Evaluation of Effectiveness & Challenges of EDUSATS Programme in Senior Secondary Schools in Haryana: A Review

Parmod kumar Sharma, Research Scholar, Faculty of Education, Jagannath University, NCR, Haryana.

Abstract:

Today, radical changes are being introduced in cultural and social life by computers that store, retrieve and process information and internet that connect computer and people. Computer applications such as educational games, virtual reality, simulations, multimedia applications and e-books are making significant contributions to the teaching and learning process. Furthermore, the acceleration of computer-assisted instruction practices, since the 1980s, has made individual and group instruction processes more effective. These practices were initiated to ensure permanent learning and maintain student interest in the lesson. Yet another benefit of computers entering the field of education is that it makes the students more active.

The rapid changes occurring in information and communication technologies have also altered the traditional classroom environment and instructional methods. Projectors, internet linked computers in classrooms, flash disks, mobile phones, digital cameras and video recorders affect many aspects of education ranging from student projects to lesson presentations. Another novelty of the last 20 years has been the interactive whiteboard which consist of a connection between a computer, a projector and a touch screen electronic whiteboard. Owing to their amazing characteristics, interactive whiteboards are also known as smart boards. The manipulation of modern technology in teaching has become a necessary demand, due to its effective role in prompting teaching and enriching the learning process, as well as it became an integral part in the successful teaching and learning, however, doing without it is now considered a hindrance for the teaching process, and makes it out of date compared to the teaching process in the developed countries and the surrounding communities. The present education system is highly different from what it was in the past, especially with regard to application of technology. There is a shift from pen to the computer keyboard, from blackboard presentation to PowerPoint presentation, from paper-pen test to computer-based test, from interpersonal instruction to mediated instruction, from teacher-dependent learning to independent learning.

EDUSAT is the first exclusive satellite for serving the educational sector in India. It is specially configured to meet the demands for an interactive satellite based distance education System for the country through the audio-visual medium. In the present study, EDUSAT means Satellite based education Provide to XII class students of Government Senior Secondary Schools in Haryana. It is the first Indian communicates satellite built exclusively to serve the educational sector. It is mainly intended to meet the demand for an interactive satellite based distance education system for the country. It is a satellite developed primarily for education on purpose specially long distance. It is the named for a satellite dedicated for education so purpose like distance education." EDUSAT or GSAT was launched in September 2004 by the Indian Space Research Organization. EDUSAT is the first Indian communication satellite built exclusive to serve the educational factor. It is mainly intended to meet the demand for an interactive satellite based distance education system.

Keywords: EDUSAT, Education, Government Schools, Classroom & Teaching etc.

Introduction:

EDUSAT in Haryana Government Schools:

At present, Haryana has 9000 primary schools and 1250 senior secondary schools. Among these schools, 210 have science stream. The state of Haryana also has 62 Government and 92 aided colleges; 45Engineering Colleges; and 55 Polytechnics. Owing to dearth of teachers in Government Schools, coupled with the problem of absenteeism and the fact that routine tends to get boring EDUSAT has been introduced in the state during the year 2006 in collaboration with ISRO, which provided free satellite time from their

regional quota as well as the necessary equipments for the purpose. The secondary education serves as a bridge between primary and higher education. EDUSAT is preparing young person between the age group of 14 -- 18 in the world of work and entry into higher education. So, in Haryana EDUSAT is being used for teaching science (i.e., Physics, Chemistry) to the Senior Secondary class of Government Schools. Shri R.S. Gujral, Financial Commissioner & Principal Secretary to Govt. Haryana, Education Department said that, "We would be having five channels — including the one for colleges, one for senior secondary schools, one for primary education and one for Engineering Colleges and Polytechnics". He further says, "These channels would be of three types — Interactive Broadcast mode, DTH systems and Receive only Terminals (RoTs)". Interactive mode — student will also get the chance to key in their questions and teachers can reply to it depending upon the importance of the question asked.

DTH system — for primary school: DTH system will beam live and recorded programmes directed to classrooms while at senior secondary and college levels the focus is on and subjects.

Receive only Terminals (RoTs) — student will receive lecturegiven by teacher.

Benefits of Smart classroom using EDUSETS:

- Readymade lessons available

- Provide ideas for teaching by subject experts on remote locations.

- Instant teaching aids (attractive and/or animated)

- Model voice-overs / pronunciation of words, sentences or passages

- Allows customization of lessons

- User-friendly tools to support teachers and students.

- Modern multimedia presentations

- Able to incorporate third party contents

- Prepared lessons can be stored and shared

- Interactive communication between two or more classes

- administrators can fix curriculum / lesson strategies

Review of Literature

Review of related literature in the concerned field is of great significance in locating the research problems. The importance of related literature cannot be denied in any research. It is an important aspect of a research project which works as a guide post, not only with regard to the work done in the field, but also to perceive the gaps in the concerned field of research. It helps in understanding the potentialities of the problem in hand. Besides this, survey of related literature means to locate, to read and to evaluate the past as well as current literature of research concerned with the planned investigation. The time spent in such a survey is invariably a wise investment (Koul 2001).

The survey of related literature plays a vital role in the field of research. It is like a lighthouse in the sea, which guides the path of the sailing ships. Without reviewing the related literature, it is very difficult to select a problem. It is critical aspect in the planning of a new study. Reviewing the related literature is a time consuming process but is very essential. It is a crucial aspect of the planning of the study and the time spent in such a survey invariable is a wise investment. The review of related literature is an exacting task calling for a deep insight and clear prospective of overall field. It promises a greater understanding of the problem and ensures the avoidance of unnecessary duplication at the same time, it also provides comparative data on the basis of which to evaluate and interpret the significance of one's findings. Study of the related literature implies locating, reading and evaluating reports of research as well as reports of casual observations and opinions that are related to the individual's planned research project. The record material in the form of monograph, books containing the description, explanation and criticism of the subject under investigation is also

important. The orientation provided survey of related literature is helpful in making a straight forward statement of need for the investigation avoiding two extremes of an apologetic attitude and exaggerated claims. For any worthwhile investigation, a review of related studies in the field of investigation is of great help to the investigator. These studies show the investigator how much work has been done in the field and what still remains to be done, which saves from duplicating the work and crowns with the credit of making original contribution to the world of knowledge. Review of the related literature helps in defining and delimiting the problem, in rejecting sterile approaches and in developing insight, which leads to improvement in research design.

Lal, H. (2003) conducted a study on quality educational television programs for children and found out that *use* of media for educational purposes enriches learning experiences. They also suggested that production on quality educational media programmes relevant to the subject and to different stages of education would facilitate enriched learning experiences.

Ponnusamy, P. and Natesan, M. (2003) attempted to study instructional media and their effect on class room learning and concluded that use of instructional media on primary schools and enrich classroom learning experiences of primary school children. They also attempted to measure the frequency of use of different media by teachers of primary and upper primary schools and concluded that most of the primary teachers were utilizing only models and newspapers in their classroom activities and needed a proper training.

Natrajan and Natesan (2004) conducted a study, "Effect of competency based teaching of environmental science through video on students' attainment at primary level". The study was conducted with the aim of experimenting a quality educational video.

Sinha, G. and Singh (2005) conducted a study on use of information technology in education and found out that in the 21st century IT has became a buzzword. IT means information or data processing using computer technology. The 21st century is going to be a knowledge based society is going to be knowledge the civil society. While primary and secondary education is the foundation, higher education is the backbone of the nation and its people. IT is important for institutions and university research and will gain importance over the next decade. Computer are being specially introduced over every level of education i.e. schools, vocational institutions, Universities etc.

Arulchelvan, S. and Viswanathan, D. (2006) attempted to find out the variations in the pattern of usage of TV among students of different demographic characteristics. The focus of the study was to trace the pattern of TV viewing and usages among graduate students, especially with regard to the exposure, access, purpose of use, perceived benefits.

Phalachandra Bhandigadi, NCERT, (2006) conducted a study on impact of EDUSAT on school students and teachers and found out that the students have benefited from the video programmes delivered through the Satellite. The benefit gained is in terms of gain in knowledge and understanding of the content, improvement in attendance and holding attention and interest in viewing programmes.

Benjamin and Sivakumar (2007) conducted a study, "Multimedia Enhances Effective Self-Learning". They in their study emphasizes the need and importance of learning through multimedia CD-based self-learning and dwells on the quality as well as quantity of teaching and learning bringing forth the need and significance of learning science through self-learning with the help of multimedia CD-based courseware.

Bhattacharya, B. (2008) conducted a study, Engineering Education in India-The Role of ICT. Engineering education in India has witnessed a major change over the past few years. Substantial increase in the demand for high-quality education has led to the adoption of Information and Communication Technologies for extending the outreach of education. This paper presents a review of some of these technology-enhanced initiatives already taken up by the government of India, as well as by some of the leading institutions in the country. Important developments include the National Programme on Technology Enhanced Learning (NPTEL), the use of an educational satellite called the EDUSAT and various other approaches such as the use of "virtual classrooms" and "virtual laboratories." The paper goes on to discuss some of the problem areas in the present mode of dissemination and deployment; some possible future trends and modalities are also outlined. These include blending collaborative learning with interactive technology-enhanced learning initiatives and finding ways of providing support for learners' queries.

Dash, M. K. (2009) attempted to study the effectiveness of EDUSAT for improving learning achievements of primary school children. The programme of Sarva Shksha Abhiyan (SSA) aims of providing access to quantity education to all and improving professional competencies of various categories of teachers. Distance Education Programme (DEP) under SSA is a special component to supplement the traditional approach particularly for in-service teacher education programme. Implementation of EDUSAT through Rajiv Gandhi Project for EDUSAT Supported Elementary Education (RGPESEE) is a challenge in the light of optimum utilization of communication technology for improving learning of children at elementary level. This study focused on effectiveness of implementation of EDUSAT on improving learning achievement of primary children. At the same time, attempt has been taken to compare learning achievement of children at primary grade. The findings of the study aimed at development of innovative strategies for effective implementation of EDUSAT in improving learning of children at elementary level and achieving the target of improving quality of elementary education all over the country.

Desai, V. et al. (2009) studied the enhancement of primary education using EDUSAT and found out that due to the non-availability of required number of trained and expert teachers' knowledge-divide exists between students population of urban and rural/remote areas. To bridge this gap Distance Learning or Tele-education is the best option. During the study it was decided to provide a Tele-education network in and around the Sidhi district of Madhya Pradesh, with uplink and studio facility (Hub) at Jabalpur (MP) and around 700 receive only terminals (ROTs) in various schools and it was found that it enhances achievement of primary school learners.

Rout, S. K. (2009) conducted a study of the Utilisation Educational Media at Primary Stage". This study examined the existing status and utilization of educational radio and television programmes produced by Central Institute of Educational Technology (CIET), National Council of Educational Research and Training (NCERT) New Delhi and broadcasted through Gyan Vani (educational FM radio channel V for Educational Radio (ER) programmes and DD-1 (National TV Channel), Gyan Darshan (Educational free cable channel) for Educational Television (ETV) programmes respectively. A sample of 60 schools run by Municipal Corporation of Delhi (MCD) was randomly selected from three educational zones in Delhi. Views and opinions on the utilization of educational radio and television programmes were collected through questionnaires and opinionative. The results revealed that only 50 per cent schools have been utilizing educational radio programme, while 27 per cent schools have been utilizing educational television programme. Further, regularly / occasionally listening and viewing schools of these media were unsystematic in the process of utilization. It was found after close scrutiny of collected data from the headmasters/headmistress (HMs), teachers, students and informal observation done by the investigator that the genuine cause of non-utilization of educational mass media was apathetic attitude of the teachers than anything else, though they showed positive attitude towards them on pen and paper. The attitude of schools regularly / occasionally utilizing (listening and viewing) media programme were found to be casual.

Chaudhary, S. and Garg, S. (2010) conducted a study on Using Satellite-Based Networks for Capacity Building and Education for All: A Case Study of Rajiv Gandhi Project for EDUSAT-Supported Elementary Education. One of the serious problems associated with Indian school education has been high dropout rate. The reasons are many and varied but the major constraints are: non-availability of adequate number of competent and trained teachers in most of the schools and separate room for each class. To overcome such problems and increase equitable access to all, it was considered prudent to use capabilities of satellite based teaching-learning. This network was also to be used for capacity building of in-service teachers. So an indigenously built, dedicated satellite for education--Educational Satellite (EDUSAT)--was launched on September 20, 2004, which supports one national hub and five regional hubs. This paper discusses the case study of Rajiv Gandhi Project for EDUSAT-Supported Elementary Education (RGPEEE) project for imparting value added education and professional development of in-service teachers. The project was implemented by Indira Gandhi National Open University (IGNOU). More than 862 schools in four Hindi speaking states chosen on the basis of physical contiguity were networked through 850 ROTs and 12 SITs. In the first phase (pilot), the project focused mainly on Sidhi district, inhabited mainly (90%) by tribal population and one of the most educationally less-developed districts of Madhya Pradesh. Through ten orientation programmes, 868 teachers and functionaries associated with the project were oriented at different levels to familiarize them in imparting instruction through EDUSAT and their role and responsibility in facilitating child learning. They were also trained in developing content for tele teaching; development of knowledge repositories as effective and sustainable sources of courseware. Feedback studies undertaken to judge the effectiveness of EDUSAT reveal that it is being well received and making

steady progress towards improvement in attendance and academic achievement of children and creation of better learning-environment in schools.

Research Objectives

1. To find out the current status of EDUSATS in senior secondary Schools of Haryana.
2. To identify the challenges for successful implementation of EDUSATS in schools.
3. To analyses the perception of students and Teachers using EDUSATS.
4. To measure the impact of EDUSATS on the standard of education.
5. To suggest the strategies and suggestions for the success of this project.

Research Methodology

It constitutes an important part of research. No research project can be undertaken successfully without proper thinking and planning. It is the character of the technique of the research on which the degrees of prediction, objectivity and tools are dependent. This must be handled with every caution, care and profound consideration in respect of the time, cost, ability, experience and the need of investigation procedure for any study is decided upon before starting the project. There are many methods of collecting analysing and reporting research data. The decision about the method depends upon the nature of the problem and objectives to be achieved. Research is purposive, scientific and pointed deliberation. After the selection, definition and delimitation of the problem, the adoption of suitable measures become very imperative. Since research is not a haphazard task. It requires proceeding in a definite direction along with well-defined line.

Collection of more bit of information is not research. Planning and procedure for study is deemed essential for saving it from becoming a heap of jumbled idea gathered from here and there. It goes without saying that ultimate success of a research project generally depends upon the methods employed in it. Once a research problem is identified and the available research evidences pertaining to the research problem are reviewed, the next step of researcher is to develop a research design. The plan and procedure employed in an investigation determines the design. It is the research on which the degree of precision, objectivity, reliability and validity of result depends. The most requisite in any research is the data. Data are like raw material without which production is not possible. Method and procedure employed in an investigation determined its destiny. It is the character of techniques of research, on which the degree of precision, objectivity, reliability and validity of finding depends.

The present study is aimed to study the effect of EDUSATS on the teaching standards of senior secondary school students of Haryana. Keeping in view the nature and objectives of the study, experimental method (pre-test post-test experimental design) of research was used by the investigator. Experimental research describes what will be when certain variable are carefully controlled or manipulated.

The present research being **exploratory cum descriptive** in nature, **primary data** shall be collected through **Questionnaire** of a **sample** of **200 students and teachers** from diverse socio-economic backgrounds and regions (i.e. (Rewari) Haryana) using **convenience sampling technique**. A **5-interval Likert scale** from 'strongly disagree' to 'strongly agree' shall be employed to measure the psychographic profile (attitudes, interests and opinions) of students & teachers regarding effectiveness of EDUSATS in education. **Factor Analysis and ANOVA** shall be used as statistical research tools

References

1. Pelton, J.N. (2000), "Trends in satellite Tele-education", https://library.fortlems.edu/instruct/glosas/in (accessed: March 20, 2007).

2. Palsule, V. (2002), " EDUSAT network configuration", SAC, ISRO, Ahemdabad.

3.Mishra, S.K. (2004), "Telemedicine in initiative in Indian sub-continent", ITU- International Telecommunication Union Document RGQ- 14-1/2003-E.June 80.

4. Anonymous (2004), "India launches national satellite for distance education ",   https://www.eschoolnews.com/news (accessed: March 20, 2007).

5.Anonymous (2004), "The Indian educational system at the beginning of 21st century- An Overview", Proceedings of the 47th session of the International Conference on Education", Geneva, Sep 8-11.

6.De, M.B. (2004), "EDUSAT- The Indian satellite for Education", Current Science 87(8), 1034.

7. Anonymous (2005), "A revolution in Indian education" http://in.rediff.com/sunhom.html
(Accessed: March 20, 2007)

8.Narohha, F. (2005), "Indian has Worlds's only education satellite", http://www.eians.com/stories2005/features (Accessed: March 20, 2007)

9. Theodore, W.F. (2005), "Restructuring Education through Technology",
http://www.education.indian.edu/%7EFrick/fastback/abstract326.html

10. Anonymous (2007) "Routine classroom teaching in Haryana is in for a change", http://www.shareonlypunjab. (Accessed: March 20, 2007)

11. Aqda, M.F., Hamidi, F., & Rahimi, M. (2010). The comparative effect of Computer-aided instruction and traditional teaching on student's creativity in math classes. Procedia computer Science, 3, 266-270.

12. Asha, C. B. (1980). Creativity and academic achievement among secondary school children. Asian Journal of Psychology and Education, 6, 1-4.

13. Aronson, E. (2002). Building empathy, compassion, and achievement in the jigsaw classroom. In J. Aronson (Ed.), Improving academic achievement.

14.Dwivedi, R.D. (2005). Influence of school environment and approval motive on academic achievement of Students. Ramesh Journal of Education, 2(2). 101-107.

15. Demircioglu, H. & Geban, Ö. (1996). Computer assisted instruction in teaching science and traditional problem solving activities compared in terms of academic achievement. Hacettepe University Journal of Faculty of Education, 12, 183- 185.

16. Elder, L., & Paul, R. W. (1998). The role of Socratic questioning in thinking, teaching and learning. The Clearing House, 71(5), 297-301.

17. Erdogan, S., & Baran, G. (2009). A study of the effect of Mathematics teaching provided through drama on the mathematics ability of six year old children. EURASIA Journal of Mathematics, Science and technology, 5(1), 79-85.

18. Fabry, D., & Higgs, J. (1997). Barriers to the effective use of technology in education. Journal of Educational Computing, 17(4), 385–395.

19. Fasko, D. (2001). Education and Creativity. Creativity Research Journal, 13, (3& 4), 317-327.

20. Foradian, (2013). The Benefits of Going for Smart Classrooms in your Education Institution. Retrieved from http://foradian.com/post/ 58226960283/the-benefits-of-going-for-smart-classrooms.

21. Foster, J. (1971). Creativity and the teacher. London: McMillan.

22. Freeman, M.S., & Buka, M. (1965). Effect of frequency response on language learning. AV Communication Review, 13, 289-295.

23. Garret, H. E. (1979). Statistics in Psychology and Education. Bombay: Perffer and Simonson.