Course-M.A.Education

Semester-2nd

Paper 202

Topic-ICT based teaching

Audio Instructional Facilities

(a) Radio

- Radio has been a popular mass medium for close to a century. These days many of us are tuned to Radio through FM Channels. Radio is due to its easy access, speed and immediacy. In its start in 1917, radio was visualized as a source for mass education. In India, the first radio station was established in Mumbai (Bombay) in July 1927.
- Two more radio stations in Calcutta and Delhi were established in 1936. All India Radio (AIR) broadcasted radio programmes for the country. In 1937, Calcutta station broadcasted school programmes for the first time and it continues till date.
- School educational programmes are still in demand and are used by teachers to generate interest of students.
- **Gyan Vani** is a dedicated FM channel for educational broadcasts. It is used to broadcast educational programmes from Educational Media Production Centre (EMPC) of Indira Gandhi National Open University (IGNOU), New Delhi. Audio programmes developed by Central Institute of Educational Technology (CIET) of NCERT for school children are also broadcast by Gyan Vani.

(b) Podcast

- Radio is a mass broadcast medium whereas podcasts are personalized broadcast.
- Podcasts are prepared for specific target and made available to the target group for specific learning objectives.
- Podcast is the portmanteau of word 'pod' from iPod and 'cast' from broadcasting.

(c) Recordings

- A tape recorder or any other kind of audio recording is suitable for extension work in meetings, training programmes, campaigns, recording radio programmes, etc.
- It facilitates on-the-spot recording of sound. It is easy to operate and preserve. It has low operational cost as the same tape may be used again.

(d) Digital Audio Player

- A digital audio player is sometimes referred to as an MP3 player and has the primary function of storing, organizing and playing audio files.
- Some digital audio players are also referred to as portable media players as they have image viewing and video-playing support. An ideal example is iPod (fourth generation audio instructional facilities).

(e) Telephone and Mobile

- Usually, two persons can communicate at a time through a telephone and the system serves many people in a given area if a speaker is attached to it like Cell Phone-Operated Mobile Audio Communication and Conference System (COMBACCS). This technology is seeing a phenomenal growth in many developing countries.
- Short message service (SMS) and wireless application protocol (WAP)-enabled cell phones with cameras can be effective in offering always available extension between experts and people. COMBACCS can help community members at different locations build relationships and understanding.

(f) ICT Based Teaching

- ICT based teaching support is an approach to facilitate and enhance learning through, and based on, both computer and communication technology. It refers to the use of computer-based electronic technologies of internet, e-mail, websites and CD-ROMS to deliver, facilitate and enhance both formal and informal learning and knowledge sharing from any place at any time.
- The communication devices can also include digital television, personal digital assistants (PDAs) and mobile phones.
- ICT based learning is also called Computer-Based Training (CBT).
- Generally, CBT and e-learning are treated as synonyms, but CBT is the older term dating from the 1980s. the term ICT evolved from CBT along with the maturation of the internet, CDs and DVDs. It includes Internet-based Learning, Web-based Learning and Online Learning.
- ICT is significant in many ways. It enables flexible learning where just-in-time, effective and efficient learning. The pace is determined by the learner.
- ICT facilitates collaborative internet and web-based learning opportunities to the learners.
- ICT supports distance learning with wide area networks (WAN) and by creating multimedia CD-ROMs or websites.
- In ICT teaching methods, there is advantage of having hyperlinking. There are interactive parts that illustrate difficult things. Here doing some exercises is also possible; it allows a wider range of learning experiences, such as there is educational animation to online learners. It also imparts e-training through the asynchronous and synchronous communication modes.
- Thus, it permits learners the convenience of flexibility. Learners may look at many other options to learn.
- Specialized training is rendered through customized software, which address the particular needs of the clientele mostly through the synchronous mode on a dedicated broadband internet connectivity.
- Equally, it also renders training to the learners through the generic software displaying universal contents in asynchronous mode to the learners through a shared network with limited internet access or on World Wide Web; and enhances teaching by professional development of teachers through training on usage of ICT in education. /world Links enables the teacher to integrate technology into teaching and thus create dynamic student-centred learning environment in classrooms.
- The faculties can also interact with their peer groups in the world and exchange ideas and notes on the subject.
- ICT is a planned effort towards providing interactive and experiential learning; flexibility in terms of time, place and pace; participation and accessibility; expertise and qualitative subject matter; best resource at the learners' doorsteps and personalized training; and centres round the trainees.

Audio-visual instructional facilities

(a) ICT based Teaching support system

- Audio-visual instructional facilities are those instructional facilities that help in completing the triangular process of learning, i.e., motivation, classification and stimulation. They are instructional devices in which the message can be heard and seen simultaneously.

- Out of five senses, seeing at 87% and hearing at 7% are the major ones to attract attention and increase learning. Examples of audio-visual instructional facilities include television, video films, documentary films, etc.

Functions of Audio-visual Instructional Facilities

When properly used, audio-visual instructional facilities contribute tone or more of the following functions.

1. More clarity and understanding.
2. Better attention, interest and retention.
3. It helps in faster and comprehensive learning.
4. Better access
5. Save the instructor's time
6. Supplement the spoken words by combining audio and visual stimuli.

Types of ICT based Teaching Support system are:

(a) Film Strips

- It was a common form of still image instructional multimedia. It was once commonly used by educators in primary and secondary schools, now overtaken by newer and increasingly low-cost, full-motion videocassettes and DVDs, since 1940s till 1980s.

(b) Television

- Television is an effective tool in expressing abstract concepts or ideas. Abstract concepts are usually produced and conveyed with words. Besides this, in making an abstract concept concrete, the role of animation and visual experimentation is very important.

(c) Computer

- It is a good example of ICT based teaching support system. It can be defined as any electronic device that allows students to access the internet to research, create and complete the work.

(d) Virtual classrooms

- A **virtual classroom** is a teaching and learning environment where participants can interact, communicate, view and discuss presentations, and engage with learning resources while working in groups, all in an online setting.

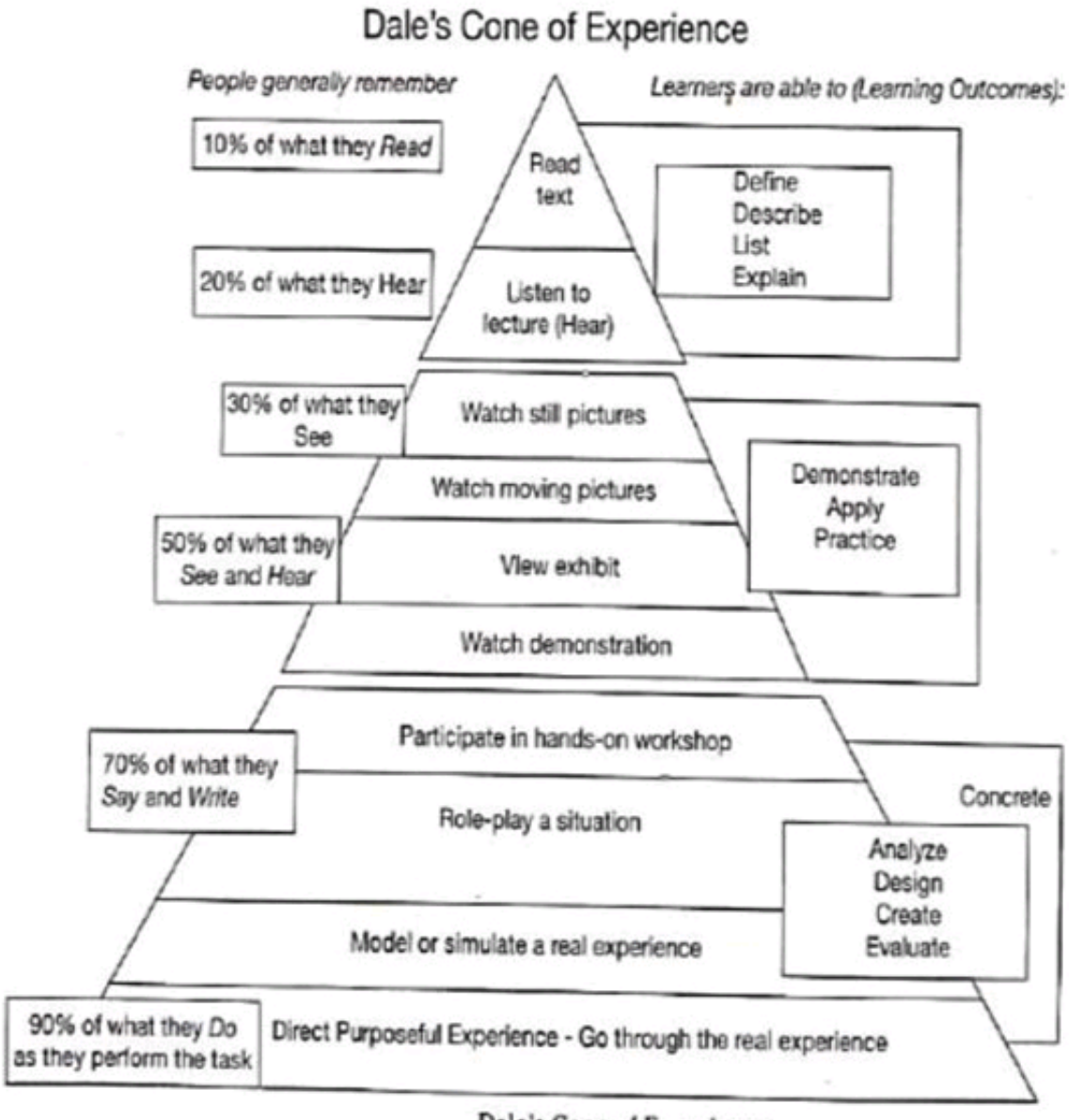
Dale's Cone of Experience

- It is a model that includes various theories related to instructional design and learning processes. During 1960s, Edgar Dale theorized that learners retain more information by what they 'do' as opposed to what is 'heard', 'read', or 'observed'. His research resulted in the development of the 'Cone of Experience'. Today, this 'learning by doing' has become known as 'experiential learning' or 'action learning'.

How instructors can make use the cone of experience?

- According to this research, the least effective method is learning from information that is presented through verbal symbols, i.e., listening to words spoken which is on the top.
- The most effective methods involve direct, purposeful learning experiences, such as hands-on or field experience which is at the bottom.

- Direct purposeful experiences represent reality or the closet things to real, everyday life. The cone charts show the average retention rate of different teaching methods.
- As one progress down the cone, the greater the learning and the more information will be retained.
- It suggests that when choosing an instructional method, it is important to remember that involving students in the process strengthens knowledge retention. It reveals that 'action-learning' techniques can lead retention up to 90%.
- When people use perceptual learning styles, they learn best and these sensory based learning style.
- According to Dale, instructional activities should be so designed by the instructor so that it can be based upon more real-life experience. Dales' cone of experience is a tool that help instructors make decisions about activities and resources.



Dale's Cone of Experience