ROLE OF INFORMATION & COMMUNICATION TECHNOLOGY IN EDUCATION

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Abstract

The world of education is changing as the modern world continues to grow. With so much progress happening, it's important that education be able to reach students in new ways so that their students are prepared for the future. The students of today are the leaders, inventors, teachers, and businessmen (and women) of tomorrow. Without the proper skills, these students will not have the preparation needed to survive.With so much focus placed on education, it can sometimes be difficult to hold a job and still get the training needed to get a better job. Information technology plays a key role in students being able to keep their jobs and go to school. Now, most schools offer online classes that can be accessed on computers or laptops, tablets, and even mobile phones. A busy student at work can easily check in or submit assignments while on their lunch break.Teachers need to be prepared by staying up to date with information technology, and this can mean more than just reading about the latest gadgets. Learn how to teach with technology with an online class. Using technology, teachers can prepare their students for a future flooded with gadgets including tablets, mobile phones, computers, and so much more.

Keywords: ICT (Information and Communication Technology), Computer, Internet, WWW (World Wide Web), Teleconferencing, Radio, Television.

Introduction:

ICT offers enormous potential to impart quality education remove illiteracy, provide educational opportunities to the unreached, reduce imbalances among regions and social groups and train teachers. The convergence of telecommunications, audio-video and computers has a tremendous potential to revolutionize education and transform the teaching learning process. The use of ICT, is for making quality education accessible to all, particularly to the disadvantaged group. It provides interface and integration of face to face and distance modes of transactional processes in the classroom environment and to workout strategies for content generation and share these to improve

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the professional competency of teachers. Digital technologies improve teacher education programme. Teacher is, nowadays not a mere transmitter of knowledge but also a facilitator, collaborator, coach mentor, knowledge navigator, and co-learner in the teacher learning process. Presently ICT includes content and pedagogy, collaboration and networking, social issues and technical issues. ICT can facilitate both the teachers and the children construct new knowledge or experience and thus can strengthen the learning process. ICT can be briefly described as the result of convergence of technologies telecommunications and television with informatics. The computer considered as an engine of the mind has tremendous capacity to store and process data and to produce and disseminate information with the emergence of diverse multimedia and networking possibilities computers have emerged as tools for innovative teaching and learning. Students are proving more adopt than their teachers at mastering ICT based delivery system. The scope of the new technologies for transforming existing educational set up is indeed enormous and includes the possibility globalization of education, adaptation of foreign curricula, new teaching materials and the networking of schools. Teachers must master the use of information skills of research, critical analysis, linking diverse types and sources of information reformulating retrieve data – if they are to teach their pupils to develop these skills. Teachers must be adequately equipped with more didactic competencies so as to assume their new role as experts in the learning process. ICTs are to be used as tools for training of teachers.

ICT has proved that learning is possible any time and anywhere now. ICT brings about several benefits to the learner and the teacher. These include shared learning resources, shared learning spaces, promotion of collaborative learning and move towards autonomous learning. ICT should be used as a vehicle for educational transformation. ICT, make radio lessons interactive and lively, development of audio video materials in capacity building, regular teaching learning process for sustainable quality of education. ICTs and satellite communication increased the reach of open learning system and the use of distance mode in education and training. Open and distance learning having access to a variety of technologies audio, video, radio, tapes, television, video cassettes teleconferencing, computer and Internet, Word Wide Web etc. of Information Communication Technology (ICT) which vary with Institution to Institution and course / programme to course / programme and learner to learner.

Audio and Video

Audio :

Distance teaching is basically a multi-media process. Radio is the cheapest and the most easily accessible electronic media, with its potential audience very large in comparison to other media. Radio lends itself to serve different purposes. For instance, while it provides learners with new joys of learning, it can develop their command over vocabulary, promote concentration and critical listening, and improve fluency and confidence in speech and discussion. It can be used for formal and non formal education. Its broadcasts can be designed to supplement / enrich the formal school subjects.

Audio Tapes :

According to Rowntree (1994) the purposes of using audio in teaching could be as follows :

To provide "aural source material" for the learner.

To breathe life into ideas presented elsewhere in the course.

To help the learners practice skills.

To make the teaching more human and personal.

To encourage and motivate the learners.

To influence the learners feeling and attitude.

To let learners hears the voices of experts, users, clients other learners etc.

To provide necessary variety in the learner"s learning process.

Audio tapes can overcome some of the limitations of radio broadcasts. It provides considerable freedom to the learners who can use it at any time and place of convenience. The learners can replay the tape any number of times and review the taped materials over and over again Radio / audio medium has few characteristics like easy accessibility, wide coverage, law capital investment and operating cost, easy learner reception, direct instruction easy production, effective creation etc.

Video :

It is a two ways, interactive communication, where in students and other users can transmit the requests to a central database, video programmes become popular in the teaching learning process. The video cassette is considered a more effective medium than the television broadcast. Video cassettes have certain advantages over television. They are more flexible and convenient in their use because the students have full control over their pace of

learning in terms of their time and place of using the video cassettes. Additionally, the replay facility has made it more suitable to individualized learning. Video programmes are equally useful for the distance as well as face-to-face classroom teaching. There is difference between cassette and the television broadcast. Video cassettes are available as and when needed, Repetition / search / mastery learning, individualized pace of learning, integration with other media, more flexible and decentralized systems of delivery, allows the students control over the learning process, and difficult for distribution. The video cassette has some weakness too. The use of video cassette depends on the availability of the video cassette replay (VCR) equipment, and we can not ensure each distance student access to the replay equipment in near future. It is therefore, not advisable to exclusively depend upon the video cassette technology. Taking into account the potential and the weakness of video cassettes in teaching learning at a distance, IGNOU, New Delhi makes use of the video cassette and the broadcast technology to supplement printed texts, and these programmes have become an important component of the course materials. The audio – video cassettes recorders are available at the study centres to those students who want to make use of the programmes. Video cassettes are viewed in groups at the study centres, and so, the cassettes are usually designed for group viewing. At the end of each programme, there is a general discussion among and with the academic counsellor on the content presented. Group viewing helps the students draw more than, what they may do individually, from the video cassettes. They get support and guidance from both the peer group and the academic counsellor, as they learn as much from the peer group as from the programme itself. Some video programmes are produced for individual use also. The content of such video programmes is broken into several components with suitable activities / exercises. Such video programmes allow the student full control over his / her learning. Video materials are however economical than other audio – video movies and plays.

Television and Computer

Television :

In the current age, different electronic media are used as vivrant communication technologies in the educational system, most commonly, available electronic media as radio and television are very popular for the distance students. With the advancement technology a variety of visual media – television broadcast, video cassettes, video disc, video text and computer, have become a multi media packages in teaching and learning at a distance. Television is an effective tool in the hands of education if it is utilized imaginatively.

Different subject matters are taught effectively through television strength of television in education.

Role of television in Learning :

It has helped to facilitate the rapid dimension of new curricular ideas, many of which remain long after their parent projects or programme.

Improvement of quality Television as a catalyst.

Television as a means of extending children experience.

Television as a means of introducing affective education.

Television as a means of equalizing educational opportunity.

TV as a means of improving efficiency and productivity.

TV based Instructional systems.

TV Programmes Role :

To introduce the content for the teacher to elaborate later and to provide drill and practice to the students.

To provide background material for a lesson the teacher will deliver.

To provide salient illustrations that will stimulate class discussion and discovery.

To reinforce and review ideas already covered in class.

Computer :

The computer appeared in selected Indian Schools during 1984 – 85 as part of a national project for developing Computer Literacy And Studies in Schools (CLASS). This project CLASS have four objectives :

To provide students with a broad understanding of the computer and its use.

To provide hands on experiences.

To familiarize the students with the range of computer applications in all walks of human activity and the computer's potential as a controlling and information processing tool and,

To demystify the computer and to develop a degree of case and familiarity with it, which should be conducive to developing individual creativity in identifying and developing application relevant to the student's immediate environment Computer network in ODL is very useful means of immediate delivery of message.

It also encourages interaction between the learner and the computer, between learner and tutor, and between learner and learner connected through network. Various types of computers including major data based as well as home computer can be interlinked through

networking. Computer based instruction can take place through remote network as well as local network. Remote networks include telecommunications between central level data base and computer and the micro computer at delivery level. The local network use terminals for connections inside a complex of an Institutions campus. Computer encourages individualized as well as group based learning depending on the available facilities of computer network through distance mode. There is two way interaction take place through existing networks of computers. Teleconferencing through computer networks has advantage over video conferencing with regard to flexibility of communications through computers. In distance Education situation conferencing can be encouraged for interaction of co-operative learner group through local networking. Computers have revolutionzed the way we collect, process, store and disseminate information. Every document on the achievements mentions devices capable of storing an unimaginable quantity of information, but the invention that made all these possible is the computer. Chacon (1992) provides an interesting taxonomy of computer media in distance education. He has identified three modes of computer use as information processing interaction and communication.

Information processing :

This mode of computer use in distance education uses the principle – „I learn by doing". It is related to a series of abilities related to intelligence such as recall, ordinary, calculation, relationship, matching, reading and writing. The computer is used as a tool for these activities. Computers can be used in distance education to perform the following pedagogical functions :

Dissemination of information.

Development of language skills.

Learning foreign language.

Development of procedural skills.

Learning problem solving.

Learning analytical skill.

Learning design skills.

Interaction:

The interaction mode of computer use in distance, education uses the principle – I teach something to myself". Interaction is between a person and a machine. Interactive computing in education takes place when the learner is allowed to establish a dialogue with

the computer, and receives stimuli in multiple media formats. The interactive mode of computer becomes a resourceful tutor. The pedagogical functions covered by this mode are : drill and practice, problem solving, procedural learning, tutorials, guided discovery learning and decision making.

Communication :

The communication mode of computer use in distance education uses the principles – „I learn from others". It envisages interaction among persons through the use of computers. The communication mode application in distance education is predominant because of its usefulness in providing support to remote learners. The technologies used are E-mail and computer conferencing. The communication made performs the following pedagogical functions :

Learning verbal communication.

Developing skills for analysis and synthesis of textual information.

Development of expression and articulation.

Developing skills for analysis and synthesis of textual information.

Motivational support to remote learners.

Development of critical judgement.

Participative problem solving.

Opportunity for incidental learning.

Substitute for direct experience.

Presentation of abstract knowledge.

The communication mode provides an excellent opportunity for collaborative learning.

Satellite Technology :

The communication satellites are usually placed in a special earth orbit, which makes them appear stationary to the transmitters and receivers on earth. There are more than a hundred of these communication satellites in orbit around the world, and new satellites are being launched regularly. The satellite based communication is with different elements a ground based transmission station known as uplink and a receiving disc known as down link. The uplink sends signals to the satellite, which amplifies and transmits back to the down link, i.e. the direct receiving disc, which in turn to feeds a local station. Satellite technology strengthens the capacity of the telecommunication network and the information flow, which among other things gives a boost to the educational development of a country. This is useful

for students of fart flung areas who are pursuing their study at a distance. With limited intellectual resources, the satellite can e used more widely to provide opportunities of university education even to those students who live in small islands. In big countries to satellite based communication is an effective alternative to cover many hundreds of widespread isolated locations which are otherwise very difficult to reach from the point of view both of cost and of feasibility. In some of the extremely mountains and inaccessible regions, the satellite is the only solution. Its main advantage is its accessibility. The target audience for distance education courses run by the open universities is large and scattered across vast regions, the high cost incurred can be easily justified. Transmission through the satellite has been relatively cheaper and the system is more accessible to all parts of the country on a personal basis. Satellite can be used for education in atleast three ways – the telecast of educational and developmental programmes for the general public, the telecast of pre recorded programmes for students at all levels of education, and the live telecast of educational programmes with two way interaction. In the first two cases the television and radio are used, but the third case satellite is used to support some of the existing two-way communication system, the computer, videotext, teleconferencing, telephone mediated instructions etc.

Teleconferencing :

Teleconferencing is understood as "Two way electronic communication between two or more groups, or three or more individuals, who are in separate locations; includes group communication viz audio, audio graphics, video and computer system." (Olgren and Parker, 1983). Among these means audio and video teleconferencing is popular media in developed as well as developing countries. Teleconferencing plays a major role in Distance Education situations because of its potential of group method of learning at a distance. It facilitates interaction between teacher and learner as well as Learner and learner.

It acts as a substitute to classroom based face to face learning.

It proves its worth in the context of regularity and immediacy of two-way communication.

It can be integrated with regular study activities because of its naturalness in communication.

It can replace face-to-face interaction programme group activities conducted by tutors at regional study centres.

It can be equally applicable to large size and heterogeneous group of learners.

Teleconferencing course, especially audio teleconferencing can be quickly and inexpensively developed and delivered for small group of learners. Because of application of teleconferencing independence and isolation need not be regarded as an inherent characteristic of distance education. (Garrison 1989). Teleconferencing is and electronic means which can bring together three or four people two or more locations to discuss or share the use of two-way and one-way video between full motion and slow scan, electronic blackboards, facsimile, computer graphics, radio satellite and video text. Three main types of teleconferencing have been identified. i) Audio teleconferencing and Video teleconferencing and ii) Computer teleconferencing Due to the growth of educational technology and its flexible nature each and every corner of the educational institutions are using for quality and instant service. Nowadays, dependence on this technology is accelerating.

Audio teleconferencing requires a multi-telephone line electronic switch or inter connection device called a bridge to which the user can attach a wide variety of data transmission devices and telephones. Audio equipments used with the bridge are the usually hand set, head sets, speaker phones, radio telephones and microphone speaker units (called „conveners"). Teleconferencing in audio medium is used as a two-way communication. Generally audio-teleconferencing communication is auditory. The use of audio conferencing is rapidly becoming a preferred instructional medium in advanced countries. The effectiveness of audio teleconferencing from the point of student learning, shows in different studies conducted, that, telephone is as effective a medium of education as is face-to-face teaching. During the 1984 International Symposium of teleconferencing there was evidence of strong support for educational audio conferencing.

Video teleconferencing :

This type of teleconferencing is arranged by combining two way video media. This technology is in limited use in education due to its high cost and various other problems such as the linking of multiple locations by the medium of video, availability of hardware, etc. video teleconferencing however has advantages over audio – teleconferencing because of its visual component, video conferencing increases the quality of interaction because both the teacher / expert and the student can see each other and can share their feeling and experiences. Through video conferencing it is possible to provide a two-way exchange of both lice television images and audio signals between two or more sites and three or more individuals.

Two-way Audio : Two-way video Interaction : This type of conferencing is possible through two-way television network. The presenters from different TV stations or video conference studios can interact with each other with audio-video conference system. Satellite system enables distance learners viewing the ETV programmes consisting of teacher-student and student-student interaction taking place at a wide TV network. Learners sitting at home / learning centre and watching audio video teleconference get a feel of classroom through TV screen. Several questions raised by a particular learner may be raised by students participating in ETV. This system can serve both purpose, expert interaction as well as popular interaction. As this system requires high technology concentration, heavy expenses it is better to go for one way video-two way audio conferencing.

One way Audio : two way Video Interaction : The participants remaining in different parts of the region can interact with the presenter of TV station. Satellite based communication system facilities, easy telephone communication from learners to the presenter. While the learner"s queries at the time of telecast of lesson, the presenter can answer the questions through TV line on the spot. While the learner"s queries can be accessible to the presenter by satellite connected telephone his response can be both audio and video based through TV.

ComputerTeleconferencing:

Computer Teleconferencing is the most effective way of teleconferencing but at the same time involves a lot of cost, infrastructure, etc. With the adequate facility of suitable hardware, information can be sent and received at the convenience of both the teacher and the student with the use of computers. Computer conferencing can be text based or full video based. Teleconferencing through computer networks has advantage over video conferencing with regard to flexibility of communications through computers. In computer conferencing text based messages and files are communicated through computer networks. On the basis of text based messages discussions take place through computer network. Such discussions may be of non-structured nature. In Distance Education such conferencing can be encouraged for interaction of cooperative learn group through local area networking (LAN). This has been experimented by the Open University, U.K. that computer based teleconferencing (Mason, 1989) is mostly feasible in the case of small cooperate learning groups. In computer conferencing system there is provision for the small group meetings to run parallel to the main transaction of large group computer conference. The large group deals with major

issues related to course based experiences. Some major advantages of computer networking are as follows.

Resource Sharing : All computer users do not have the best computer facilities available on a stand alone computer. It we can inter connect (network) the small computers and terminals with a powerful processor, secondary storage, printers etc. then all these small computers can utilize the powerful resources inter connected through a network.

Global Database : When different computers are interlinked and can share resources then there is no need to store the same or similar information on the storage areas of individual computers. Data that needs to be shared by different users can be stored and maintained at a global storage area and users can be given access to it with their user ids and passwords.

Powerful Communication Medium : The information stored and disseminated through networks has recently become most popular means because of the simple editing process and the facility of fetching data from all different sites in the world. In distance education the students can log on to the databases of universities and benefit from them in various ways e.g. be informed about the latest in research, navigate through one information topic to another, have an online explanation of different topics.

Information Management : It is also easier in a global database networked set up. Any database in such a set up in such a set up will not have a duplicate copy and so editing, updation, deletion etc. are all required to be done at one place. This is in contrast to the systems of maintaining local databases where one information may have duplicate entries in different individual databases and in order to change only component of the information, all the databases keeping that component must be changed accordingly.

Online Information Exchange : Any information is kept for people to use in any way they want to use and whenever they want. Using a computer attached to a network, one can easily and quickly access information in the right format, which can be used for further work and timely decision making.

Saving Money : All the properties resource sharing, global information, maintenance, rapid information exchange of a network system reduce the cost of information storage and interchange. A bigger network system may be planned but it can be built in phases starting with a smaller set up, such as adding an extra which node, which is not at all problem, if planned in advance. This reduces the initial set up cost. There are two types of technology for the transmission of network, print-to-print and broad easting. In a print-to-print network, the

connection is between individual computers whereas in the broadcasting type of transmission there is a single channel used for transmission of data in packets. In a network all the computers and other devices are joined through data communication channels.

Innovative Practices :

According to Francis Bacon "He that will not apply new remedies must accept new evils, for time is the greatest innovator. Stagnation sets in, if changes are not made. Innovations and innovative climate are therefore absolutely essential for any system or organization for its growth and development. Innovation refers to a useful, positive planned durable and deliberate change to alter old ways of doing things to new tried one and tested ideas to achieve pre determine new goals or objectives. The word innovation has been derived from the Latin word "novons" which means new, novice or novelty. No two persons look alike or them alike. What one perceives something may not be perceived in the same way, it may be a new idea, method or device. The novelty may be more apparent that real. What is new for one person may not be new for another. John Adair (1990) states "Innovation is more than having new ideas it includes the process of successfully introducing them or making things happen is a new way. It turns ideas into useful, practicable and commercial products or services." The NCERT, New Delhi has given a wide variety of definitions to innovations. The process of making improvement, by introducing something new. The act of introducing something new / something newly introduced. The process of translating new ideas for improvement of teaching learning. The introduction of some thing new. A new idea, method or device The successful exploitation of new ideas. Change that create a new dimension of performance. A greater idea that is related. The capabilities of continuously realizing a desired future. In order to improve the quality of teaching learning different strategies have been applied to help the teachers to make more effective and joyful in elementary and secondary schools. Followings are some of the strategies developed in the teaching learning process which can bring a new look the educationsystem.

Net based Learning : A variety of technologies are currently being used to deliver education on the Internet which include the use of the world wide web (www) for online lecture notes, news groups for collaborative discussions and class announcements, e-mail, correspondence between students and instructors. This is also interactive, video, over Internet for remote participation in classes and discussions and virtual reality for exploring three dimensional scenes, implemented in education. The internet is increasingly being used for the delivery of

educational material and distance education. Internet based learning allows students to learn at their own pace, access, the information at a time that is convenient for them and provides education to remote students that otherwise would not be able to travel to a classroom. Some courses available in the net are delivered as a formal course with regular meeting times and places. Other courses follow a self-directed or student centred approach allowing students to learn at a time and pace that is convenient to them. Some Institutions offer courses in a wide range of disciplines and topics that lead to a diplomas or degrees. Multimedia is increasingly being used in online education to enhance the learning process. The world wide web (www) has become one of the most popular delivery methods for distance learning programme. An education website can help learners to read, see, hear and interact with web based information. It can also allow communication amongst learners. The internet and www provide opportunity for collaborative learning, makes web based teaching possible and facilitates interactivity learning. Internet not only provides access to information instantaneously and at low cost but also provides access to the latest information as updating on line courses is much easier and relatively inexpensive. Internet based learning includes delivery of education, and provides many benefits and limitations to both the students and each educational institution; Some of the benefits of Internet based courses to the students include : Flexibility to pursue education at personally convenient times. Ability to take time to compose thoughts contributed to class discussions on news groups or listeners (asynchronous communications) Ability to Interact with class mates in different locations using real time text, audio or video (synchronous communications) Reduction or elimination of travel cost to attend lectures. Wider range of students in a class (regional, national or global participation) resulting in a wider range of opinions and views shared in class discussion. Ability to progress in the course material at the student's own pace (self placed learning) and in order of their own personal needs (non-linear learning). However not all students are suited for internet based education. Some difficulties or problems are there Lack of motivation can lead students to dropout. The internet methods of communication (e-mail, newsgroups, listservs) may be intimating or awkward to use for some students. Students may not be able to express themselves as well using the computer based communication methods as they would in either direct conversation with their professor or in classroom discussions. As a result not all questions may be asked by the students when using computer mediated communication. Cost of computer equipment and communications infrastructure may limit

the number of students that can afford an Internet based course. Students will have a lack of technical support in their homes to use the software tools needed in the course. Poor technical support or tutorial help can lead to incorrect usage of software tools needed to assignments.

Benefits and limitations in providing internet based courses : Lower cost in electronic publication of course material compared to printing the same material. Ability to re-use lecture materials by simply providing links to previous electronic course modules or externally stored resources materials on the Internet. Ability to automatically track students online behaviour Ability to have automated registration and billing using commerce www servers. Larger number of students can take courses (not limited by geographical region) Automation of the student evaluations with online interactive puzzles.

Disadvantages of Net based courses : Relatively high cost of setting up reliable computer equipments and the technical support for their requirement. Requirements investment of time to learn methods and procedures. Instructors feel uncomfortable with technology may resist using new instruction methods. Lack of support for training instructors with new technology may cause instructors not to learn new technologies and methods. Unreliability of equipment being used can cause problems in the delivery of course over the net, which can be reflected in poor student evaluation of such courses. Junk e-mail – Institutions connected are flooded with useless and unwanted e-mails. This consumes a lot of the subscribers time. Security – As messages travel across several backbone infrastructures, there is the possibility of lacking and leakage of sensitive information over the network. Computer virus : Internet e-mail and downloaded files from the www have been reported to contain viruses. This demands every computer should be installed with antivirus software. Less serious issues discussed – Many a time the discussions are not too serious. Lack of support to rural people – The net is still an urban phenomenon, at least for developing countries at present. So it increases the divide between haves and the have nots.

Learning Styles : The Internet has provided an opportunity to introduce new ways for supporting individual learning styles for students and created new paradigms for Instruction. Connecting internet to Institution is needed as a change from emphasizing accumulation of knowledge, to new ways of communicating and assisting students to learn. Some of the change occurring to education as a result of new technologies include :

1. A shift from student as a passive recipient of education to a self directed student learning.

2. A shift from classroom lectures to computer networked access to educational resources.

3. A shift from individual learning, learning to team, learning and group discussion.

4. A shift from homogeneous and stable educational content to fast changing content presented in a wide range of formats.

One of the most prominent trends in distance education is the emergence of open learning which has been defined as "a student centred approach to education which removes all barriers to access while providing a high degree of learner autonomy". Instead the teacher acts as a tutor facilitators and resource to assist in the student"s learning process, each student has individual preferred patters or methods for learning which need to be recognized and supported with appropriate learning technologies.Being interactive it allows collaborative learning opportunities to the learners, who can interact with their teachers as well as with peer groups or co-learners. The check you progress exercises of the print medium could be made more interactive, since learners can now submit assignments online and can receive comments immediately too.

Conclusion :

ICT provides flexibility in terms of the place and pace of learning, time of learning selection and combinations of subjects, delivery system and interaction with experts. ICT has revolutionalized the life style of the people. ICT is used for quality control of in the classroom, and provides many benefits to the learners and teachers. These include shared learning and progress towards autonomous learning. Information and communication Technology is creating a new paradigm of learning. Television is an effective tool in the hands of education and used imaginatively. Audio video materials are used in all the fields of education for its potential, multi-various approaches. It"s higher quality, flexibility and best available resources, effectiveness helped learners as well as learning system for quality. Computers-E-learning, net based learning satellite communication shares the resources for quality enhancement and promotion to a better teaching learning situation. Project based learning Lab based learning. Net based learning is pre-requisite for the learners. Innovative practices are very essential and effective to meet the challenges in education. In the present era more innovations are required for building up the quality dimension in education and educational scenario.

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