Instructional System:
Models, Strategies, Methods, And Skills

OTS 402/502
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But first . . . An Overview

Course Web Site
I post information, study notes, and other information about the course on this site. Check it out weekly!

http://www.lions.odu.edu/~dnethert/Courses/ots402/index.htm
Syllabus

• On the website.

Schedule

• On the website.

Lecture Notes

• On the Web Site.
  – Before class too!
Special Readings

• Links on the Web Site.

Some rules . . .

• Come to class
• Participate
• Conduct yourself
  – with respect for all
• Do your homework
• Prepare for tests
• Turn in work on time

Questions?

Speak up because I can only hear out of one ear!
Good teaching is one-fourth preparation and three-fourths theatre.

Gail Godwin

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Teaching as Decision Making

- Lots of variables for instructors to consider when making decisions about teaching and learning.

  What am I going to teach?

  How am I going to teach it?

  How will I know I am teaching the right content?

  What kind of activities should I use?

  What instructional skills are appropriate?

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- It is essential that instructors have a conceptual base for understanding a framework of the levels associated with instructional decision making, so they can make good decisions.
A Systems Approach to Learning

The Conceptual Base

- Outlines the four components of a learning program.
- The Goals = the core. It drives the curriculum, which drives the instruction, which drives the environment.

The Conceptual Base

- Goals
- Curriculum
- Instruction
- Education Environment
**The Instructional Framework**

- Identifies and illustrates the interrelationship among instructional approaches that, properly used, are acknowledged to be consistent with sound educational practice.

**Instructional Models**

- Models represent the broadest level of instructional practices and present a philosophical orientation to instruction.
- They are used to select and to structure teaching strategies, methods, skills, and student activities for a particular instructional emphasis. We identify four models:
  - information processing
  - behavioral
  - social interaction
  - and personal.
**Instructional Strategies**

• Within each instructional model several strategies can be used.
• Strategies determine the approach a instructor may take to achieve learning objectives.
• Strategies can be classed as:
  – direct
  – indirect
  – interactive
  – experiential
  – independent.

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**Instructional Methods**

• Methods are used by instructors to create learning environments and to specify the nature of the activity in which the instructor and learner will be involved during the lesson.
• While particular methods are often associated with certain strategies, some methods may be found within a variety of strategies.
• Examples are:
  – Case Studies
  – Lectures
  – Simulations

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**Instructional Skills**

• Skills are the most specific instructional behaviors.
• These include such techniques as:
  – questioning
  – discussing
  – direction-giving
  – explaining
  – demonstrating.

They also include such actions as:
• planning
• structuring
• focusing
• managing.
The relationship among instructional models, strategies, methods, and skills

- The Instructional Framework is intended to encourage teachers to examine their own instructional practice.
- Expanding the knowledge and expertise regarding various instructional approaches can enrich the artistry of teaching and, in turn, enhance the effectiveness of instruction.

Instructional Strategies

- Decision making regarding instructional strategies requires instructors to focus on:
  - curriculum,
  - the prior experiences and knowledge of learners and students,
  - learner interests,
  - student learning styles,
  - the developmental levels of the learner.
- Such decision making relies on ongoing student assessment that is linked to learning objectives and processes.

Instructional Methods

- After deciding on appropriate instructional strategies, the instructor must make decisions regarding instructional methods.
- As is the case with strategies, the distinction between methods are not always clear cut although they are categorized for the purposes of this lecture.
- The next slide illustrates how various methods relate to the five strategies presented in the previous section.
The methods appearing in the diagram are examples only. They are not intended to be inclusive of all instructional methods.

**Summary**

- Because there are so many variables for instructors to consider when making decisions about teaching and learning, it is essential that they have a conceptual base for understanding of this instructional framework.
- It provided an overview of instructional models, strategies, methods, and skills. In addition, it illustrated the inter-relatedness of these four levels of the instructional framework.

Tell me and I forget. Show me and I remember. Involve me and I understand.

“Chinese proverb”
Take a 10 minute break... But come back. It is not time to go home!

Welcome Back!

Next, we are going to discuss instruction and the principles of learning.

Objectives

• Explain the instructor’s role in instruction.
• Explain the difference between the instructor-centered and the learner-centered instruction.
• Distinguish among different learning principles.
• Give examples of applications you would use to demonstrate a specific learning principle.
Why is this important?

• This is the foundation for the course.
• All subsequent instruction is based on your understanding these foundations.
• Learning principles are what we use to guide our planning and delivery of instruction.

Who is a instructor?

– Change takes place . . . Everywhere.
– Need to develop people to be able to handle change.
• Whoever carries out this development is a trainer or teacher.
  – A manager
  – A supervisor
  – A professional trainer
  – Classroom teacher

Some Learning Thoughts

Key Concepts

• Instructor vs. learner-centered learning
  – Learners differ from one another in maturity, knowledge, motivation, responsibility, and learning skills.
  – The learning experience must be carefully chosen to suit the learner.
• Use Learning Principles
  – Apply the principles basic to effective learning -- in practical ways.
Instructor or Learner-Centered Learning

• In any instructional program or learning experience there are **four major variables**:
  – the process
  – the content
  – the teacher or instructor
  – the learner

The Process

• **The method** that is used to give the trainees the learning is called the process.

This is the process for instructing skills.

The Content

• **The knowledge and/or skills** the trainees are to learn
  
  • The content can be viewed on a continuum of simple to complex.
The Instructor

- The learner-centered models require that the trainer be highly skilled to use them.
- These skills can only be learned through experience.
- The basic skills on which the higher level skills are built are incorporated in the instructor-centered learning models and these need to be practiced until they become a natural reaction.
- The instructor should not try the learner-centered learning approaches until he or she is competent in the basic instructional models.

The Learner -- the most important variable when considering which model to use. Consider these learner characteristics:

- Have the content base to know how to learn on their own.
- Motivation. need high level of need and interest.
- Responsibility. Has to accept responsibility for his or her own learning.
- Learning skills. Have developed the ability to decide what end result needs to be achieved, what should be learned so the end result can be achieved, how it should be learned, and what evidence can be presented to prove learning as a skill.

Choosing Instructor-Centered or Learner-Centered Method

- Depends on these variables:
  - The content
    - Simple or complex
  - The instructor
    - Levels of skill he or she has
  - The learner
    - The level of the learners' maturity
Instructor-Centered or Learner-Centered Methods

<table>
<thead>
<tr>
<th>Trainer-Centered</th>
<th>Trainee-Centered</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Theory</td>
<td>* STAGs</td>
</tr>
<tr>
<td>* Skill</td>
<td>* Contract Learning</td>
</tr>
<tr>
<td>* Lecture</td>
<td>* Action Learning</td>
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<tr>
<td>* Case study</td>
<td>* Programmed Learning</td>
</tr>
<tr>
<td>* Role Play</td>
<td>* Computer-Based Learning</td>
</tr>
<tr>
<td>* The Algorithm</td>
<td>* Computer-Based Learning</td>
</tr>
</tbody>
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Individual Learning Principles

- Whole or part learning
- Spaced learning
- Active learning
- Feedback
- Overlearning
- Reinforcement
- Primacy and recency
- Meaningful material
- Multiple-sense learning
- Transfer of learning

Whole or Part Learning

- You must decide whether to present the knowledge or skill in logical, easily acceptable parts or as a unified whole.
  - The segments are **not too** large.
  - The segments have a **logical** sequence.
  - Work from the **known to the unknown**.
  - Sometimes, however, we find that the parts or segments are highly dependent on each other. Take, for example, learning how to ride a bicycle. These may need to be learned as a whole.
Spaced Learning

- Learning that is spaced at reasonable intervals is usually superior to massed (or crammed) learning if you want long-term retention of the material.
- This principle derives from the phenomenon of “incubation.”
  - The brain needs time to assemble one group of facts before accepting the next group.
  - In addition, spaced learning creates regular review and revision sessions, which slow the rate at which trainees forget the material.

Active Learning

- If learners are actively involved in the learning process (instead of listening passively), they will learn more effectively and become self-motivated.
- Active learning is often described as "learning by doing."
- Provide ample opportunities, both in the sessions and throughout the program, for the learners to actively practice the skills and knowledge they are learning.

Feedback

- First, the learners need feedback on how they are progressing. Feedback can be:
  - simple or not so simple
  - explaining why an answer is correct or it is incorrect
  - commenting on a trainee's performance of an activity
  - or discussing the results of an examination.
- No matter how simple or complicated the feedback, provide it as soon as possible. The more immediate the feedback, the greater the value.
• Second, the instructor needs feedback on his/her own performance:
  – Is information being received and understood?
  – Do they have any doubts or questions?
  – Is any trainee not paying attention?
  – Has the session become boring?
  – Should I build more active learning into the session?

Do this!

Not this!

Overlearning

• Over time, people gradually forget what they have learned. The time required to forget varies from learner to learner and from topic to topic.
  – Forgetting is significantly reduced by frequently attempting to recall learned material.
  – Note that repetition by the trainer, while having some value, does not maximize recall.
  – To achieve maximum retention, actively involve the trainee in the repetition.

Overlearning (cont.)
Reinforcement

- Learning that is **rewarded** is much more likely to be retained.
  - A simple "Yes, that's right" or recognition for attempting to contribute can mean a great deal to a trainee.
  - Punishment only teaches the trainee that his or her response was wrong. It gives no guidelines about which responses would have been correct.

Reinforcement, on the other hand, specifically confirms the response. (And that's what training is all about!)

Meaningful Material

- When presented with new information, learners unconsciously ask two questions:
  - Is this information valid when I compare it with experiences I've had in the past?
  - Will this information be useful to me in the immediate future?

- It links the past and the future and promotes two beneficial effects:
  - Security when learners move from the known to the unknown.
  - Motivation because the information will be useful in the near future.

Primacy and Recency

- Given any sequence of facts, trainees will tend to remember **what they heard first and last**.
- What they heard in the middle they often forget.
- Therefore, emphasize and reinforce facts that are in the middle.
Multiple-Sense Learning

- Authorities suggest that of the information a person takes in, approximately . . .
  - To achieve maximum input to the trainees, you must use two or more of the senses.
  - For most learning, sight provides most information to trainees, and we consequently emphasize visual aids.

We Tend to Remember . . .

- 10% of what we read -- Reading
- 20% of what we hear -- Hearing Words
- 30% of what we see -- Looking at Pictures
- 50% of what we hear and see -- Watching a Movie
- 70% of what we say -- Looking at an Exhibit
- 90% of what we both say and do -- Participating in Discussion

Transfer of Learning

- The amount of learning that learners transfer from the classroom to the workplace depends, mainly, on two variables:
  - Similarity between what was learned in the instructional program (includes how it was presented) and what occurs at the workplace.
  - How easily the learners can integrate into the work environment the skills or knowledge gained in the training program.
Before we leave . . .

Here are a couple of legitimate organizations where you can contribute to Haiti Relief online.

STAND WITH HAITI

Next Week . . .

• Planning the Instructional Experience
• Writing Performance Objectives and Competencies

Read in your text: Chapters 2, 6, and 7

Bye!