

ePortfolio: STE 353

Introduction to Instructional Technology

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Course: Introduction to Instructional Technology

Introduction to My Learning Journey

This ePortfolio documents my comprehensive learning journey through STE 353: Introduction to Instructional Technology. Over the course of ten lectures, I have developed a deep understanding of how technology can be systematically applied to enhance teaching and learning. This portfolio reflects not just the content I learned, but how my thinking about education has evolved—from viewing technology as merely "tools" to understanding it as a complete systematic approach to facilitating learning.

Lecture 1: Educational Technology and Instructional Technology

Learning Outcomes

Through this foundational lecture, I learned to:

- Define educational technology and distinguish it from instructional technology.
- Understand that educational technology comprises two major components: technology in education and technology of education.
- Differentiate between hardware/software approaches and systematic/methodological approaches to education.

Key Concepts Mastered

Educational Technology is the broad field encompassing the facilitation of human learning through a wide range of resources. I now understand that it integrates multiple technologies including:

- Audio-visual and media technology
- Information and communication technology
- Systems theory/technology
- Instructional theory application

The Two Components Distinction:

- **Technology in Education** focuses on the tools—the hardware (projectors, computers, audio equipment) and software (films, transparencies, programs) used to deliver instruction.
- **Technology of Education** represents the methodological aspect—the systematic, scientific procedures for designing instruction. This includes

analysis, organization, and evaluation of educational processes using the systems approach.

Personal Reflection

This lecture shifted my perspective significantly. I had always equated "educational technology" with computers and projectors. Now I understand that the process of systematically planning instruction is equally, if not more, important than the devices we use.

Lecture 2: Instructional Technology and Information Technology

Learning Outcomes

This lecture helped me:

- Describe how technology affects the instructional process.
- Explain the major roles of instructional technology in learning.
- Define Information Technology and discuss its importance in education.

Key Concepts Mastered

Instructional Technology Defined: I learned that instructional technology involves the "facilitation of human learning through the systematic identification, development, organization, and utilization of a full range of learning resources." It's characterized by the use of broad learning resources, an emphasis on individualized learning, and the application of the systems approach.

Mediated Instruction: This concept emphasizes that learning can be facilitated through various media—not just direct teacher-student interaction. Learning experiences can be shaped by technology to create meaningful interactions.

The Decision-Making Framework: I now understand that instructional decisions are interdependent with:

1. **Administrative decisions** (Who shall be educated, at what cost).
2. **Curricular decisions** (What is most worthy to learn).
3. **Instructional decisions** (How shall we teach).

Personal Reflection:

I have learnt about the types of decisions to be make in learning and also know that instructional decision deals solely with how to teach.

Lecture 3: Systems, Instructional System, and Design

Learning Outcomes

By completing this lecture, I can now:

- Define a system and explain its application to education.
- Describe an instructional system and articulate its components.
- Identify three major orientations: teacher-based, media-based, and peer-mediated approaches.

Key Concepts Mastered

Understanding Systems: A system is a collection of elements working cooperatively to achieve predetermined goals. I learned to distinguish between Formal education (organized school system), Non-formal education (specific skill training), and **Informal education** (incidental learning).

Three Instructional Approaches:

- **Teacher-Mediated Approach:** The human teacher plays the central role, using face-to-face interactions.
- **Media-Based Approach:** Media act as "teacher surrogates" delivering instruction directly to learners. Distance education exemplifies this approach.
- **Peer-Mediated Approach:** Students learn from one another through tutoring and cooperative learning.

Personal Reflection

The systems approach has fundamentally changed how I view education. Instead of seeing teaching as isolated activities, I now understand it as an interconnected system where every component affects the others.

Lecture 4: Instructional System Development I: Definition

Learning Outcomes

- Identify major dimensions of definition.
- Describe attributes of a target population.
- Write appropriate instructional objectives.

Key Concepts Mastered

Writing Instructional Objectives: I learned that effective objectives contain three elements:

1. **Required terminal behavior** (What the learner will do).
2. **Conditions** (Under what circumstances).
3. **Standards** (Acceptable performance criteria).

Domains of Objectives:

- **Cognitive:** Knowledge, comprehension, and evaluation.
- **Affective:** Attitudes, values, and appreciations.
- **Psychomotor:** Motor skills and perceptual abilities.

Personal Reflection:

I have known that Definition is getting a clear understanding of a concept before planning a lesson on it.

Lecture 5: Instructional System Development II: Analysis

Key Concepts Mastered

Task Analysis: I learned three types:

1. **Topic analysis:** Intellectual/cognitive tasks.
2. **Job analysis:** Physical/psychomotor tasks.
3. **Skills analysis:** Detailed operations of how a job is done.

Analytical Methods:

- **Ruleg System:** Presenting the rule before examples (Ruleg) or examples before rules (Egrule).
- **Hierarchy of Capabilities:** Repeatedly asking "What must the learner know to master this task?"

Personal Reflection:

I have learnt that Objectives has to be set before there can be any analyzing.

Analysis is the breaking down of the objectives to simpler order to make learning easier.

Lecture 6: Instructional System Development III: Design

Key Concepts Mastered

Instructional Methods:

- **Teacher-Centred:** Lecture, demonstration—suitable for large groups.
- **Learner-Centred:** Case studies, role play, games—encourage active participation.

Media Categories:

1. **Real objects:** Natural and human-made items.
2. **Audio-visual media:** Audio systems and visuals.
3. **Written/printed media:** Books, journals, and manuals.

Personal Reflection:

Design is where the content, method and media are been chosen. It deals with how a topic will be taught.

Lecture 7: Instructional System Development IV: Evaluation

Key Concepts Mastered

Formative vs. Summative Evaluation:

- **Formative Evaluation:** Occurs during instruction; focuses on mastery and corrective feedback.
- **Summative Evaluation:** Occurs at the end; focuses on grading and selection.

Functions of Evaluation:

- Diagnose learning and teaching problems.
- Provide feedback for corrective teaching.
- Enable mastery of prerequisites.

Personal Reflection:

Evaluation is a very important aspect of teaching and learning, it helps the teacher in knowing if he/she has achieved the objectives of the topic.

Lecture 8: Programmed Learning

Key Concepts Mastered

Psychological Basis:

- **Thorndike's Laws:** Law of Exercise and Law of Effect.
- **Skinner's Reinforcement Theory:** Behavior is shaped through positive reinforcement.

Programming Paradigms:

- **Linear Programming (Skinner):** All students follow the same sequence of small frames.
- **Branching Programming (Crowder):** Multiple-choice responses determine the next frame based on correctness.

Lecture 9: New Trends in Instructional Technology

Key Concepts Mastered

Applications in Nigeria: The systems approach is evident in Nigeria's 6-3-3-4 education system and curricula developed by NERDC.

Constraints: Technical competence and personal commitment are the primary challenges in Nigeria, not just infrastructure. The "soft technology" of processes can be applied regardless of hardware availability.

Lecture 10: Introduction to ICT in Education

Key Concepts Mastered

Computer in Education:

- **Computer-Assisted Instruction (CAI):** Individualized learning, drills, tutorials, and simulations.
- **Computer-Managed Instruction (CMI):** Scheduling, record-keeping, and assessment processing.

Conclusion

Throughout this course, my understanding of instructional technology has evolved from seeing it as simply "using machines in teaching" to appreciating it as a comprehensive, systematic approach to facilitating learning. I understand now that technology in education is not just about devices—it's about the systematic application of knowledge to improve learning outcomes.