



Information and Communication Technology

General Component



G.P.O.B.Prera. - Lecturer (ICT)

Competency 2. Develops Information and Communication Technology based materials for the instructional process and educational management

2.1 Applies instructional principles in the development of material

content

- Aspect of educational technology
- System approach to instructional design
- Cognitive theory of multimedia learning.
- Human computer interface design.



Educational Technology

- Educational technology is the use of both physical hardware, software, and educational theoretic to facilitate learning and improving performance by creating, using, and managing appropriate technological processes and resources.
- Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources. (AECT,2011)

Purpose and concept of education Technology

- **Educational technology** is a field of study that investigates the process of analyzing, designing, developing, implementing, and evaluating the **instructional** environment and learning materials in order to improve **teaching** and learning
- **Educational technology** is an inclusive term for both the material tools and the theoretical foundations for supporting learning and teaching. **Educational technology** is not restricted to high **technology** but is anything that enhances classroom learning in the utilization of blended, face to face, or online learning.

Basic principles in the development of ICT based instructional material

What are Instructional materials?

- Instructional Materials, also known as Teaching/Learning Materials (TLM), are any collection of materials including animate and inanimate objects and human and non-human resources that a teacher may use in teaching and learning situations to help achieve desired learning objectives.

Examples for Instructional Materials

Prints	Textbooks, pamphlets, handouts, study guides, manuals
Audio	Cassettes, microphone
Visuals	Charts, real objects, photographs, transparencies
Audiovisuals	Slides, tapes, films, filmstrips , television, video, multimedia
Electronic Interactives	Computers, graphing calculators, tablets

IM types

There are three basic types of instructional materials:

- concrete objects, including objects from the world of nature
- representations of concrete objects and phenomena
- descriptions of such objects and phenomena by means of the signs, words, and sentences of natural and artificial languages.

Why we need Instructional materials

- ✓ To improve students' knowledge
- ✓ To improve students' abilities
- ✓ To improve students' skills
- ✓ Monitor their assimilation of information,
- ✓ Contribute to their overall development and upbringing in attractive manner
- ✓ Sustain student's interests
- ✓ Give opportunity to share experiences for new learning

Planning process of developing instructional materials

- User
- Resource person
- Proposed learning outcomes
- Assessment needs and methods.

E-learning materials for single user

- Simulations
- Games
- Non- Instructive tutorials
- Interactive tutorials
- Intelligent tutorial system
- Online evaluation system

Assignment

- 1. What is Instructional Materials (IM)?
- 2. Give examples for the Instructional Materials.
- 3. Names 3 type of IM.
- 4. write the steps of planning process when we develop an IM.
- What are the suitable E-learning material for single user/learner ?
- 6. What are the suitable E- learning material for group?