OBJECTIVES

6

Overview of Training Design and Development ◄
Preparing to Teach Existing Curriculum ◄
Learning Objectives ◄
Learning Domains ◄
Getting Started—Determine Your Lesson Objectives ◄

OBJECTIVES

OVERVIEW

Total time for this lesson: 2 hours

Introduction

This lesson is intended to familiarize you with the fundamental steps necessary to develop effective training materials. It also provides specific information on how to develop measurable objectives. Additionally, in this lesson you will complete the first of a series of exercises that will culminate in your final presentation.

Lesson Objectives

Through group discussion, question and answer sessions, and individual activities, the EMS instructor trainee will be able to:

- List five basic phases of training design and development
- Explain how to apply your knowledge of the training design and development process to existing curriculum
- List the components of a measurable objective
- Explain the purpose of objectives, for participants and instructors
- Identify objectives as either affective, cognitive, or psychomotor

Given a lesson from the EMT-Basic course, the EMS instructor trainee should be able to:

- Evaluate existing lesson objectives and determine which are applicable
- Rewrite applicable objectives according to the A-B-C-D guidelines
- Demonstrate the ability, during your final presentation, to use these objectives as the basis for content presentation and student evaluation

Materials Needed

- Overhead projector and screen
- Flipchart (prepared objectives)
- Flipchart and markers
- EMT-Basic Lessons, Appendix B

Instructional Strategies

- Lecture
- Discussion
- Question and answer
- Activities
- Visual aids

OBJECTIVES

INSTRUCTOR NOTES

Go over the objectives using a flipchart prepared in advance. Post visibly in the room.

Ask a question

Has anyone heard of or used Instructional Systems Design? What has been your experience in designing and developing courses?

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Tell participants that if they have taught before, they have probably been involved in one or more phases of the ISD process:

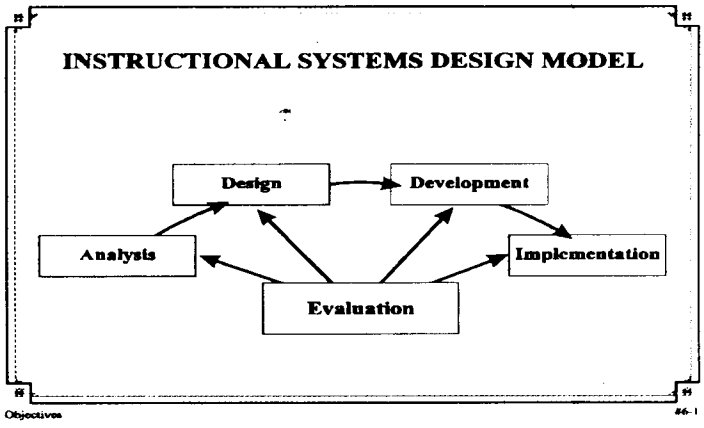
- Analysis
- Design
- Development
- Implementation
- Evaluation

LESSON PLAN

Lesson Objectives

I. Overview of Training Design and Development

A. Instructional System Design (ISD)



1. Analysis phase

   a. Analysis phase outcomes

      (1) Overall course goals are determined

      (2) Audience is identified

      (3) Training delivery medium/media is selected

ADDITIONAL INFORMATION

I. Overview of Training Design and Development

A systematic approach to the design and development of truly effective training materials has been established for many years. While the process is constantly being refined through research efforts, the basic elements have remained the same.

A. Instructional System Design (ISD)

Instructional System Design (ISD) is a systematic, logical procedure used to develop curriculum and instruction. The following five phases are essential and will be discussed in detail in this lesson:

- Analysis
- Design
- Development
- Implementation
- Evaluation

1. Analysis phase

The analysis phase is the "fact finding" stage of ISD. This phase is critical because the information you collect and analyze is the foundation on which the remaining phases are built.

a. Analysis phase outcomes

In the analysis phase, the following three steps are accomplished:

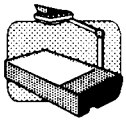
(1) Overall course goals are determined

(2) Audience is identified

(3) Training delivery medium/media is selected

INSTRUCTOR NOTES

LESSON PLAN



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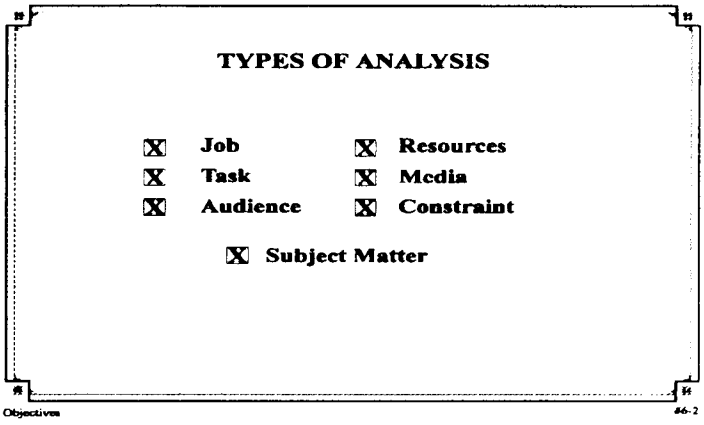
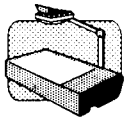
b. Types of analysis





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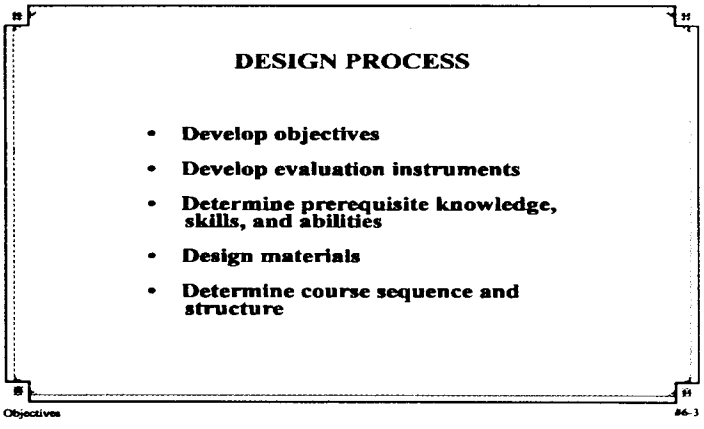
2. Design phase



ADDITIONAL INFORMATION

Answers to the following questions are discovered in the analysis phase:

- Is the training needed?
- Exactly what skills and knowledge must be acquired?
- Who needs to be trained?
- What type(s) of training would achieve the desired result?
- What resources are available to develop and deliver training?
- Are there any constraints limiting the process?
- Which type of training delivery method(s) is optimal, given resources and constraints?

b. Types of analysis

- Job analysis—what skill must be learned or improved?
- Task analysis—how can that skill be broken down into specific tasks?
- Audience analysis—what are the significant attributes of the group that will receive the training?
- Resource analysis—what assets can we bring to bear to accomplish our training objectives?
- Constraint analysis—what are the limitations we must operate within?
- Subject matter analysis—what type of information will be conveyed in the training? What is the scope and depth?
- Media analysis—what is the most appropriate medium or media by which the instruction should be delivered?

2. Design phase

Having selected the ideal way to deliver a particular kind of subject matter, whether via an instructor in a classroom or by satellite to remote downlink locations, you are ready to begin the design of your course materials.

OBJECTIVES

INSTRUCTOR NOTES	*LESSON PLAN*
	a. Objectives and evaluation instruments
Tell students to check with their state certification office regarding prerequisites for specific courses.	b. Prerequisite knowledge, skills, and attitudes
	c. Design of course materials

ADDITIONAL INFORMATION

a. Objectives and evaluation instruments

During the design phase, your course or curriculum starts to take shape. You write measurable objectives that reflect the performance you expect students to achieve, then you decide upon evaluation instruments that will measure student achievement of these objectives.

With well-defined objectives, you can determine exactly how to test achievement. You can write the test questions and design appropriate skill assessments that will measure student competence. And with the objectives and evaluation instruments in place, you can go on to develop the content of your lesson plan, making sure to present all of the information students will need to succeed when evaluated.

b. Prerequisite knowledge, skills, and attitudes

Once the objectives and the evaluation instruments are designed and developed, you can identify what knowledge, skills, and attitudes (KSAs) the students must bring to the course in order to be successful. It is important to establish a baseline of knowledge for your class, because even with certain prerequisites defined, the class is likely to be diverse and it will require imagination and flexibility to instruct students of varying levels and backgrounds. You should check with the state certification office to obtain their prerequisite requirements for specific courses. For example, in most states, you must pass EMT-Basic before you can take EMT Paramedic.

c. Design of course materials

In the design phase, the "look and feel" of the materials that will be used to conduct the training should be decided upon. For example, guidelines for printed matter, such as the layout of the manual from which an instructor will ultimately teach, are determined. Also, the type of teaching methods, e.g., exercises, simulations, and class activities to be used will be decided, as well as the types of supporting media, such as overheads, videotapes, or graphic art.

For computer-based instruction, the design phase would involve how the material is presented on-screen, and how component parts of the program relate and interact with one another. Similar decisions are made when designing other presentations, such as video or correspondence courses.

INSTRUCTOR NOTES

LESSON PLAN

d. Sequence of course content

3. Development phase

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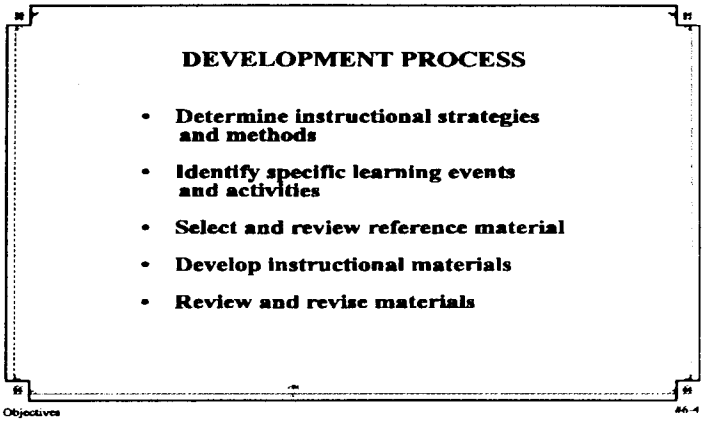
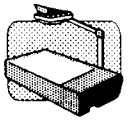
Show sample Instructor Guide and Student Manual.



a. Content is written

b. Supporting media is created



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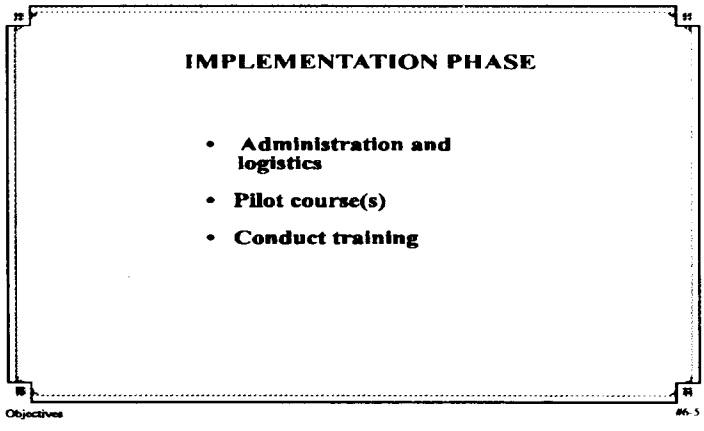
4. Implementation phase



a. Administration and logistics

ADDITIONAL INFORMATION

d. Sequence of course content

The last step of the design phase is to determine the appropriate sequence for the course content. Take the material and arrange it in a logical order. Build from rudimentary skills and foundational concepts to more advanced analysis and application. Break the end result into manageable sections, and plan for milestones along the way to evaluate progress.

3. Development phase

a. Content is written

In this phase, the course content is drafted, reviewed, and edited. This includes the development of all exercises and activities.

b. Supporting media is created

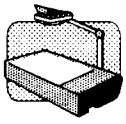
Any supporting media, such as overheads, films, charts, or posters, will be created. The course materials developed should support your instructional strategies and methods and facilitate learning in the classroom and performance on the job.

4. Implementation phase

a. Administration and logistics

The implementation phase includes planning for the management and logistical elements of fielding the course. This means making arrangements for copies of materials, special equipment, additional instructors, classroom space, notification of students, etc. This part of the implementation process ensures that all materials will be in place when it comes time to teach.

INSTRUCTOR NOTES



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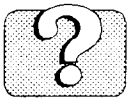


Ask a question

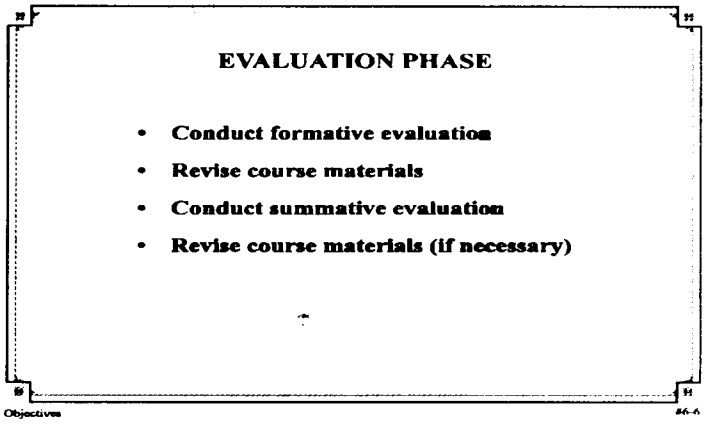
Do you have any questions about the phases of the ISD process?

LESSON PLAN

b. Pilot course(s)

c. Conduct training

5. Evaluation phase



a. Formative evaluation

b. Summative evaluation

ADDITIONAL INFORMATION

b. Pilot course(s)

Pilot courses are a means to gather valuable information about the training in a realistic setting while there is still an opportunity for revision. As such, pilot courses are part of the development process and are a type of evaluation. See section 5 below, or Lesson 7, Evaluation, for details. If a pilot course is included in the development plan, flaws in the design, content, sequence, and flow of the instruction can be identified during actual delivery and then targeted for improvement. Also, time frames allotted for sections can be redefined.

d. Conduct training—the final test of training materials comes when the course "hits the streets."

5. Evaluation phase

It is important to evaluate instruction during development as well as after course delivery.

a. Formative evaluation

Formative evaluation is a term used to describe the process of revising the course *while it is being developed*.

Formative evaluation uses data collected during the development phase to help *form the instruction*. Data can be collected by working with drafts of the course materials and a representative sample of the target audience. Pilot testing the course is a primary type of formative evaluation.

b. Summative evaluation

Summative evaluation is undertaken when course development is complete. Its purpose is to reach conclusions about how well the instruction worked. The most obvious type of summative evaluation instrument is an end of course test. We'll talk more about evaluation in Lesson 7.

INSTRUCTOR NOTES

LESSON PLAN

II. Preparing to Teach Existing Curriculum

A. Variety in curriculum design

1. DOT courses vary

2. Fully-scripted courses, all materials provided

3. Unscripted courses, some materials must be developed

ADDITIONAL INFORMATION

II. Preparing to Teach Existing Curriculum

Understanding the basics of training design and development helps you, as an instructor, prepare to teach existing courses. In this lesson and those that follow, you will learn how to apply each ISD phase: analysis, design, development, implementation, and evaluation, to all aspects of instruction. This will include working with lesson objectives, evaluation instruments, instructional strategies and methods, supporting media, lesson plan development, and course delivery.

A. Variety in curriculum design

1. DOT courses vary

   As an EMS instructor of DOT courses, you will generally not need to develop curriculum. However, the materials you receive from DOT will vary in style, organization, and readiness for delivery.

2. Fully-scripted courses, all materials provided

   For example, there are courses, such as the Emergency Vehicle Operators Course (EVOC), that are fully developed and provide all of the course materials you need to teach. Instructional strategies have been devised and are scripted; thus the instructor guide prompts you to "start a discussion" or "conduct an activity." When you order the curriculum, all of the instructor/student guides, handouts, job aids, transparencies, and evaluation instruments are provided. When consistency is an issue, and for novice instructors, a fully-scripted course can be an advantage.

3. Unscripted courses, some materials must be developed

   At the other end of the spectrum, there are courses which require more preparation time. For example, EMT-Basic provides you with lesson objectives, a presentation outline, and suggestions for preparation. A list of equipment requirements, both audio-visual and medical is included. There are suggestions for student activities and performance evaluation instruments, but the materials you will need to actually conduct the activity are not included, nor are the test questions or lesson format.

INSTRUCTOR NOTES

Ask a question

Can you think of any other questions to ask yourself as you examine the materials you will use to teach?

LESSON PLAN

B. Apply your knowledge of ISD to existing curriculum

1. Evaluate and revise provided materials; design and develop supplementary materials

2. Subject matter expertise is an advantage

Ask yourself the following questions when evaluating course materials:

- Does the material convey complete and accurate information needed to perform the job/task requirements?
- Do the evaluation instruments measure what the objectives say the students should be able to do?
- Are appropriate instructional strategies and media being used to present the message in the most efficient and effective manner?
- Is the material structured in a logical order, so that the instruction builds from simple to complex?

ADDITIONAL INFORMATION

B. Apply your knowledge of ISD to existing curriculum

Existing courses require different amounts of preparation. Your knowledge of the ISD process will help you to produce complete course materials ready for instruction both efficiently and according to established principles of training design.

1. Evaluate and revise provided materials, design and develop supplementary materials

   When working with the DOT curriculum, your knowledge of ISD can help you in two ways. You can evaluate the completeness and appropriateness of the materials and revise accordingly. You can also design and develop additional materials when they have not been provided to you.

2. Subject matter expertise is an advantage

   As an EMS instructor, you should be a subject matter expert in the area you are teaching. Not only does this enhance your credibility with the students, but it provides you a better base for preparing the materials for instruction.

INSTRUCTOR NOTES

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LESSON PLAN

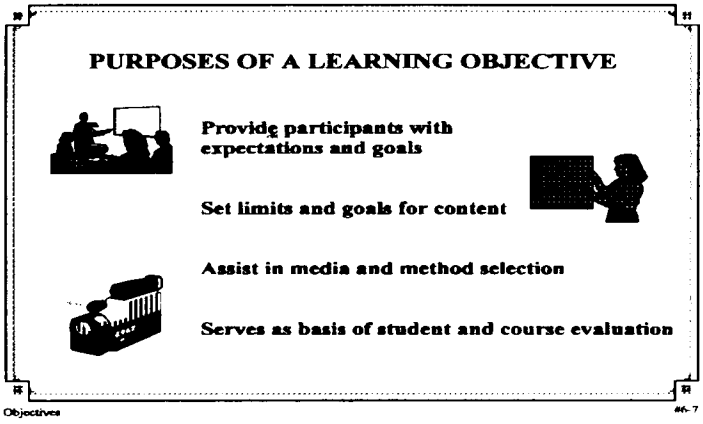
III. Learning Objectives

A. Definition

1. Desired outcomes of the training

2. Types of outcomes

B. Purpose



1. Effect on participants

a. Stated goals help participants focus and achieve

ADDITIONAL INFORMATION

III. Learning Objectives

A. Definition

1. Desired outcomes of the training

   Learning objectives are detailed descriptions of what participants should know and/or be able to do when they complete a unit of instruction.

2. Types of outcomes

   As you create course and lesson objectives, it is time to begin thinking about exactly what will be required of the student to demonstrate proficiency.

   For simplicity, objectives are sometimes referred to as knowledge- or performance-based. Obviously, these overlap; you cannot perform a skill accurately without knowledge. However, you can categorize objectives according to the *primary* type of outcome.

   Later in the lesson we will discuss in detail the idea of *learning domains*. Learning domains can be used to categorize objectives according to the type of desired outcome, just like the terms "performance" and "knowledge." In fact, parallels exist between terms. For example, cognitive ⇒ knowledge-based and psychomotor ⇒ performance-based.

   The discussion of learning domains also includes the term *affective* in order to describe desired outcomes that involve emotions and attitudes, an integral part of EMS service.

B. Purpose

1. Effect on participants

a. Stated goals help participants focus and achieve

   Participants learn best when they know, at the beginning of a lesson, what they are expected to know or do at the end of a lesson. A properly written list of objectives provides participants with information about the skills, knowledge, and attitudes they are expected to demonstrate. This helps provide a sense of direction and responsibility for learning.

INSTRUCTOR NOTES

LESSON PLAN

b. Stated objectives encourage active learning

c. Objectives provide a measurable goal against which students can evaluate their progress

2. Effect on instructor, instruction

a. Objectives provide basis for lesson content and delivery

b. Objectives serve to focus instruction

c. Objectives are the basis of student and course evaluation

ADDITIONAL INFORMATION

b. Stated objectives encourage active learning

Without stated objectives, participants are more likely to become *passive* attendees, since they must rely on the instructor to enable them to achieve goals known only to the instructor. With objectives provided, participants are given the purpose and outcomes expected from the instruction, thereby enlisting their *active* participation in the training.

c. Objectives provide a measurable goal against which students can evaluate their progress.

2. Effect on instructor, instruction

a. Objectives provide the basis for lesson content and delivery

Learning objectives are equally as important for the instructor. Learning objectives are the basis for planning the content, instructional strategies and supporting media to be used in each lesson.

The instructor must deliver the information in a way that directly supports student achievement of objectives. Carefully written objectives point the instructor toward appropriate teaching methods. For example, if the objective says the student must "demonstrate cardiopulmonary resuscitation (CPR) on an adult patient," the instructor must use several teaching methods to ensure student competence. These would probably include lecture, demonstration, and a practical exercise. The method suggests or even dictates the media; i.e., the practical exercise requires a manikin.

b. Objectives serve to focus instruction

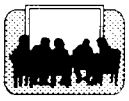
The objectives help you cover exactly what is necessary, to set limits and goals for the material to be covered in each lesson. This keeps the lessons sharp and focused.

c. Objectives are the basis of student and course evaluation

Learning objectives help "close the loop" of instruction. Evaluation methods must be selected to ensure that learning objectives are met. Carefully written objectives give the instructor measurable criteria to use when designing and developing evaluation instruments.

OBJECTIVES

INSTRUCTOR NOTES



Conduct activity

Write a sample objective on a flipchart and solicit ideas for teaching methods. Record responses on a flipchart labelled Delivery Methods.

Offer guidance and feedback. The entire activity should last about 10 minutes.

Sample objectives include:

Describe correct reaching for log rolls.

Defend EMT-Basic treatment regimens for various respiratory emergencies.

List signs of adequate air exchange.

Describe the structure and function of the cardiovascular system.

Demonstrate the maintenance of an automated external defibrillator.

Describe how and when to cut the umbilical cord.

Demonstrate post delivery care of infant.

LESSON PLAN

C. Activity 6.1—Use Your Objectives

1. Identify teaching methods based on a sample objective

2. Discuss the reasons why certain methods are more effective with specific objectives.

ADDITIONAL INFORMATION

For example, if the student must "demonstrate CPR on an adult patient," written evaluation alone is not an effective evaluation instrument. Although students must have a cognitive understanding of the steps involved in CPR, and that knowledge might be tested in a written exam, the actual performance must be tested via a practical exercise. Actually, the term *psychomotor* implies both "knowing" and "doing," and thus is favored among some educators for its precision.

Later, in Lesson 7, we will discuss evaluation methods in detail. You will see that certain evaluation instruments more effectively measure certain types of learning objectives.

Finally, the effectiveness of the course itself can be evaluated by measuring student performance on the objectives. Weak areas of the presentation can be identified, particularly where students perform poorly, and the course can be improved.

C. Activity 6.1—Use Your Objectives

Use a guided discussion to help students identify appropriate teaching methods based on a sample objective. Discuss the reasons why certain methods are a good fit with particular objectives.

INSTRUCTOR NOTES

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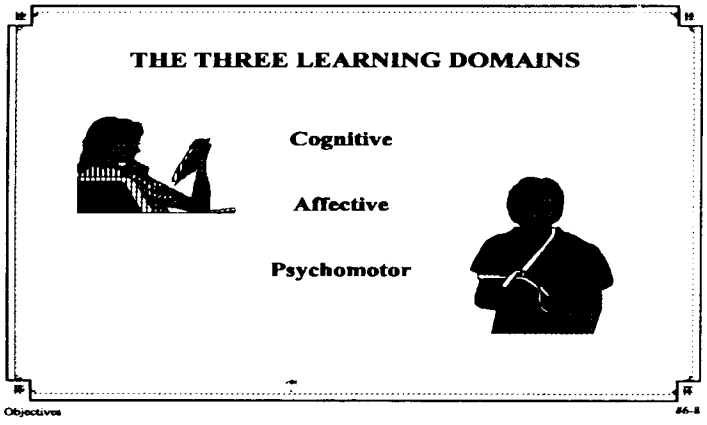
LESSON PLAN

IV. Learning Domains

A. What is a learning domain?



B. Why classify objectives by learning domain?

1. Expedites the selection of appropriate media and methods

ADDITIONAL INFORMATION

IV. Learning Domains

A. What is a learning domain?

Learning, as we discussed in Lesson 4, involves a lasting change in behavior or a newly acquired ability to behave in a particular way. These behavior changes or mastered skills are called learning outcomes, or objectives. Objectives can be classified into categories or domains, according to the type of behavior that is targeted.

There are many theories and approaches regarding objectives. However, most instructional design theorists and practitioners agree upon three learning domains. Each domain has a certain type of behavior as the primary goal of training. The three domains are called cognitive, affective, and psychomotor.

B. Why classify objectives by learning domain?

On the surface, the concept of learning domains may seem a bit too academic. However, these categories help us, as instructors, to define more specifically exactly what we intend to accomplish and how we will go about it.

Classifying objectives by learning domain:

1. Expedites the selection of appropriate media and methods

   By understanding the type of learning outcome that must be achieved, the instructor can select teaching methods and media that will be most effective in achieving that objective. For example, a student will learn a skills-based objective better through observation and hands-on practice than via a lecture or by reading an illustrated manual.

   The reason for this is simple. Even though an illustrated manual might portray all of the steps accurately, have excellent pictures, and offer thorough explanations, a student does not get a "feel" for the process by reading and looking at pictures.

INSTRUCTOR NOTES	*LESSON PLAN*
	2. Facilitates the selection of appropriate evaluation tools
	C. The Cognitive Domain
	1. Description, typical wording of cognitive objectives
Ask a question	2. Cognitive skills are crucial for the EMS professional
Can anyone give me an example of a cognitive objective for an [EMS example] class?	

ADDITIONAL INFORMATION

For example, no textbook can describe the resistance felt when trying to push a needle through skin. A book cannot tell a student how much pressure to use or how fast to go, at least not with accuracy. It is not until that student actually picks up the syringe and performs the task that full comprehension and competent performance can be achieved.

2. Facilitates the selection of appropriate evaluation tools

   Remember, desired outcomes (learning objectives) are the foundation of the entire learning process. Just a basic understanding of learning domains can help an instructor to select the best evaluation instrument. For example, written exams are often used to evaluate objectives in the cognitive domain, while observation and peer evaluation are more often used to evaluate objectives in the affective and psychomotor domains.

   We will discuss specific types of evaluation tools in Lesson 7, Evaluation. First, let's describe each domain in more detail.

C. The Cognitive Domain

1. Description, typical wording of cognitive objectives

   We use the term cognitive to describe a goal that relates to knowledge. Objectives that fall into this category often start with words like *describe, list, name, cite,* and *explain*.

2. Cognitive skills are crucial for the EMS professional

   The cognitive domain of learning is comprised of mental skills ranging from simple to complex.

   Cognitive skills are crucial for the EMS professional. To be effective, the Emergency Medical Technician (EMT) must memorize facts, such as the normal range of temperature or blood pressure for the human body. EMTs must also make assessments during emergency situations. These assessments involve higher level thinking skills.

INSTRUCTOR NOTES	*LESSON PLAN*
Introduce students to the basic levels of mental activity from simple to complex. Offer a couple of examples, such as those given in the Additional Information. Non-medical example: Declaration of Independence Medical example: blood pressure	3. Skill level—complexity of mental activity required The basic levels of mental activity, from simple to complex are to: ■ Recall ■ Understand ■ Apply ■ Analyze ■ Synthesize ■ Evaluate

ADDITIONAL INFORMATION

3. Skill level—complexity of mental activity required

   Educators and theorists have agreed on certain levels of mental activity, according to complexity. Here are the basic levels, using a non-medical and then a medical example:

a. Non-medical example

   Recall—on what date was the Declaration of Independence signed?

   Understand—why was it signed?

   Apply—how does this information relate to a new situation?

   Analyze—how can this event be broken down into parts? What factors were necessary and sufficient for this event to occur?

   Synthesize—do those conditions exist elsewhere? Could a similar event happen again?

   Evaluate—what other actions could have been taken? What would have been the outcomes of alternate actions?

b. Medical example

   Recall—what is the normal range of blood pressure for the human body?

   Understand—how does blood flow through the body? What factors affect blood pressure?

   Apply—how does my understanding of blood pressure relate to this situation?

   Analyze—what steps are necessary to prevent damage caused by abnormal blood pressure?

   Synthesize—how does my understanding of blood pressure relate to other medical conditions?

   Evaluate—what actions are possible, and what are the potential outcomes of alternate actions?

INSTRUCTOR NOTES	*LESSON PLAN*
Four levels: ■ Imitation or repetition ■ Independent action ■ Precision ■ "Automatic" performance	D. The Psychomotor Domain 1. Description, typical wording of psychomotor objectives 2. Types of skills—physical, mechanical, and manual 3. Skill level—degree of coordination required to perform the task

ADDITIONAL INFORMATION

D. The Psychomotor Domain

1. Description, typical wording of psychomotor objectives

   The term psychomotor refers to objectives that require a student to "do" something. This type of objective starts with words like *perform, administer, produce*, or *exhibit.*

2. Types of skills

   The psychomotor domain involves physical, mechanical, and manual skills.

3. Skill level—degree of coordination required to perform the task

   Like the other domains, the psychomotor domain is organized according to skill level. The levels are based upon the degree of coordination required to perform a task, and they progress from simple repetition to the highest level of mind/body coordination. For learning to occur most effectively, the student should progress through the levels sequentially.

   The lowest psychomotor skill level is imitation, the simple repetition of an action observed. The next is independent action, in which the student must remember what was observed and perform. Accuracy is addressed at the next highest level, in which the student is expected to perform the action precisely as taught, without errors. At the fourth level, the student can function almost unconsciously, leaving his or her mind available to process other information.

   High level psychomotor skills are essential for the EMS professional. Emergency situations are often chaotic and traumatic for those involved. Increasing proficiency in psychomotor skills to the level of efficient, unconscious performance allows the EMT to be aware of and handle demanding situations while performing routine procedures quickly and effectively.

INSTRUCTOR NOTES	*LESSON PLAN*
	4. How to teach a skill a. Demonstration b. Coaching c. Drilling d. Evaluation

ADDITIONAL INFORMATION

4. How to teach a skill

   In order to teach psychomotor skills, you have to understand the steps involved.

a. Demonstration

   Demonstration is essential. Students must observe the action performed correctly and be able to imitate what they see.

b. Coaching

   Coaching is important, because once learned incorrectly, a behavior is difficult to change. As an instructor, you must have sufficient staff on hand during practical exercises to offer immediate feedback to students. First demonstrate, then have students imitate what they observed. Watch their performance carefully. Note any missing steps or flaws in technique that can affect the success of their actions. Use corrective and positive feedback to guide them toward superior performance. Refer to Lesson 1, Instructor Roles and Responsibilities, for an explanation of these types of feedback.

c. Drilling

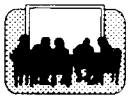
   Drilling is merely repetitive practice. It is important for students to perform the same task over and over, until it becomes second nature. Educators talk about "kinetic memory." This term refers to the fact that, given enough repetition, our bodies begin to perform familiar actions unconsciously; e.g. riding a bike.

d. Evaluation

   For most psychomotor skills, it is appropriate to use interim and final evaluations to secure optimal performance.

   Interim evaluations can be done several ways. One method is to gradually increase the level of precision or accuracy required of your students. For example, you might allow for three errors when students perform an initial patient assessment during an interim evaluation, but only one for a final. Another form of interim evaluation might be to test on each step of a fairly complicated process. Or, you could change the conditions under which the skill is performed, if they affect difficulty.

INSTRUCTOR NOTES



Conduct activity

In this activity, students will teach each other simple skills, using the four steps of skill instruction just discussed: demonstration, coaching, drilling, and evaluation.

Tell students that giving instructions clearly is extremely important during all instruction, and particularly when teaching a skill. Have students read reference 6-1 in Appendix B, Giving Instructions.

Pass out copies of the Demonstration Checklist.

Be sure to have the observer fill out this form for all trainers.

Collect the checklists if you want to include the results in your evaluation of the Instructor Trainees. The results may also be helpful as you target skill development objectives for each student and help them to achieve competency for the Final Presentations.

LESSON PLAN

5. Activity 6.2—Teach a Simple Skill

   a. Break into small groups

   b. Select a trainer, trainee(s), and an observer(s)

   c. Refer to references 6-1 and 6-2 in Appendix B

      - Giving Instructions
      - Demonstration Checklist

   d. Have the observer fill out a Demonstration Checklist for each training session. Rotate the roles of trainer, trainee(s) and observer.

ADDITIONAL INFORMATION

The final evaluation should take place under similar conditions and with the same equipment the EMT would have on the job. Practical skill tests given by the state EMS offices are often the final evaluation of psychomotor skills learned in EMS courses. Prepare your students for their Practical Exams by replicating the exam conditions as closely as possible.

5. Activity 6.2—Teach a Simple Skill

   Break into small groups and rotate the roles of trainer, trainees, and observer. The observer should use the Demonstration Checklist in Appendix B to record observations during the "training."

   Have each of them teach the others a simple skill. Require them to break the skill down into sequential steps and make sure they use each step of the training process: demonstration, coaching, drilling, and evaluation.

INSTRUCTOR NOTES	*LESSON PLAN*
	E. The Affective Domain 1. Description, typical wording of affective objectives 2. Types of behaviors addressed by affective objectives 3. Skill level—degree of personal commitment and consistency

ADDITIONAL INFORMATION

E. The Affective Domain

1. Description, typical wording of affective objectives

   The affective domain is perhaps the least understood of the three learning domains. However, the delivery of emergency medical services demands an understanding of the emotional and psychological factors that affect a patient's well-being and ultimate recovery. It also demands an understanding of the appropriate attitudes to be exhibited by EMS professionals. This is why affective learning objectives are included in some EMS courses.

   Affective objectives might include words like *explain*, *demonstrate*, *display*, or *as evidenced by*.

2. Types of behaviors addressed by affective objectives

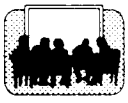
   The affective domain of learning encompasses attitudes, feelings, and values. Achievement of affective objectives is the most difficult to measure, since it is difficult to know when an attitude, feeling, or value has truly been instilled. In addition, affective learning may be displayed over time, since it can involve long periods of experience, debate, mentoring, and soul-searching. Communication skills are one example of affective learning outcomes. Other instructor skills, such as the ability to appropriately counsel your students, have affective components as well. A proper method of evaluating communication and/or counseling skills might be observation, using a checklist of desired behaviors.

3. Skill level—degree of personal commitment and consistency

   Skill in the affective domain involves sensitivity to and awareness of the needs of others. It means reacting in such a way that patients feel safe and confident they are in competent hands. An EMS student who is developing affective skills will demonstrate genuine interest in the emotional and psychological well-being of each and every patient. Over time, the student will act consistently, in accordance with values that have been internalized, not mandated.

   In other words, the targeted behaviors of empathy, the ability to engender trust, and the ability to listen attentively will be demonstrated time after time, in stressful situations.

INSTRUCTOR NOTES



Conduct activity (optional)

Use the scenarios provided in Appendix A if you feel your students need more exposure to the concepts and application of affective domain objectives.

Conduct activity

Assign the following topics or create your own:

- Make a pizza
- Wash an ambulance
- Sell a residential property

LESSON PLAN

4. Activity 6.3—Writing Affective Objectives (optional)

    a. Write an affective objective

    b. Describe how you would teach the skill

F. Activity 6.4—Objectives by Learning Domain

1. Form small groups; select a reporter, facilitator, and timekeeper. You will have 10 minutes to complete the task

2. Write 2 objectives for each domain on the topic assigned

3. The group reporter will present your conclusions to the class

V. Learning Your ABCD's—How to Write a Useful Objective

A. Components of a well-written objective: A-B-C-D

1. A is for Audience

ADDITIONAL INFORMATION

4. Activity 6.3—The Affective Domain (optional)

   This is an optional activity that can be used to further acquaint students with the affective domain. In Appendix A, scenario cards have been provided with descriptions of situations requiring affective skills, as well as a blank card if you prefer to create your own or to have students generate the scenario.

   Instruct students to write an objective that targets the desired behavior. Then have them describe how they would teach the affective skill. Debrief as a class.

F. Activity 6.4—Objectives by Learning Domain

Now give students a chance to apply what they've learned by writing objectives according to the primary learning domain.

Students will work in small groups, selecting a facilitator, reporter, and timekeeper as before. Given assigned topics on which to instruct, students will generate two objectives targeting each learning domain. The reporter will present the results to the class.

V. Learning Your ABCD's—How to Write a Useful Objective

We have all been the victim of ambiguous objectives, like "The student will have a deeper understanding of the concept of shock." This kind of objective leaves a lot of room for interpretation and provides no definite way to measure achievement of the objective.

A well-stated objective, however, leaves no room for doubt!

A. Components of a well-written objective

1. A-B-C-D

a. A is for Audience

An effective instructional design will focus on keeping the learner active, attentive, and interested. Therefore, each learning objective should first acknowledge who the learner is (e.g., the new EMS Instructor trainee, the third year EMT). However, if the objectives are being presented to one homogeneous group, the audience can simply be stated as "you" or "participants."

OBJECTIVES

INSTRUCTOR NOTES	*LESSON PLAN*
	2. B is for Behavior 3. C is for Conditions 4. D is for Degree

ADDITIONAL INFORMATION

b. B is for Behavior

Probably the most important part of the learning objective is the stated behavior. What will the participant be able to do at the end of the instruction? Since behavior is an action, the behavior in an instructional objective is always stated as a verb. Furthermore, the behavioral term should be specific and observable. For example, we cannot observe "knowing" or "understanding," and definitely not "deeply understanding." But, we can observe "listing," "building," and "choosing."

Finally, as you write the behavior, try to match it as closely as possible to the real world experience to which the trainee will return. For example, if the trainee must "wrap a bandage around a knee" in the real world, state it that way, rather than "state the method to wrap..."

A list of terms used to describe behavior in instructional objectives is provided in Appendix B for future reference.

c. C is for Conditions

Trainees must be aware of the conditions under which they are expected to execute the behavior stated in an objective. The objective must state what tools, equipment, or other resources will be provided. It must also state any special environmental conditions under which the behavior must be performed. For example, "given a model of the human body, identify the following organs..."

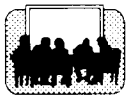
d. D is for Degree

Finally, objectives must be measurable and state the criterion against which acceptable performance will be judged.

An example:

An EMS student (*audience*), given a blank pre-hospital report (*condition*), will complete the report (*behavior*) for a patient with shock (*condition*) with 100 percent accuracy (*degree*).

INSTRUCTOR NOTES



Conduct activity

This activity provides students with classroom time to work individually on their Final Presentations. The EMT-Basic objectives may need to be refined, perhaps by adding more specific criteria for successful performance. Provide guidance as needed.

Refer students to references 6-3 and 6-4 in Appendix B:

- List of Behavioral Terms
- ABCD...Questions to Ask About Your Objectives

LESSON PLAN

B. Activity 6.5—Determine Your Lesson Objectives

1. Take out the EMT-Basic lesson you were assigned for the final presentations
2. Identify which learning domain each objective targets
3. Evaluate the objectives, using the A-B-C-D guidelines
4. Rewrite the objectives as necessary

VI. Summary

ADDITIONAL INFORMATION

B. Activity 6.5—Determine Your Lesson Objectives

The objectives for this activity are as follows:

Given a lesson from the EMT-Basic course, the EMS instructor trainee will be able to:

- Evaluate existing lesson objectives and determine which are applicable
- Rewrite applicable objectives according to the ABCD guidelines for writing objectives
- Demonstrate the ability, during your final presentation, to use these objectives as the basis for content presentation and student evaluation

This is the first of a series of exercises which will culminate in the final presentations. Students will work with the lesson objectives as stated in the EMT-Basic lesson to which they were assigned and then refine them based upon the principles discussed in this lesson. The EMT-Basic lessons are located in the Final Presentation section.

Students should identify the learning domain targeted by each objective, use the A-B-C-D guidelines provided in Appendix B to evaluate each objective and rewrite as necessary. Students may want to refer to the List of Behavioral Terms located in Appendix B as well. The instructor and/or assistants should provide guidance and feedback.

VI. Summary

This lesson presented an overview of the five phases of the ISD process and demonstrated the importance of clearly written learning objectives. Objectives let students know precisely what is expected of them and how they will be evaluated. Objectives also provide the instructor with the basis for lesson content and delivery.

The three learning domains, cognitive, psychomotor, and affective, and their relationship to objectives was covered. Finally, the ABCD technique for writing effective objectives was presented.

ADDITIONAL INFORMATION

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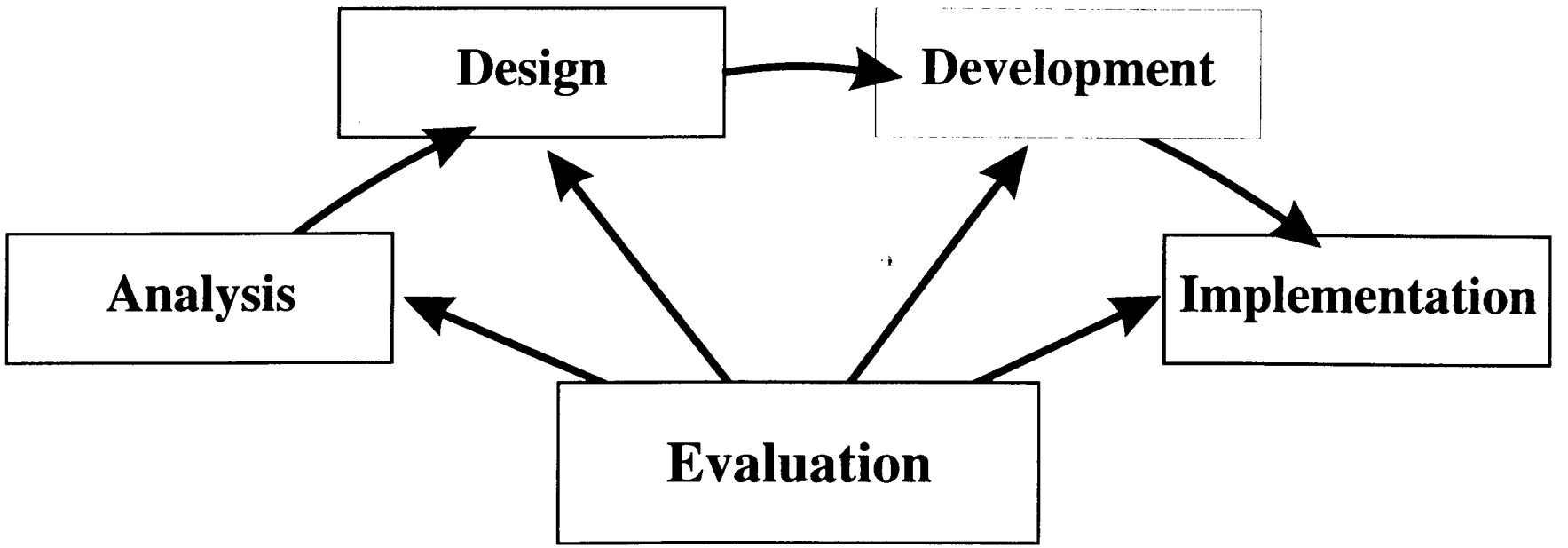
INSTRUCTIONAL SYSTEMS DESIGN MODEL



TYPES OF ANALYSIS

- [X] Job
- [X] Task
- [X] Audience
- [X] Resources
- [X] Media
- [X] Constraint
- [X] Subject Matter

DESIGN PROCESS

- Develop objectives
- Develop evaluation instruments
- Determine prerequisite knowledge, skills, and abilities
- Design materials
- Determine course sequence and structure

DEVELOPMENT PROCESS

- Determine instructional strategies and methods
- Identify specific learning events and activities
- Select and review reference material
- Develop instructional materials
- Review and revise materials

IMPLEMENTATION PHASE

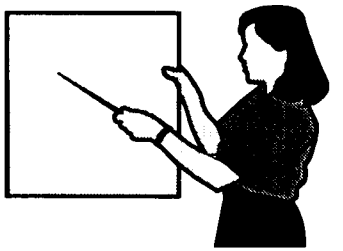
- Administration and logistics
- Pilot course(s)
- Conduct training

EVALUATION PHASE

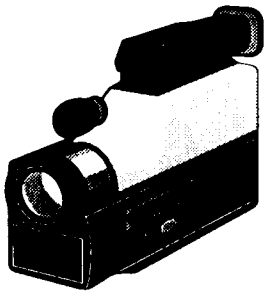
- **Conduct formative evaluation**
- **Revise course materials**
- **Conduct summative evaluation**
- **Revise course materials (if necessary)**

PURPOSES OF A LEARNING OBJECTIVE

Provide participants with expectations and goals



Set limits and goals for content



Assist in media and method selection

Serves as basis of student and course evaluation

THE THREE LEARNING DOMAINS

Cognitive

Psychomotor

Affective