



**Welcome to
Technology in
Education
Course code: LCE133**

Lecture 1

Technology

At the end of this lecture students will be able to:

- Define the term Technology
- State different types of technology
- Define the term Educational Technology
- Explain the purpose of educational technology in the curriculum
- List the problems and possibilities in teaching using educational technology
- Explain the impact of the following societal issues on current uses of technology in education: cultural diversity, educational equity, ethical practices, and the increasing role of technology in modern life.

What is Technology?

Technology is us-our tools, our methods, and our creative attempts to solve problems in our environment.

What is Technology? (continued)

It is the state of knowledge and development at any given time of our control of our surroundings, and includes all tools (utensils, devices, machinery, inventions, and structures), all methods (skills, processes, and techniques), and all applied materials (both raw and manufactured).

What Counts as Technology?

“Classes” of technology:

- Technology as Objects:
Tools, machines, instruments, weapons, appliances - the physical devices of technical performance
- Technology as Knowledge:
The know-how behind technological innovation
- Technology as Activities:
What people do - their skills, methods, procedures, routines

What Counts as Technology?

Continued

- Technology as a Process:
Begins with a need and ends with a solution
- Technology as a Sociotechnical System:
The manufacture and use of objects involving people and other objects in combination

Use of Technology

People use technology to:

- Build better buildings
- Make travel more comfortable and speedier
- Improve their ability to do work
- Communicate better
- To make more and better products
- Enhance teaching/learning strategies

What is Educational Technology?



What is Educational Technology?

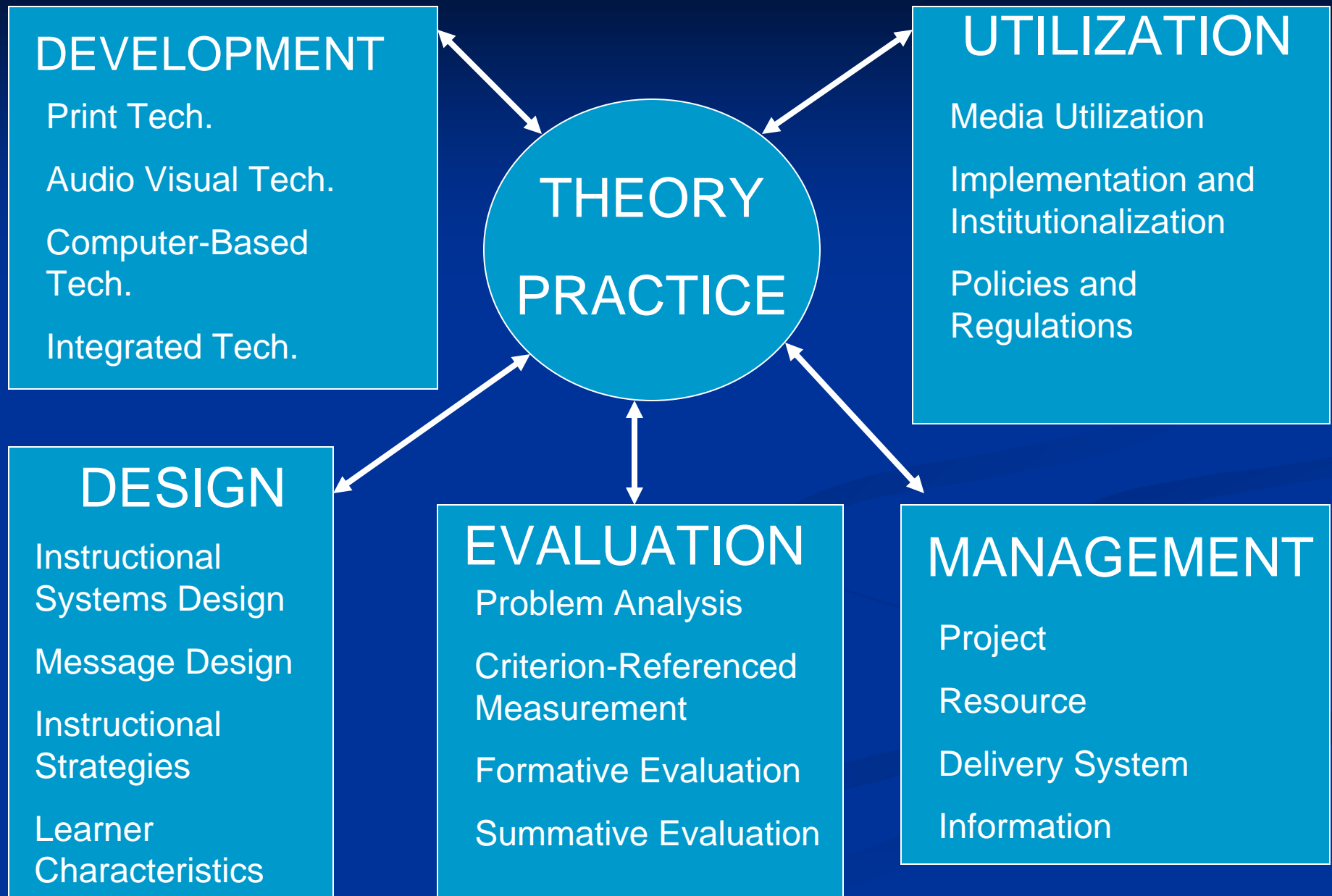
Educational Technology is a systematic, iterative process for designing instruction or training used to improve performance.

Instructional Technology is the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning.

Four Perspectives on Educational Technology

- Technology in education as media and audiovisual communications
- Technology in education as instructional systems
- Technology in education as vocational training tools
- Technology in education as computers and computer based systems.

The Domains of Instructional Technology



Rationale for using technology in Education

- Motivation
- Enhancing Instruction
- Flexibility and adaptivity
- Increased productivity
- Required skills for an information age

Motivation

- Gaining learner attention
- Engaging the learner through production work
- Increasing perceptions of control



Enhancing Instruction

- Linking learners to information sources
- Helping learners visualize problems and solutions
- Tracking learner progress
- Linking learners to learning tools



Flexibility and adaptivity

- Cooperative learning
- Shared Intelligence
- Problem Solving and higher order skills



Increased teacher productivity

- Free time to work with students
- Providing more accurate information more quickly
- Allowing teachers to produce better looking, more “student-friendly” materials more quickly.



Required skills for an information age

- Technology literacy
- Information literacy
- Visual literacy

Technological Issues in Education

- Societal Issues
- Cultural /Equity Issues
- Financial Issues
- Legal Issues
- Ethical Issues
- Educational
- Technical

Societal Issues

- Economic trends (Educational costs increasing)
- Political trends (more effective education)
- Social trends (Recognition of need for technology literacy, dependence on Internet)

Cultural /Equity Issues

- Economic/ethnic (Lower income schools equals less access to computers)
- Multicultural (“Computer culture” is pervasive in society)
- Gender (Technology remains a male dominated area)
- Special needs (Special devices available available for students with special needs)

Legal Issues

- Online predators
- Plagiarism

Educational

- Directed versus Constructivist views (Directed uses of technology (drill and practice) are proven effective but often considered passé)
- Single-subject versus interdisciplinary (Past subjects on teaching subjects in isolation. Current trend toward integrated curriculum or merging several subjects into one activity.)

Technical

- Rapid change (Technology changes too quickly for teachers to keep up. Educators cannot afford most current technology.)
- Complexity (Teacher training is not keeping up with technology developments. Schools lack the infrastructure to keep up with new technologies.)

Lecture 2

Technology Integration strategies