



TECHNOLOGY CENTERED EDUCATION: KEY ROLE OF EDUSAT

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Abstract

Now a day, 'Technology', 'Information and Communication Technology', 'Teaching Technology' etc. these words are very commonly used in Education. Teachers are applying LCD projectors for presenting their topics through power point presentation or something else. It is very clear that the purpose of this activity is that students should understand the content effectively. Smart Classroom is now essential requirement of some 'Public Schools' and 'International Schools'. Parents are expecting that school should have its own audio-visual lab, Language Laboratory, Interactive Boards, E-content etc. Smart Classroom creates advanced methodology of teaching learning process. EDUSAT is playing vital role of achieving prescribed goal for imparting educational technology in education. It enables the education 'Technology Centered Education' in 21st century.

Keywords: *Smart Classroom, Interactive Board, E-content, EDUSAT*

Introduction:

With the onset and proliferation of Information and Communication Technology (ICT), there is a growing demand that it be included in school education. It has become more of a fashion statement to have computers or multimedia in schools, the result being that in spite of its potential to make learning liberating; its implementation is often not more than cosmetic. It is also often touted as a panacea for shortage of teachers. These are detrimental to the learning of the child. Teacher education needs to orient and sensitize the teacher to distinguish between critically useful, developmentally appropriate and the detrimental use of ICT. In a way, ICT can be imaginatively drawn upon for professional development and academic support of the pre-service and in-service teachers.

E-LEARNING: FUTURE OF V-LEARNING

E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked or not, serve as specific media to implement the learning process. E-Learning is the use of technology to enable people to learn anytime and anywhere. E-Learning can include training, the delivery of just-in-time information and guidance from experts.

METHODS OF E-LEARNING

People prefer learning at different times and in different ways. There are different methods through which e-learning is delivered.

I- Asynchronous e-learning

Self-Paced Courses; People can get training at any time anywhere they need. Self-paced courses delivered in many forms:

- *Internet (on-line)*
- *CD or DVD (off-line)*

On-line, connected to network and off-line not connected to network.

- *Discussion groups*

Discussion group is an on-line forum for individuals to discuss various topics amongst each other. People add their comments by posting a block of text to the group. Others can then comment and respond.

II- Synchronous E-learning

- *Virtual Classroom*

Virtual Classroom is a scheduled on-line teacher-led training session where teachers and learners interact together using computers linked to a network such as the Internet.

- *Chat*

A text-based communication that is live or real-time. You can talk to the person and they can receive themes sage and respond in a matter of seconds.

- *Instant Messaging*

Instant messaging is similar to chat. One person communicates to another through typing. Instant messaging also provides some additional features. With instant messaging, you can keep a list of people that you might like to chat with. The list will indicate if they are on-line, off-line, available for chat or busy.

- *Shared Whiteboard*

A shared whiteboard let a group of people to communicate by typing comments, drawing, highlighting and pointing. A shared whiteboard is a common feature within virtual classroom software packages

- *Audio Video Conferencing*

Audio video conferencing is a set of interactive telecommunication technologies which allow two or more locations to interact via two-way video and audio transmissions simultaneously.

- *Application Sharing*

Application sharing enables two or more users to access a shared application or document from their respective computers simultaneously.

EDUSAT (Educational Satellite): A Revolution

EDUSAT, satellite launched on 20th September 2004, is the first Indian satellite built exclusively for serving educational sector offering an interactive satellite based distance education system for the country.

The prime objective of the EDUSAT programme is to provide support education through the low-cost ground segments and to reach the un-approached people of India. Primarily meant for school, college and higher education, it is also helpful in non-formal education.

According to *Prof. M. Mukhopadhyay*, EDUSAT provides at least the following channels:

1. Virtual classroom through two-way videoconferencing
2. Educational broadcast with or without interactive facilities
3. Virtual classrooms through computer conferencing both real-time as well as asynchronous
4. Digital storage and retrieval of educational software at convenience
5. Internet-supported interactive learning

The network has the facility of recording the lessons taught at both the stages, i.e., teaching as well as questioning. The matter can be stored in digital form in the server and anyone who has access to computer, can retrieve the lesson. It is, therefore, possible for a student to revisit and relive the classroom experience.

Functioning of EDUSAT; the audio and video signals get beamed to the satellite when the teacher uplinks station in front of the camera. The satellite sends signals back to the earth. The reception terminals receive the signals where the reception dish antennas have been installed and are oriented towards the satellite transponders. Thus, the teaching now can be viewed and heard in the classroom.

CIET (NCERT) is shouldering the responsibility of utilizing EDUSAT for school education system through a national network. CIET has got a Ku-band Sub Hub along with 100 terminals at various locations including, Regional Institutes of Education (RIEs), Demonstration and Multipurpose Experimental Schools (DMSs) attached with RIEs, Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), State Institute of Educational Technology (SIETs), office at the head quarter, regional offices and some schools under Kendriya Vidyalaya Sanghathan (KVS), Navodya Vidyalaya Samiti (NVS), National Institute of Open Schooling (NIOS) and Central Board of Secondary Education (CBSE), State councils of Educational research and Training (SCERTs) and State Institute of Education (SIEs).

The EDUSAT has the potential of its use for conventional radio and television broadcast, interactive radio and television (phone-in and video on demand), exchange of data, audio, video and computer conferencing and web based education.

Objectives of Education Satellite System to meet the challenge of number and Quality through:

- 01 Providing effective teacher training
- 02 Supplementing the curriculum based teaching
- 03 Providing access to quality resource persons (Higher and Professional Education)
- 04 Strengthening the distance education efforts initiated by various agencies
- 05 Taking education to every nook & corner of the country
- 06 Providing access to new technologies

The scope of the EDUSAT programme is planned to be realized in three phases. In the first phase of pilot projects, Kuband transponder on board INSAT-3B, which is already in orbit, is being used. Visveswaraiah Technological University (VTU) is the main beneficiary

of this pilot project. Under this project, all engineering colleges of VTU are being networked with 100 nodes. Besides Karnataka, the Y. B. Chavan State Open University, Nasik in Maharashtra and the Rajiv Gandhi Technical University in Madhya Pradesh are covered. In the second phase, EDUSAT spacecraft will be used in a semi-operational mode with at least one uplink in each of the 5 spot beams.

About 100–200 classrooms will be connected in each beam. Two more states and one national institution will be covered. In the third phase, EDUSAT network is expected to become fully operational. ISRO will provide technical and managerial support in the replication of EDUSAT ground system to manufacturers and service providers. EDUSAT will be able to support about 25–30 uplinks and about 5000 remote terminals per link.

While ISRO will provide the space segment for EDUSAT system and demonstrate the efficacy of the satellite system for interactive distance education, content generation is the responsibility of the user agencies. The quantity and quality of the content would ultimately decide the success of EDUSAT System. To help in this, ISRO, in cooperation with the user agencies, has already organized 5 conferences at regional level and one at the national level to create awareness about EDUSAT and its capabilities.

CONCLUSION

EDUSAT is the first exclusive satellite for serving the educational sector. It is specially configured to meet the growing demand for an interactive satellite-based distance education system for the country through audio-visual medium, employing Direct-to-Home (DTH) quality broadcast. Now we are thinking education through EDUSAT. E-learning, Online learning, M-learning and Virtual learning Technology are going to be broad for modern era. EDUSAT is playing vital role to enhance education.

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