and maintenance of computers during Minor and Major repair work. A Fund of Rs. 1000/- has been provided for the further extension electrical wiring purpose.

Significance of Computer Aided Learning (CAL)

With the present infrastructure, class size, availability of teachers, quality of teachers, training of teachers, etc. it is difficult to achieve all the objectives. Further, most of the teachers use Lecture Method which does not have potentiality of achieving majority of above mentioned objectives. The objectives are multi-dimensional in nature, so for their achievement multiple methods should be used in an integrated fashion. At present computers may be of some use. It is a well known fact that not a single teacher is capable of giving up to date and complete information in his own subject. Computers can fill this gap because they can provide access to different sources of information. They will provide correct information as comprehensive as possible in different formats with different examples. Computers provide online interaction facility. Students and teachers can exchange their ideas and views, and get clarification on any topic from different experts, practitioners, etc. It helps learners to broaden the information base. Computers provide a variety in the presentation of content which helps learners in concentration, better understanding, and long retention of information which is not possible otherwise. The learners can get opportunity to work on any live project with learners and experts from other countries.

The super highway and cyber space also help in qualitative improvement of Teaching Learning Process. Computers provide flexibility to a learner, which is denied by the traditional process and method. Flexibility is a must for mastery le arning and quality learning. On internet many websites are available freely which may be utilized by teachers and students for understanding different concepts, improving vocabulary, developing Reasoning and Thinking, etc.

Techniques in CAL

A great variety of branching techniques can be adopted in CAL programs which cannot be done in a teaching machine. The course is broken up into small elements of information, which the computer presents one by one followed by small questions. If the students give correct answer, the computer gives further information. If he gives a wrong answer, depending on the answer, the computer gives alternate supplementary information. If the students give the right answer, the computer advances on the main program and gives further information and puts questions. It records all the response of all the pupils with reliability. The computer also records the time taken by individual student in responding to a question and extent of corrections in the same. All this helps the educator in planning instruction and providing relevant materials.

Involvement of IT industry in CAL

Training has been imparted through Azim Premji Foundation, Intel, NIIT and Microsoft free of cost. The training have shown keen interest as it is a new area for them and they have learnt to use the computer creatively in the teaching learning process. As part of the training five computer training centres are being established at 5 DIETs and one IT Academy is being established at Chennai by Microsoft to teach teachers.

MICROSOFT

Training to teachers directly by its own faculty members through IT Academy.
Project: Increasing Computer literacy in schools.

INTEL

Ten days training is imparted to BRTs.
Project: Empower students to become next generation of cutting edge professionals.

AZIM PREMJI FOUNDATION-APF

Training to One DIET lecturer, district co-ordinator (CAL) and one BRTE as Master trainers for four days and the Master Trainers train the teachers for three days in their respective Blocks.

NIIT

Training to BRTEs, District Co Ordinators to acquire sufficient computer knowledge for ten days.

Curriculum training with the partners

S. No	Partners for Training	Curriculum	Days
1	MICROSOFT	Getting started with Microsoft windows XP Technology to create Digital lessons for the class room handling, technology to create lesson plans documentation and reporting create school reports, class performance reports, administrative reports and to explore the innovative research on the world wide web	10 DAYS
2	INTEL	Learn to prepare digital lesson plan, how to plan project based learning with the pedagogy within a curriculum framework, preparing to the best evaluation tool to asses the technology best projects that would be Submitted by the students	20 DAYS
3	NllT	Computer knowledge on Microsoft office-MS office, MS excel, MS PowerPoint, MS access and the innovative resources the world wide web	10 DAYS
4	AZIM PREMJI FOUNDATION	Training on CD S preparation and usage in CAL centers	10 DAYS

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Teaching –learning material

Along with the provision of hardware, attention has also been given to content and related software. In collaboration with Azim premji Foundation, Banglore, SSA has prepared 64 CDs. A team of experts from various districts has been selected and entrusted with the work preparing these children –friendly CDs. The CDs will enable the students to comprehend their lessons easily. CDs support self-learning and self-evaluation and that help in motivating the students.

Conclusion

Computer Aided learning is emerging to be a significant component under SSA. The state of Tamilnadu has been proactive in utilizing Rs. 15 lakhs available under the innovations head for providing computer facilities to schools. Most of the government schools have been provided CAL facilities under SSA till date. The mission is very effective with public-private partnership in this area, both in terms of provision of software as well as teacher training. The mission, however, had concerns with the content being delivered under CAL and its impact on the teaching –learning process. The importance of computers and other forms of educational technologies are important in teaching-leaning processes. CAL centers under SSA are proving to be a successful step in the process of ICT integration in education. Teaching-learning activities have been very much accelerated with the aid of CAL. To conclude with, CAL centers under SSA plays significant role in this knowledge based society.

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