UNIT 5

INSTRUCTIONAL MEDIA

INTRODUCTION

Instructional Media means all devices and materials used in the teaching and learning processes which includes not only electronic communications media but also such devices as slides, Photographs, charts, real objects etc. instructional media are vital in the teaching learning process. Pupil's learning outcomes are highly influenced by its use.

USE OF MASS MEDIA FOR CLASSROOM INSTRUCTION

1. Newspapers

2. Magazines

3. Radio

4. Television

5. Internet

1. Newspapers

Use of mass media as a teaching instrument in the classroom has increased considerably at all standards in the past few years.   Newspaper is a rich source of information. It communicates authentic information immediately. Photographs, recent scientific information new strategies are all published by the Newspapers. Newspapers can be used to enhance skills in reading, writing, listening, speaking, Mathematics, Science etc. Newspaperis called the living textbooks. Newspapers expands the curriculum with an unlimited amount of information to use as background for learning activities.

Newspaper can assist the English teacher in motivating the students by making more relevant skills and concepts learned in the classroom. The newspaper can be a valuable for the English teacher in convincing students that consumer and basic english skills are critical   in everyday life. It is important that English teacher take every opportunity to use current relevant resource materials of English available in Newspaper to assist students in learning independently.

Student can prepare files of newspaper cuttings on different topics or issues. These cuttings can then be used for conducting group discussions, giving group assignments or even for individual study. These files come handy when you require information on a particular aspect of a topic. The files prepared by the teacher and students can be maintained in the school library. Teacher can give lot of exercises related to English from the newspapers.

Newspapers are a useful tool in the ELT classroom for improving reading skills and enhancing students' knowledge of current affairs. Newspapers can help students to develop not only reading skills but also writing,grammar, vocabulary and speaking skills. Below are some tips and activities which can help.

Tips

* Encourage students to read newspapers outside the classroom, explaining that ongoing reading can help them to articulate/discuss ideas more fluently, as well as read and understand a whole variety of texts.

 * Use different newspapers to suit your student's tastes. If you are teaching in an area where English-language newspapers are produced for the local community, these may include articles and topics of interest and relevance to your students.

* You don't need to have a great supply of newspapers in the classroom. Most newspapers have an online version, where you can print off articles.

* Talk to your students about reading and comprehension of English texts. It might be helpful to share strategies for reading.

Activities

Guess the headline

Cut out a number of headlines and from each one remove an interesting word (e.g. Missing Painting Found In _____). Stick the incomplete headlines on a piece of paper, photocopy and distribute to teams of 3-4 students. Ask each team to come up with two possible answers for each headline: the most likely word and the funniest word. Collect all the responses and give each team a point for any correct answer, and for the funniest answers. Get everyone involved by holding a vote for the funniest /most original answer for each headline.

Guess the article

Select an interesting newspaper article, preferably one which involves an exciting unusual story. Choose eight key words from the article and write them on the board. Ask students to work in teams of 3-4 to come up with a story including these words. When they have finished, read out / tell them about the original article. Get students to read aloud their own versions - this can create a lot of laughs!

Newspaper lies

Ask students to select short item of news and to summarise it to a partner/ team, changing some of the details. Partners need to try and guess which of the facts are true and which have been changed.

Wall quiz

Write a list of questions based on a selection of newspaper articles, and distribute the quiz to teams of 2-3 students. Pin up the articles around the room and ask students to walk around the room trying to find the answers. The winning team is the first to find all the answers. This can be quite a lively activity!

Presentations

To encourage students to read newspapers in English on a more regular basis. organise short presentations at the beginning of each class. Ask a different student at the end of each class to find an interesting newspaper article and to summarise it to the other students during the next class, explaining why they chose it. This can lead to interesting discussions about current issues.

News programmes

This is a great team activity for both reading and speaking practice. Put students into small teams and give them one or two recent newspapers. Tell them that they are going to work together to produce a news programme, including the headlines, special reports, interviews, weather forecast. Their programme should be based on news items from the papers, and everyone must be involved in some way.

Make questions

Students read the article and write comprehension questions to other students to answer. This is best done in pairs.

Use of Newspapers

* Newspapers are an adult medium and students all ability levels are inherently proud to be seen reading them.

* Newspapers deal with contemporary issues which are happening here and now and hence provide motivation for reading and discussion.

* Newspapers make learning fun.

* Newspapers are extremely flexible and adaptable to all curriculum areas and grade levels.

* Newspapers bridge the gap between the classroom and the 'real' world.

* Newspapers build good reading habits that will last a lifetime.

* Newspaper can be cut marked, clipped, pasted, field and recycled.

2. Magazines

Magazine is a periodical publication containing articles and illustrations. Often on a particular subject or aimed at a particular readership. Magazines are available in printed form or online form. They are generally published. On a regular schedule and contain a variety of content.

A magazine is something that lies between a newspaper and a book. Unlike the book it is published periodically in a series. But it differs from a newspaper. The reporting of day-to-day happenings is not its main concern. To inform, instruct and entertain through comments on chosen news and features on subjects of interest is what it is engaged in.

Magazines deal high school tutoring services, problems, theory of Higher Secondary, jokes. Magazines develop English critical thinking. These magazines publish articles from all branches of English namely English linguistics, English Socio linguistic, History of the English language, Composition Studies, Rhetoric etc.

3. Radio

Radio is an important teaching aid for English. Though Radio is used for the purpose ofentertainment , these days it is also used for teaching purposes. A comprehensive course in language can also be presented through Radio.

Radio technology offers a unique way for teachers to integrate technology ito the curriculum. Teachers without Television or internet connections will find radio an accessible technology for bringing the world to their students. It brings the outside world into the classroom making educatior.al programmes more attractive and entertaining. Now-a-days, Content-based English instructions are available in the radio channel of All India Radio, BBC and the teacher has to make arrangements for the students to listen to the programmes. If necessary the teacher may record the programme in a tape recorder and replay it on some other occasion.

Uses

1. A radio is very useful to the language teacher because, it bring in experts in language teaching whose instructions will be quite helpful to the students .

2. All kinds of listeners at all places can use the radio profitably.

3. All India Radio broadcasts English and educational programmes and they also give the topic, date and time in advance, which is very helpful.

4. It is very easy to accessible and has a wide coverage.

5. The capital investment of it is very low and even the operating cost is also not so high.

6. Listening to English news and other programmes helps the students to improve their pronunciation.

7. With the help of radio, the students listening and speaking comprehension can be improved.

8. Lectures, talks and addresses of important personalities from any corner of the world can be heard on Radio.

9. Children general knowledge widened.

10. Radio plays a vital educational role as the sole medium for formal and non-formal education.

4. Television

Television is the most powerful medium of communication. It has revolutionized the method of teaching and learning. It is a convenient and economical medium of reaching a large cross-section of population. It combines the best of radio and motion pictures. It helps overcome barriers to learning. There are various programmes which provide up-to-date news around the world like Discovery Channel, Animal planet, BBC, CNN, National Geographic, ESPN, Ten Sports, Pudiyathafamurai, Doordarshan and so on.

Now-a-days , it has become the most recent audio-visual aid for classroom instruction. This is a mufti-sensory audio visual aid, which can be effectively used for language teaching. The State Institute of Educational Technology, Government of Andhra Pradesh, Hyderabad and the Doordarshan Kendra. Hyderabad has been telecasting programmes for teachers and students of primary schools. There are many educational television programmes in India like:

a. Secondary school television project (STV)

b. Delhi Agriculture Television   Project (Krishi Darshan)

c. Satellite Instructional Television Experiment (SITE)

d. . Post - SITE Project

e. Indian National Satellite (INSAT)

f.Higher Educational Television Project (HETV) of UGC

Educational Television

The television is called as the "queen of audiovisual aids". It is a one of the mass communication. It appeals to both the eye and the ear. There are three types of educational television programmes.

1. Direct teaching enrichment programmes
2. Supplementary enrichment programmes
3. Demonstration type programmes

There is a recent development in Educational television programme. They are:

- o Satellite based communication
- o Telephone clubbed with television
- o Video tapes and

     o Multimedia packages

Uses

* A large number of students can be given information at a time.

* It can help supplement classroom oral teaching.

* It develops in them positive and self-confidence towards the foriegn language by listening and seeing the English channels.

* Television can be used for telling stories, teaching of structures and sentences, their forms and patterns.

* It also inculcates and develops a sense of critical appreciation among the young learners by showing correct and modulated poetry reading.

* Television programme can highlight the function of the speech organs in producing right speech sounds.

* Listening, speaking and understanding abilities of the learners can be improved.

* The students who are not able to attend the class can watch and listen from their homes itself.

* It is time saving. Most of the syllabus may be covered in less time.

* Doordarshan programmes like UGC, Kanbomkarpom are very helpful for students who are appearing for their public exams as the lessons and the question models are explained in detail.

Disadvantages

* It is a one-way communication only.

* Slow learners cannot cope up with it.

* Again there is a dearth for teaching who can explain the students before the programme commences.

* Poor accessibility and it is difficult to integrate the students.

* Sometimes visual becomes a distraction in the learning process.

5. Internet

Internet is the most user-friendly graphical system that offers huge amount of information to the users. Internet reveals huge sets of pates containing data, information, images, symbols, words, sounds, video clips etc., collected from all over the world. Internet is a network of networks. It is a group of two or more networks that are

* Interconnected physically

* Capable of communiating and sharing data with each other and

* Ableto act together as a single network .

We can exchange text, data files, messages and programs with any other user.

Significance of internet

1. Procuring information on the internet

The information about people, cultures, societies. languages. nations products. organizations, inventions, discoveries, games, events, research data and findings, health and nutrition, developmental activities, media, politics, day-to-day news etc. is available on the internet.

2. Providing information on the internet

Individuals and institutions would like to re-present their ideas, praises, activities, programs, new- proposals, mission and vision statements, services offered interest etc. over the internet. They can set up their home pages in a decorative and attractive way to extend their market and services. For this purpose, one can take up publishing, extension, teaching etc., on the net.

3. Compiling information on the internet

Internet can be used for obtaining specialized information from the web. One can generate opinions of people, experts, specialists, politicians, religious leaders, etc. by administering various instruments through e-mail or involving in group discussion, list servers, chatting groups, job groups, medical experts groups, etc.

Internet in Education

The internet has very wide applications in the field of education. It provides a number of learning experiences and educational resources to students, teachers, administrators,

policy makers and all those who work for the cause of education. Some of the important ways in which the internet helps children are

- It helps develop and improve reading, writing, research and language skills.

- It provides support for kids with special needs and their parents.

- It is an exciting outlet for artistic expression.

- It provides information about every topic imaginable·

- It is a great way to hand out with your friends and be at home at the same time.

- It provides personal contact with new people and cultures.

The open learning methodology means the learners need not to go the educational institutions. The internet provides a huge amount of information to the students across the world. So the internet can be used for delivering instructional inputs or providing information to the open school learners.

Internet will provide information to the schools and students in the following areas.

* Access to electronic information, Archives and databases.

* Direct support to teachers and learners to enhance educational access, quality.

* Career counseling

* Job requirements and opportunities available.

* Courses available through distance education and open learning mode.

* Provision of internet services.

* Provision of directory services

* Offering courses through internet.

NEW EMERGING MEDIA

With the emergence of online technology, the production, distribution and consumption process of news has been changed. Newspapers and television channels have shifted their importance to the online editions. Each and every media houses   in   India   now   have their own websites. Especially the electronic communication with the internet driven

technology has brought lots of innovations. The new forms of media have created opportunity for interactions between the producers and consumers of news. These new forms of media are known as New emerging media.

TELE-CONFERENCING

Tele- conferencing is essentially a alive interactive audio, video or audio-video meeting that ensures between two or more participants who are at different places. Here participants communicate via telecommunicating networks using their tablets, mobile phones, laptops, computers and specially designedtech-enabled meeting rooms.

There are different types of teleconferencing. They are

1.Audio Teleconference

2.Audio Graphics Teleconference

3. Computer Teleconference

4. Audio - Video Teleconference

Let us see them briefly

1. Audio Teleconference

This is also called conference calling. Participants links is telephone lines. Meeting can be conducted via audio conference. Distance learning can be conducted by audio conference.

2.Audio Graphics Teleconference

This telecommunication channels transit visual information such as graphics, documents and video pictures as and help to voice communication. This type of communication is useful for meetings and distance learning.

3. Computer Teleconference

Here telephone lines are connected with two or more computers. Anything that can be done on a computer can be sent over the lines. Using electronic mail (Email) m mo., reports, letters, lessons can be sent to anyone on the local area network (LAN) or wide area Network (WAN). Items generated by computer which are normally in printed form are sent by E-mail.

Computer conferencing is an emerging area for distance education. Students receive texts and work books via E-mail. Students download these files and use for further study.

4.Audio - Video Teleconference

Voice communication and Video images are used for conferences. It can display anything that can be captured by a TV camera. Here you can see and hear person on a television monitor. Participants face-to-fac e meeting enables to see the facial expressions and physical behaviour of participants at remote sites Graphics are used to enhance understanding.

Video conferencing is an effective way to useone teacher twoteaches to a number of sites. Video conferencing maximises efficiency because it provides a way to meet the several groups in different locations, at the same time.

Tools needed for Video Teleconferencing

To set started with Video Teleconferencing and connect your sites, you need the following few things

 * A desktop computer, laptop or smartphone

 * An internet connection

 * A microphone and webcam

 * An external speaker

 * Video Telecommunication software

Advantages of Teleconferencing

1. Saves Time:

The most important advantages of Teleconfereing are time-saving. It is possible to hold the meeting on a very short notice. In addition there is no time spent to travel to the venue of the meeting as all meetings are held through internet and computers.

2. Save on travel expenses:

 Now-a-days travel costs can be quite significant. Teleconferencing removes the need to travel and saves huge money.

3. Efficient Record Keeping:

One of the main advantages of Teleconferencing is efficient meeting Record keeping. Computer devices are able to record, keep every detail of the meeting. Teleconferencing also makes it very easy to retrieve this data in the future and make references whenever necessary.

4. Conference costs:

There are many costs to hold a meeting. Hiring avenue buyingfoodand refreshments etc. associated with any meeting. Teleconferencing removes all these costs as no such arrangements need to be made.

5. Reliability:

Teleconferencing isone of the most reliable ways of holding meeting. Due to advancement in technology, teleconferencing channels are today much more stable. It is very secure mode of communication where the safety of data as well as privacy is guaranteed.

6. Services:

Health care management Business, Education, International conference and online interviews are held using Teleconferencing.

COMMUNICATION SATELLITES

Communication satellite is an artificial satellite that relays and amplifies radio communication signals via transponder; it creates a communication channel between a source transmitter and a receiver at different locations on earth. Communication satellites are used for television, telephone, radio, internet, Metrology and Military applications all over the world. As on 1st January 2021, there are 2224 Communication satellites in Earth orbit. Most Communication satellites are in the geostationary orbit 35,900 Kms above the equator so that the satellite appears stationary at the same point in the sky.

Communication satellites use a wide range of ratio and microwave frequencies. To avoid signal interference, Internationaltional organisations, have regulations for which frequency ranges or bands certain organisations are allowed to use. This allocation of bands minimizes the risk interference. These satellites provide communication links

between various points on Earth. Watching your TV shows or movies from internet would have been impossible without this.

Satellites and Education

India launched Education Satellite GSAT-3 known as EDUSAT on 20th September 2004 from Sriharikota, India. It is meant for distant classroom education from school level to higher education. This was the first dedicated educational satellite that provide the country with satellite based twoway communication to classroom for delivering educational materials.

Objectives of EDUSAT

* Providing support to formal and non-formal education.

* Teachers' training program

* Increasing access to quality resource persons

* Enhancing community participation

* Taking education to remotest corner of the country.

Application of EDUSAT

* Conventional Ratio and Television broadcasting Interactive Radio and Television

* Exchanging of Data

* Teleconferencing both one way or two way & Audio conferencing.

* Computer conferencing

* Web based education

EDUSAT Worlds' first satellite meant only for educational purposes is being used. Training by teleconferencing overcomes the problem of transmission loss since participants are watching, listening, and interacting with primary resource persons. CIET a constitute unit of NCERT using this technology of teleconferencing over a decades to give training/ orientation to teachers and teacher educators. Other institutions like IGNOU, Vigyan Prasar, Sarva Shikha Abhiyan (SSA), Rehabilitation Council of India (RCI) etc are using EDUSAT.

Advantages of Communication Satellites

1. Flexibility

2. Ease in putting in new circuits

3. Distances are effortlessly taken care of and expense does not make a difference

4. Broadcasting Conceivable Outcomes

5. Each and each side of the earth is secured

6. User can control the system

Disadvantages of Communication Satellites

1. The introductory costs are excessively high

2. Congestion of frequencies

3. Interference and proliferation

COMPUTER NETWORKING

A computer network is a set of computers sharing resources located on or provided by network nodes. The computers use common communication protocols over digital interconnections are made up of telecommunication network technologies, based on physically wires, optical, and wireless radio-frequency methods that may be arranged in a variety of network topologies.

The nodes of a computer network may include personal computers, servers, networking addresses, and may have host names. Host names serve as memorable labels for the nodes, rarely changed after   initial assignment. Network addresses serve for locating and identifying the node by communication protocols such as the internet protocol.

Computer networks may be classified by many criteria including the transmission medium used to carry signals, and width , communications protocols to organize network raffle, the network size, the topology , traffic control mechanism and organizational intent.

Computer networks support many applications and services such as access to the world wide web digital video, digital audio, shared use of application and storage servers, printers and fax machines and use of email and instant messaging applications.

A computer networks extends inter personal communications by means with various technologies such as email, instant messaging online chat voice and video telephone calls and video conferencing. A network allows sharing of network and

computing resources. Users may access and use resources provided by devices on the network such as printing a document on a shared network printer or use of a shared storage device . A network allows sharing of files, data and other types of information giving authorized users the ability to access information stores on other computers on the network. Distributed computing uses computer resources across a network to accomplish tasks.

Types of Computer Network

A computer network is mainly of four types. They are

1. LAN (Local Area Network)

2. PAN (Personal Area Network)

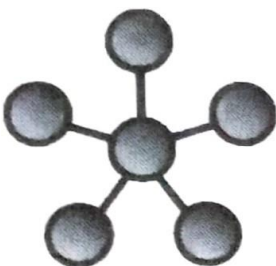3. MAN (Metropolitan Area Network)

4. WAN (Wide Area Network)

Need of computer networking

Computer networks help users on the network to share the resources and in communication. Networking of computers help the network users to share data files. Users can share devices such as printers, scanners, CD-Rom drives, hard drives etc.
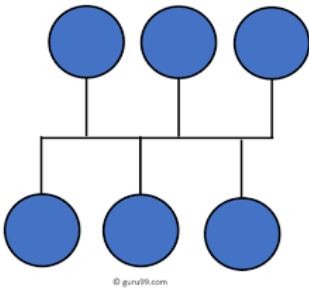
Types of network Topology

Topology is derived from two greek words topo and logy where topo means place and logy means study. In computer network topology is used to explain how a network is physically connected. A Topology mainly describes how devices are connected with internet and other communication links. Network topology defines the layout , virtual shape or structure of the network. Types of network topology are
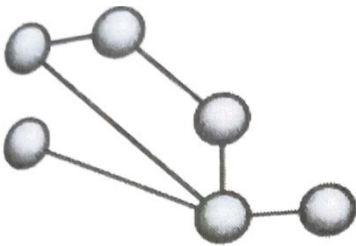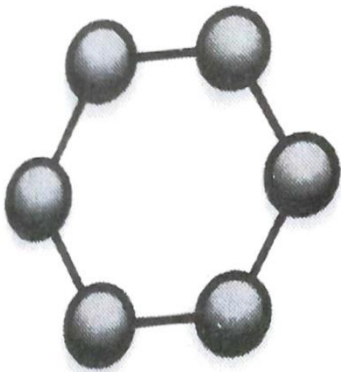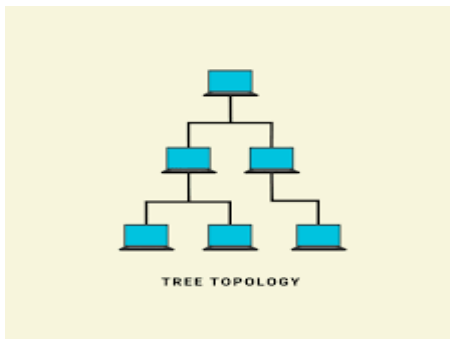

1. Star Network

2. Bus Network

3. Mesh Networking

4. Ring Network

5. Tree Network

TREE TOPOLOGY

Advantages of Networking

1.Strengthen business connections

2. Get fresh ideas

3. Raise your profile

4.Get access to job opportunities

5.Gain more knowledge

6.Get Career advice and support

7. Built confidence

8. It boosts storage capacity of the computer

9. It makes file sharing easier

10. It is an inexpensive system

Disadvantages of Computer Networking

1. The connected systems on a network entirely depend on the main server. If there   is any problem in serve, complete network failed.

2. Since networks are based on the centralized server, most of the decisions are made themselves.

3. Setting up Computer network can be expensive

4.Due to interactions, a virus can easily spread between computers in a network.

5.In networking, large number of users are using computers. Hackers can easily access the network using specialized tools.

6. It can drastically decrease the productivity of the company.

WORD PROCESSORS

Word processor is a computer program used to write and revise documents, compose the layout of the text and preview on a computer monitor how the printed copy will appear. The last capability is known as a "what you see is what you get"

Word processors facilitate writing and editing, especially with their ability to copy and move text , (Cut and paste) their· built- in dictionaries to check spelling, and their grammar checkers. Other common features include a wide choice of typographic fonts and sizes, various paragraph and page layouts, tools for finding and replacing string of

characters and word counts. Modern word processors also have many features one reserved for desktop publishing systems, such as table creation and importation of graphic images. They typically provide templates for common document types, such as letters, memos and resumes and can generate multiple copies of a document with recipient addresses drawn from a list. (Mail merge)

Desktop publishing programs have word processing features but also provide highly flexible layout and control over appearance to combine text and graphics for advertising copy, magazines and books.

 Examples of Word processor softwares

* AbiWord

* Apple iWork-pages

* Apple Text Edit

* Coral word perfect

* Dropbox paper

* Google Doc's

* Libe office --->writer

* Microsoft office -----> Microsoft word

Functions of word processors

The functions of word processing described below are all basic ones if you have reasonably computer literature.

 * Creating, editing , saving and printing documents.

 * Pasting, moving and deleting text with a document.

 * Formatting text such as font type, size, bolding, under lining or italicizing.

 * Creating and editing tables

 * Adding symbols

 * Changing the text appearance

 * Changing the page appearance

Advantages of Word processors

1. A document can be stored in a computer for a future reference.

2.Have special editing tools namely spelling and grammar checkers .

3. One can easily insert or replace a word or phrase without affecting the neatness of a document.

4. You can save your work and come back to it at a later time.

5. Plenty of professional quality document templates available online.

6.Can import a data from a database and use it to create mail merge.

7.Teacher and students gain a sense of security about losing assignments.

8.Teacher benefit by receiving a readable copy that is easy to grade for students.

9. Very helpful for publishing work

10. Work done on a word processor and saved on the internet is highly portable and accessible from anywhere.

11. Environment improves as there is no use of paper.

12. It helps to reconstruct complex office work .

Disadvantages of Word processors

 1. Cost of Word processor is very high

 2. Most users will probably never use 50% of the functionality of Word.

 3. Some functions are not always intuitive and it can take a while to get your desired effects.

 4.You always need an internet connection to access your data files .

 5. Security measures can be breached.

BLENDED LEARNING

 1. Introduction

Blended Learning is about effectively integrating ICTs into course design to enhance the teaching and learning experiences for student and teachers by enabling them to engage in ways that would not normally be available in their usual environment, whether it is primarily face-to-face. Blended Learning technologies are as follows:

* Broadenthe spaceandopportunities available for learning.

* Support course management activities.

* Support the provision of information and resource to students.

* Engage and motivate students through interactivity and collaboration.

The learning and teachingactivities need to be meaningful and relevant for the student learning.

Definition

* The thoughtful integration of classroom face-to-face learning experiences with online learning experiences.

* It combines online with face-to-face learning. The goal of blended learning is to provide the most efficient and effective instruction experience by combining delivery modalities.

* Mixed mode or hybrid-learning is the integration of face-to-face (F2F) learning with online learning activities.

* A solution that combines several different delivery methods, such as collaboration software, web-based courses, EPSS and knowledge management practices.

Objectives

* Increase the amount and quality of faculty-to-student and student-to-student interaction.

* Increase opportunities for active and collaborative learning assessment before, during and after lectures.

* Help students prepare for class discussions or lab work.

* Facilitate more varied and engaging media for presenting course content.

* Address learning bottlenecks via new types of interactive and independent learning activities.

* Drive collaborative teacher problem-solving .

Uses:

* Blended learning can increase access and flexibility for learners, increase level of active learning and achieve better student experiences and outcomes. For teaching staff, blended learning can improve teaching and class management practices.

Enhanced learning: Students usually receive more feedback and more frequent feedback, for their instructors. Students can acquire useful skills from using the internet and computer technology (live instructor presence, technological enhancement). Students have more time to reflect and refer to relevant course and other research materials when working and writing than when responding in class.

* **Support for student collaboration:** Real-timereal space interactivity and asynchronous online interactions, synchronous online interactions.

* **Course accessibility:** Students have access to unlimited up-to-date resources available via the web. Live signing in live courses, transcription of audio and video, labeling of images with alt text online.

* **Learner convenience:** Students have greater time flexibility, freedom and convenience by working part of the time online . Time flexibility without full-term scheduling , a synchronicity Non-real-time learning), and the repeatability of some automated learning and ease of accessing course materials.

* **Rich learner assessment:** Automated assessments , live instructor-led assessments, peer assessments live or via he online classroom.

* **24/7 Accesses :**Students often develop or enhance skills in time management, critical thinking and problem solving. Students typically have 24/7 access to online course materials.

* **Multi-use/Dual use resources:** Course contents may often be used in both contexts (F2F and online)

FLIPPED CLASSROOM

Flipped classroom is an approach that allows teachers to implement a methodology or various methodologies in their classrooms. It means "School work at home and home work at school". Flipped classroom inverts traditional teaching methods, delivering instruction online outside of class and moving" homework"into classroom.

Definition

Flipped Classroom is a pedagogical aproach in Which direct instruction moves from the group learning space to the individual learning space and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creativity in the subject matter.

It is called flipped because the traditional definition was "what used to be class work (lecture) is done outside the class (usually with videos at home) and what used be home work (assigned problems) is now done in the class".

The flipped classroom is a pedagogical approach in which typical lecture and home work element of a course are reversed. Short video lectures of instructional content are viewed by students at home before the class session, while in the class time is developed to solve problems exercised, projects or discussions with the guidance of the teacher.

Frame work of flipped classroom

It is a student centred model in which class time e plores topics in greater depth and create meaningful learning opportunities. In a flipped class room content delivery may take a variety of forms. Video lessons prepared by the teachers or others are used to deliver content allthough on line collaborative discussions and text readings may be used. More time can be spent in class on higher order thinking skills such as problem-finding, collaboration, design and problem solving. Students take different problems, working in groups construct knowledge with the help of their peers and teachers. Teachers interaction with students in a flipped classroom can be more personalised and less didactic.

Flipped classroom apply a mastery learning model that requires each student to master a topic before moving to the next one.

Four pillars of Flipped classroom

F - Flexible Environment

L - Learning Culture

I- Intentional Content

P - Professional Educators

1. Flexible Environment

The flipped classroom must allow for a varity of learning models. Educators will often physically earning their learning space to accommodate the lesson unit. Additionally flipped educators have to be comfortable with flexible learning environment in which the student choose what and where they learn outside of the classroom.

2.Learning Culture

In the flip learning model, educationists are more cognizant of the content and they choose to deliver and determine what direct instruction or traditional lecture can be shifted .Students are empowered to find content on their own, while educator help them make connection and buildings on their own understanding are proficiency. Parents and community must be kept engaged and informed for the culture to shift in this new model.

3. Intentional Content

Educators must continuously think about how they can use the flip learning models to help the student's gain conceptual understanding as well as procedural fluency when needed. They must evaluate what they must need to teach and what the materials students should explore their own. Educators must adopt various methods of instruction such as active learning strategies, peer instructions, problem based learning or mastery or Socratic Method depending on grade level and "Subject Matter".

4. Professional Educators

The role of the teacher is even more important and it is often more demanding in flipped classroom than in a traditional one. During class time, teacher continually observe their students, providing them with feedback relevant in the movement and assessing their work. There is a deliberate shift from lecture centered to a student-centered class. Also educators must be able to connect with each other to improve their trade, to accept constructor criticism and to tolerate controlled classroom chaos.

5.Flipped classroom

The flipped classroom describes a reversal .cr>f the traditional teaching where students gained first exposure to n_ew material outside of class, usually via reading or lecture ,

videos and then class time is used to do the harder work of assimilating that knowledge through certain strategies such as

1. Problem - solving

2. Discussion and

3. Debates

Advantages

1. Students take control of their learning.

2. Student can develop foundation of factual knowledge.

3. Students can understand facts and ideas in the context of a conceptual framework.

4. They can enrich their knowledge in ways that facilitate retrieval and application.

5. It saves time. Teacher may spend more time with students.

6. Students learn at varying speed.

7. Ability to rewind, save, review lesson plans at any moment.

8. Students are provided opportunities for review lesson front-load for classroom activities.

9. Patents can view lessons and better assists students.

10. Students do not struggle with completing homework because they forgot how it does.

11.Students are actively working with their peers.

12. Students take ownership of their learning.

13. Personalized educations for slow and fast learners.

14. Stronger bonds with teachers.

15. It provides adequate learning opportunities for verbal learners and for visual learners.

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) broadly refer to any human-like behaviour displayed by a machine or system. In AI most basic form, computer are programmed to 'mimic' human behaviour using extensive data from past example of similar behaviour. With AI,

machine can work efficiently and analyse vast amounts of data in the blink of an eye, solving problems through supervised, unsupervised or reinforced learning.

AI is now part of our daily lives. We have AI solutions for quality control, video analytic, speech-to-text and autonomous driving, as well as solutions in healthcare, manufacturing, financial services, entertainment and education.

History of Artificial Intelligence

Before 1949, computers could execute commands, but they could not remember what they did as they were not able to store these commands. In 1950, Alan Turing discussed how to build intelligent machines. Research done in this field from 1960 and laboratories had been established around the world. By 2000 solutions developed by AI researchers, were being widely used.

Application of AI

Artificial intelligence, the intelligence exhibited by machines has been used to develop thousands of applications to solve specific problems throughout industry and academic.

Here are some of the real-world applications of AI in Education.

1. Automation of basic administrative activities

A lot of time is spent by teachers in administrative activities like grading and assessments of worksheets. The use of AI in education can help automate the grading and assessment of activities like multiple choice questions, fill in the blanks etc. Another tedious and cumbersome activity for teachers is preparing the report cards of students. The use of AI in education can help automate this as well. Automation of adminstrative activities means teachers can spend more time with the students, thus making the learning process more efficient.

2. Personalized learning

The purpose behind application of AI in education is not to replace teachers, but give them a helping hand in understanding the potential and limitations of each student. The use of AI in schools make things easy and convenient for the teachers and students as well. By understanding the needs of every student, teachers can come up with a study plan for every students.

3. Constructive feedback

Programs powered by AI can provide valuable feedback both to the students as well as teachers. Use of AI in classrooms can point out to teachers how to improve the instructions provided to the learners and also how to make learning more fun and interesting. Instant feedback to students helps them understand where they are going wrong and how they can do it better.

4. Personalization

What better way to offer more personalized learning opportunities for students than to have. AI be able to analyze student responses, determine areas of need and interest, find resources or create new questions to help students to greater understanding of the content.

5. Communication

Students and teachers will be able to communicate instantly with one another as well as to connect with other forms of AI around the world.

6. Accessible by all students

Due to socio economic status, transportation and disabilities may change how much access a student has to the classroom. However learning can happen anywhere with the help of AI.

7. Educational softwares are developed to student needs

AI gives importance to individualized learning. AI responds to the needs of the student, put greater emphasis on certain topics, repeating things that students have not mastered and generally helping students to work at their own pace.

8. AI may change the whole education system

AI has the potential to change about everything on education. Students can learn from anywhere in the world to anytime and sometimes AI may replace teachers in some instances. Educational programs powered by AI are helping to learn basic skills and they will likely to offer students a much wider range of services.

Advantages of Artificial Intelligence in Education

1. AI-based education can provide an opportunity to study at anytime.

2. AI-based solutions can adopt according to the level of knowledge, interesting topics etc. The system tends to help students with their weak side.

3. AI based education offer virtual mentors to track the students progress.

4. AI-enabled education offers appropriate teachers, depending on the teaching experience and soft skills.

5. AI operates 24×7 without interruption or breaks

6. AI augments the capabilities of differently abled individuals.

7. It introduces a new technique to solve new problems.

8. It handles the information, better than humans.

9. It improves work efficiency.

10. It uses more powerful and more useful computers.

Disadvantages of Artificial Intelligence in Education

1. The implementation cost of AI is very high.

2. AI based teaching lead to serve unemployment.

3. Development of software for AI is slow and expensive

4. It lacks creativity and decreases the thinking power of the students.

5. Human interaction decreases.

AUGMENTED REALITY

Augmented Reality is an interactive experience of a real world environment where the objects that reside in the real world are enhanced by computer generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory or other sensory information.

Augmented Reality is a technology in which a computer-generated image is super imposed on to user's vision of the real world, giving the user's vision of the real world, giving the user additional information generated from the computer model. Using an AR system, the user's view of the real world is enhanced.

The basic idea of augmented reality is to super impose graphics, audio and other sensory enhancements over a real world environment in real time. Some of the most exciting augmented reality work began taking place in research labs at universities around the world. In February 2009, Mistry presented augmented reality system at MIT Media Lab and they called it sixth sense. Basic components that are found in many augmented reality systems are

* Camera

* Small projector

* Smart phone

* Mirror

The devise worked by using the Camera and Mirror to examine the surrounding world, steading that image to the phone (which processed the image, gathered GPS coordinates and pulled data from the internet) and then projected information from the projector onto the surface Infront of the user, whether a wrist, a walk or even a person. Because the user was wearing the camera on his chest, sixth sense augmented whatever he looked. For example, if he picked up a can of soft drink in a grocery shop, sixth sense found and projected on to the soft drink information about its ingredients, price, nutritional value- even customer reviews. If the customer wanted to know more about that soft drink, he could use his fingers to interact with the projected image and learn about, say, competing brands.

Uses of Augmented Reality

In business field, Augment will project any new product into a real world environment. Potential buyers can 'see' the product in their own homes and read all information and reviews before making a purchase. AR will also create a fully-immersive 3D map that guides you wherever you want to go.

Health care personals rely on smartphone- enabled AR. A special app that helps doctorsdoctors and nurses use their phones to quickly identify specific types of wounds for faster diagnosis and more efficient care.

Militaries were some of the early adopters of gaming technology, seeing the possibilities for training soldiers for warfare realistically but in age settings. And militaries are likely to do the same with AR.

Benefits of AR in Education

1. Through AR technology, teachers can materialize abstract concepts to help students visualize and understand challenging subjects.

2. It helps increased content understanding

3. Learning special structure and function

4. Learning language associations

5. Long term memory retention

6. Improved Physical task performance

7. Improved Collaboration

8. Increased student motivation

Via this learning, the students are able to make them be interested in the subject wher they get inclined towards the concept's deep learning instead of rote learning.

Advantages of Augmented Reality

1. It reduces line between real world and virtual world.

2. It enhances perceptions and interactions with the real world.

3. Due to its use in medical industry, life of patients have become safer. It helps in efficient diagnosis of diseases and in early detection of them.

4. It can save money by testing critical situations in order to confirm their success without actually implementing in real time. Once it is proven, it can be implemented in real world.

5. It can be used by military people without putting their life in danger by way of battle fields simulation before the actual war. This will also help them in actual war to take critical decision.

Disadvantages of Augmented Reality

1. It is expensive to develop the AR technology based projects and to maintain it. More over production of AR based devices is costly.

2. Lack of privacy is a concern in AR based application.

3. In AR, people are missing out an important moments.

4. Low performance level is a concern which needs to be addressed during testing process.

5. It requires basic learning to effectively use AR compliant devices.

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