LECTURE II

INFORMATION & COMMUNICATION TECHNOLOGY

Presented By:-

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E-learning

• Defined as use of any electronic technology to create learning experiences

• E- learning consists of the transfer of skills and knowledge using electronic applications and processes.

• This may include Web-based learning computer-based learning virtual classrooms and digital collaboration, use of audio or video recording, satellite or land-based broadcasts, CD-ROM and even the phone system.

Different types of e- Learning

Synchronous vs. asynchronous

SYNCHRONOUS	ASYNCHRONOUS
Instructor-facilitated	Self-directed, self-paced
Requires all the participants to be virtually present at the same time	Does not require all the participants to be virtually present at the same time
Scheduled and timed online tests, virtual classrooms, web conferencing technology and interactive shared whiteboards	Uses message boards, discussion groups and self-paced online courses

Advantages of e-learning

✓ Accommodate multiple learning styles through the use of media, text and even live technology mediated interactions.

✓ Offer individualized instruction through assessment and remediation addressing the learners' needs.

✓ Provide self-paced instruction for learners wanting to move ahead or learners wanting extra practice.

✓ Offer on-demand access to learning when needed. The learner determines when he/she wants to learn.

✓ Allow collaborative learning so learners do not feel isolated and maximize learning.

✓Engages users with stimulating content and interactivity that teaches and reinforces.

✓ Increase retention by using reinforcers more consistently than other approaches.

✓ Increase consistency when the learning is captured and delivered by technology.

✓ Reduce learning time

✓ Track learners and provide proof of their work and skill development.

Limitations of e-learning

1. High initial investment

2. Reduced face to face interactions

3. Dependency on technology

4. Inappropriate match of technology, content, objectives and approach

CAD (COMPUTER-AIDED DESIGN)

- **Computer-aided design** (**CAD**) is the use of computers to aid in the creation, modification, analysis, or optimization of a design.

- CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation and to create a database for manufacturing.

- CAD output is often in the form of electronic files for print, machining, or other manufacturing operations. The term **CADD** (for *Computer Aided Design and Drafting*) is also used.

USES
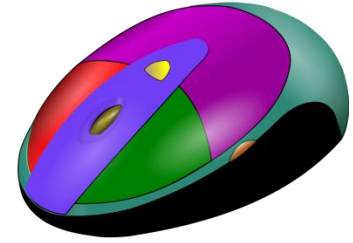
CAD of mouse

- Important industrial art extensively used in many applications, including automotive, shipbuilding and aerospace industries, industrial and architectural design, prosthetics and many more.

- To produce computer animation for special effects in movies, advertising and technical manuals, often called DCC (digital content creation).

VIRTUAL CLASSROOM

Trainer

Trainee
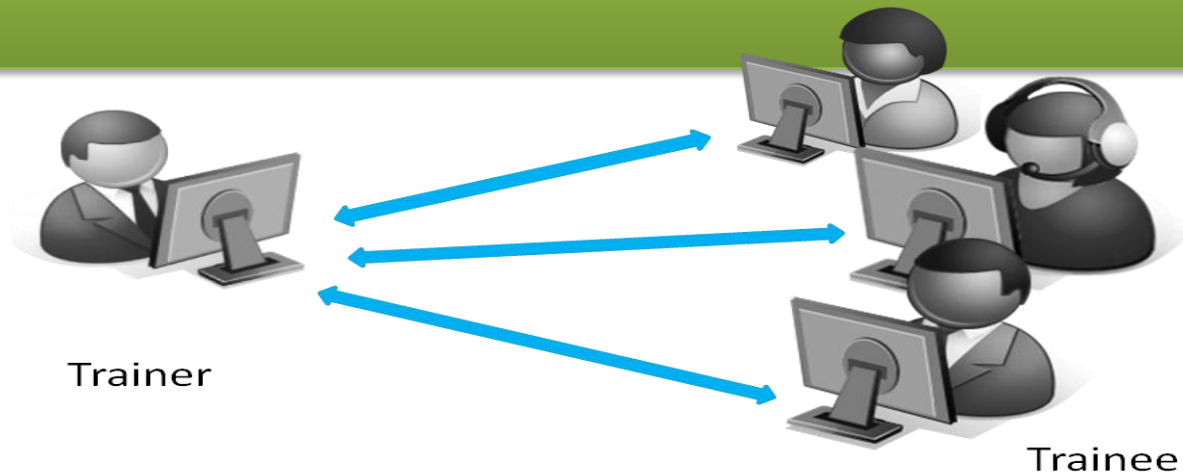
- Virtual classrooms are teaching and learning environments located within computer-mediated communication systems that support collaborative learning among students, enabling participation at their own time, place and pace.

CHARACTERISTIC FEATURES OF VIRTUAL CLASSROOMS

- It facilitates self learning at the learner's convenient time and place.
- Electronic publication is cheaper and faster.
- It facilitates faster and cheaper delivery of the material.
- It promotes better teacher-student interactivity.
- It enables to update learning materials speedily.

ADVANTAGES OF VIRTUAL CLASSROOMS

- Removal of geographical barriers (Anywhere learning)

- Sessions can be recorded

- Quicker to organize

- One to one communication

LIMITATIONS OF VIRTUAL CLASSROOMS

- Teachers and students need to become familiar with the tools

- Time dependency for live sessions

- Infrastructure for the participants PC needs to be prepared

- Technical limitations

Multimedia

Multimedia is the field concerned with the computer-controlled integration of text, graphics, drawings, still and moving images (Video), animation, audio and any other media where every type of information can be represented, stored, transmitted and processed digitally.

CLASSIFICATION

1. Multimedia may be broadly divided into **linear** and **non-linear** categories:

- **Linear** active content progresses often without any navigational control for the viewer such as a cinema presentation
- **Non-linear** uses interactivity to control progress as with a video game or self-paced computer-based training. Hypermedia is an example of non-linear content.

2. Multimedia presentations can be **live** or **recorded**:

- A recorded presentation may allow interactivity via a navigation system
- A live multimedia presentation may allow interactivity via an interaction with the presenter or performer.

USES

- Creative industries
- Commercial uses
- Entertainment and fine arts
- Education
- Educational technology
- Social work
- Journalism
- Scientific research

ADVANTAGES

- Excellent reach
- Less expensive
- Wider coverage
- High interest

DISADVANTAGE

- At times un-necessary coverage
- No customized message

CONCLUSION & DISCUSSIONS

THANK YOU