

MODULE 10: LESSON PLANS

Cognitive Goals

At the conclusion of this module the student-instructor should be able to:

- 10.1 Define a lesson plan
- 10.2 Define and describe the following components of a lesson plan:
 - Needs assessment
 - Overall goal of instruction
 - Cognitive objectives
 - Psychomotor objectives
 - Affective objectives
 - Lesson motivation
 - Recommended list of equipment and supplies
 - Recommended schedule
- 10.3 List and describe the components of a needs assessment used for preparing a lesson plan
- 10.4 List and describe the items to consider when evaluating the intended audience during needs assessment
- 10.5 Discuss the methods for determining the depth to which the content will be covered in a prepared lesson plan
- 10.6 Discuss the process of aligning objectives of the curriculum with the specific objectives of the lesson plan
- 10.7 Discuss how to use a lesson plan to present course content
- 10.8 Discuss methods to evaluate the effectiveness of lesson plans:
 - Formative evaluation strategies
 - Summative evaluation strategies
 - Written testing instruments
 - Practical skills demonstrations

Psychomotor Goals

At the conclusion of this module the student-instructor should be able to:

- 10.1 Use the information described in this module as a template and evaluate a supplied lesson plan for completeness and accuracy
- 10.2 Conduct a needs assessment with a group of EMS students using the parameters discussed in this module
- 10.3 Take a goal of instruction and supporting objectives supplied by the instructor and write a brief lesson plan that includes all of the elements presented in this module

Affective Goals

At the conclusion of this module the student-instructor should be able to:

- 10.1 Support the use of lesson plans in guiding the planning and presentation of instruction
- 10.2 Defend the need to perform a complete and thorough needs assessment prior to the development of a lesson plan

Declarative

- I. Why this section is important
 - A. Using a lesson plan is an effective method to organize your teaching presentation
 1. Provides a guide to follow when presenting
 2. Assists in the evaluation process
 - a. Objectives determine the content of tests
 - b. Lesson plans and objectives indicate the depth and breadth to cover the material
 - B. An entry level instructor may not be called upon to prepare a lesson plan
 1. Should know the required components of a lesson plan
 2. Should be able to evaluate a lesson plan to determine if it is complete
- II. Purpose of a lesson plan
 - A. To serve as a framework or guide to the instructor while the lesson is being presented
 - B. It should assist the instructor in the selection of content to be presented
 1. It should not be used as a substitute for preparation
- III. Sources of prepared lesson plans
 - A. State EMS office
 - B. Senior or mentor instructors
 - C. Publishers
 1. Be careful of bias toward their products or services
 - D. Organizations with certification and continuing education courses
 - E. National Association of EMS Educators
 - F. The DOT/NHTSA/HRSA National Standard Curriculum (NSC) for all levels of EMS are not written as a lesson plans and cannot be used as such
 1. They are used as a source of the goals and objectives that should be taught
 - G. Sample outline in Appendix
- IV. Needs assessment
 - A. A needs assessment is performed before a lesson plan is written
 1. The first part of the instructional design process

2. A critical component to the development of a successful education presentation and should not be omitted
 3. A good analysis is essential
 - B. The anticipated training is evaluated to determine *who, what, where* and *when*
- V. Who will attend your course? (Identify your audience)
- A. Determine the demographics of typical and atypical students
 - B. Content may affect various communities differently
 - C. Age of student
 1. Professional adult
 2. Youth
 - D. Race
 1. Diverse cultural background can increase the richness of discussions
 2. Be alert for biases in content
 - E. Gender
 1. Be alert for biases in content
 - F. Where are they traveling from to the course site?
 1. Is travel distance an issue?
 2. Will weather or traffic patterns impact travel time?
 - G. Volunteer vs. career (paid)
 1. Although each group is comprised of professional students, motivations (intrinsic and extrinsic) may be different between a volunteer and a career student
 2. Are they required to be there or do they want to be there?
 - H. Learning preferences and styles
 1. Diagnostic instruments are available to determine student's preferences
 2. Implement teaching strategies that will make learning more meaningful and enjoyable for the students
 - I. Educational background
 1. Do students need additional preparation prior to entering the course?
 - a. Who is responsible for providing the remedial or developmental education?
 - J. Prerequisites
 1. Entrance tests
 2. Education prerequisites: anatomy and physiology, English, and/or math course work
 3. Certification level or experience requirements
 4. Do they need to show competency or performance verification prior to enrolling?
 - K. Technology requirements
 1. If technology is a component of the course consider the impact of access to technology and user competence that is required
 - L. EMS experience
 1. What is their experience level?
 2. Are they doing this to change careers?

- M. Other commitments that may detract from student's learning capabilities
 - 1. Family and social
 - 2. Work schedules and responsibilities
 - a. Shift work
 - b. Inflexible schedules
 - c. On call status
 - 3. Time of day the class is offered conflicting with other commitments

- VI. What do students need to learn?
 - A. This is important in discovering motivational strategies
 - B. Are there job-related requirements?
 - C. Are there are certification related requirements?
 - D. Separate the “need to know” from the “nice to know” material
 - E. Is there a standardized curriculum you can use as a guide?

- VII. Where and when will the course be given?
 - A. Is the environment friendly and inviting to students?
 - 1. Well lit room
 - 2. Designed for the use intended
 - 3. Desirable for studying and learning
 - 4. Comfortable temperature
 - 5. Free of distractions
 - B. Time frames for each element of the course should be pre-planned but must be flexible

- VIII. Other considerations in a needs analysis
 - A. Is certification or licensure a required outcome of your course
 - B. Ascertain student needs in regard to professional certification
 - C. Decide if class meets professional certification requirements
 - D. If the sponsor of the course is different from the student, what are their expectations for the outcome of the course?

- IX. Compile all of the information above and use it to direct instructional design strategies
 - A. You may not use all of the information
 - 1. It is helpful to know these issues were considered
 - 2. Information learned in this process may result in alternations to your original plan or concept
 - a. Example: Students in your course will not be available at a certain hour of the day due to other commitments so you must change your proposed schedule to accommodate this and increase attendance
 - b. Example: Students do not have the background or experience necessary to make them ready for your course but it appears that they can be ready with a few hours of targeted instruction of prerequisite material and you have the budget and means to support this additional training

- X. Overall goal of instruction
 - A. Also called “primary goal of instruction” or “terminal objective”
 - 1. Once you have a clearer understanding of the audience look at what you want/need to teach
 - 2. This will become part of your objective for the course
 - 3. Information on writing objectives is contained in Module 8: Domains of Learning and Module 9: Goals and Objectives
 - B. The overall goal of instruction should be clearly articulated to the student at the beginning of the educational experience
 - 1. It should also be supplied to them in written form
 - C. Your overall goal of instruction is further broken down into measurable pieces of behavior called objectives (or sometimes: enabling objectives)
 - 1. Entry level instructors may not be called upon to write objectives, however, it is important to understand the concept of objectives and to appreciate what a good objective should contain
 - 2. Objectives should clearly state what is to be learned and/or accomplished by the student
 - 3. Objectives are measurable statements of behavior required to demonstrate that learning has occurred
 - 4. For example, the objectives for a trauma course should be designed to validate that students have learned how to perform a trauma assessment. It would not be appropriate for the objectives of a trauma class to include how to clear a meconium filled airway in a neonate
 - D. We have discussed three primary types of objectives: cognitive, behavioral and psychomotor
 - 1. Although there are other types, these are standardized in EMS and allied health education
 - 2. Refer to the appendix for a recommended list of verbs to use in writing objectives
- XI. Cognitive domain objectives
 - A. Describe the level of understanding a student should have about the material
 - B. Bloom’s taxonomy is a helpful list of verbs used to describe expectations
 - 1. The verbs are grouped according to the depth of understanding required at each level
 - 2. Example: knowing or comprehending information is a lower cognitive skill than evaluating it
 - C. Every lesson has cognitive objectives
- XII. Psychomotor domain objectives
 - A. Domain for skills performance
 - 1. Includes gross body movements, fine body movements, speech behaviors and non-verbal communication

- B. Not every module has a psychomotor component because not every module requires you to perform a skill
 - C. Typical verbs used to describe psychomotor objectives are demonstrate, apply and perform
- XIII. Affective domain objectives
- A. This is one of the most difficult areas to work within because it deals with how students feel about issues
 - B. Some educational researchers even believe it is impossible to change emotions, values or feelings or to do it in a measurable way
 - C. Some of the verbs used in affective domain objectives include accept, defend, challenge, judge, participate, and support
- XIV. Lesson motivation
- A. The lesson plan can provide information to the instructor for motivating students
 - B. Intrinsic motivation comes from inside the student
 - 1. Often comes from the affective domain (feelings and emotions)
 - 2. May be intensely personal, for example: a student wants to learn this material because he had a loved one who died from a disease you are going to discuss
 - 3. You can help intrinsically motivate the student by asking him or her to look inside for a reason to learn this
 - 4. Students with a high “need to achieve” may not require a motivation from you
 - 5. Education may help them maximize their personal needs (Maslow’s hierarchy of needs: see appendix for more information)
 - C. Extrinsic motivation comes from outside the student
 - 1. Goal of external motivation strategies is to get students to buy in to the importance of the material so they are willing to learn it
 - 2. Engage students in discussions about the importance of the topic
 - 3. Describe how this material fits into the overall scope of the program or course
 - 4. Coaching students may help motivate them
 - 5. Ask them to provide reasons why this material is important to learn
- XV. Recommended list of equipment and supplies
- A. Include all equipment or supplies needed to present the material
 - 1. AV projection equipment
 - 2. Instructional equipment and supplies (flip charts, chalk, etc.)
 - 3. Medical equipment and supplies
 - 4. Manikins and models
 - B. Use as a resource when preparing to teach
 - C. Arrive early to test the equipment and set up the room
 - D. Bring spare bulb for AV projection equipment
 - E. Have a back up plan in case of equipment failure
 - F. Decide what adjuncts will be needed in the classroom e.g., manikins, blankets, vehicles, IV arms, etc.

- G. Have a complete set of working equipment and supplies for each group of students that will reflect what they will have to work with in the field
 - 1. The behaviors you model may have as great an impact upon the students as what you tell them

- XVI. Recommended schedule
 - A. Guides the pace of the course
 - B. Class size and instructor to student ratios will affect schedule
 - C. Physical location of the class will also effect the schedule
 - D. Poorly designed rooms, many distractions and poor temperature controls will affect student's concentration
 - E. Plan for frequent breaks
 - 1. Always plan a break within an hour following mealtime
 - 2. Break for at least 5 minutes each hour
 - 3. Optimal method is to vary the instruction at least every 20 minutes
 - a. Example: a 20 minute video clip followed by a 15 minute in-class exercise (then a 5 minute break) followed by a 20 minute lecture, a 20 minute skills demonstration and another break
 - 4. Plan breaks at appropriate times so that you don't interrupt momentum

- XVII. Determine from the lesson plan how much detail regarding the information needs to be presented
 - A. You must decide if the student needs to have an awareness about the material or if they must master it
 - 1. If you are unsure and have the final exam, reviewing it may help you determine how much material to present
 - 2. By reviewing Bloom's taxonomy you can determine how detailed the presentation needs to be
 - a. The verbs used in the objectives will provide clues
 - 3. Cognitive domain verbs are placed into 6 groups, starting with the lowest level required and increases to the highest level of understanding of the material
 - a. The 6 groups, in order, are knowledge, comprehension, application, analysis, synthesis, and evaluation
 - 4. Basic level understanding (level one)
 - a. Students acquire new information or develop a new skill
 - b. This level requires feedback by the instructor
 - c. Includes objectives that demonstrate knowledge and comprehension
 - 5. Intermediate level understanding (level two)
 - a. Students connect the knowledge learned in the basic level with knowledge gained through experience
 - b. Includes objectives that demonstrate application
 - 6. Advanced level understanding (level three)
 - a. Student's function with little or no supervision
 - b. Instructor serves more as a facilitator than a teacher

- c. Instructor focuses student towards learning why events occur as opposed to how to perform a skill
- d. Instructor may assume a coaching or mentoring role
- e. Includes objectives that require analysis, synthesis and evaluation

XVIII. Using a lesson plan to present course content

- A. Explain the importance of the curriculum
 - 1. Begin with a statement listing and explaining the primary instructional goal and objectives
 - 2. Allow students to give feedback about the objectives
 - 3. This is especially important when the audience is made up of professionals who have specific and intrinsic needs
- B. Deliver the content
 - 1. Select methods suitable to student learning styles and consider constraints in the ability to deliver the material
- C. Allow students to practice skills
 - 1. Document competence
- D. Allow feedback.
- E. Encourage students to interact and contribute
- F. Allow time for remedial education
- G. Evaluate performance of students and lesson plan

XIX. Student tools

- A. Encourage students to take notes
 - 1. It may be useful to provide students with an outline of the lecturer's notes
 - 2. Several computerized programs allow instructor's to print a succinct outline of text and or graphics for a given presentation
- B. Interactivity
 - 1. Allow students to submit questions during and after class time
 - 2. Encourage appropriate discussions
- C. Encourage students to take responsibility for their learning

XX. Evaluation of the lesson plan and the content delivered

- A. The process of aligning objectives of the curriculum with specific objectives of the lesson plan is called performance agreement
- B. Cumulative lesson objectives should address the course's goals
 - 1. Lesson plans should build upon previous course goals and objectives
- C. Didactic and practical objectives should be aligned in support of each other
- D. Formative evaluation
 - 1. You will perform formative evaluation as you write the lesson plan
 - 2. Compare the overall goal of instruction, lesson objectives and the content
 - 3. Determine if you have performance agreement between these three elements and make any adjustments necessary

4. If you are not writing a lesson plan, but are using one that is already written, evaluate the instructional goal, objectives and content to determine if they are complete
 5. Make any necessary adjustments to make sure that there is performance agreement
 6. Review testing instruments to see if they match objectives and content
- E. Summative evaluation
1. Summative evaluation is performed at the completion of the lesson
 2. Use it to determine the effectiveness of your teaching strategy and to improve future performance of the same material
 3. Methods of performing summative evaluation
 - a. Survey tools
 - b. Test item validation
 - c. Comparison of course and program outcomes

XXI. Evaluation tools

- A. See Module 12: Evaluation Techniques for more information
- B. Document student performance using a written evaluation tool
- C. Share results of evaluation in a timely manner
- D. Work out a plan for improvement that the student has participated in designing so they can take ownership and responsibility for their improvement
- E. Written evaluation tools
 1. Tests and quizzes
 2. The objectives should serve as the foundation for any written test
- F. Multiple choice items
 1. National certification and license tests are generally multiple choice
 2. It is difficult to test higher levels of cognition with multiple choice testing
 - a. It is very difficult to successfully write test items at these levels
 3. Be aware of the cognitive levels your test questions target – you may need to do other types of testing (for example short answer, fill in the blank or essay questions) to validate the higher cognitive levels
- G. Matching and true false
 1. Similar to multiple choice but removes some of the ability to take a guess as necessary information is omitted from the testing item
 2. Still somewhat difficult to test higher cognitive levels
- H. Fill-in-the-blank, short answer, and essay questions
 1. Typically more difficult and time consuming to grade but will provide a more comprehensive evaluation of the student's mastery of the higher levels
- I. Practical skills evaluation tool
 1. Skills check-off sheet
 2. Incorporate skills in to an overall scenario - allows students to demonstrate their ability to synthesize material into an overall ability to use critical thinking
 3. Can be used to evaluate higher levels of cognition as well as acquisition of psychomotor skills

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