

Lesson Plans and Writing Objectives

Purpose

An objectives-based lesson plan provides a concise and specific road map to communicate to the students the instructional plan for a class session. The topic of the lesson along with the methods and strategies to engage the students can be indicated. Further, strategies to assess the learning are clarified in a lesson plan. With learner-centered teaching, the focus is on continually assessing to ensure the students are absorbing the content.

Description

There are multiple styles of lesson plans and they tend to include the following components:

- **Lesson Overview** — This section will identify the content that will be covered during this session, the instructional strategies to be used, the materials required and the expectations of the students.
- **Instructional Objectives for the Lesson** — Objectives indicate what the students will be able to do or know as a result of this lesson. Each objective should identify a piece of learning which leads to completion of the course outcomes. The key to writing objectives is to make them specific and measurable, e.g. write, compare build, design.
- **Lesson Design and Instructional Strategies** — This is agenda for the class lesson which specifies the activities to engage the adult learner. A variety of tools used to begin the lesson include preassessments, brainstorm, problem or questions on the board or graphic organizers. The lesson content can be a lecture, power point or a discussion with engaging strategies utilized for student interaction. Strategies for small group work should also be considered. Another factor in lesson design is to determine the amount of time for the content and student engagement activities.
- **Self-Assessment** — This section of a lesson provides time for the students to reflect on what they have been taught, to ask questions and to determine how this might apply to their new learning.
- **Review of Next Assignment** — By providing time for clarification of the next assignment, the students have an opportunity to check for understanding of the requirements.

References

Hunter, Madeline. *Mastery Teaching: Increasing Instructional Effectiveness in Elementary and Secondary Schools, Colleges, and Universities* (Madeline Hunter Collection Series) (22nd Ed). Thousand Oaks, CA: Corwin Press, 1994.

- The seven step lesson plan includes modeling, checking for understanding and guided practice. Chapters include Modeling what you Mean and Making Material Meaningful.

Magar, Robert F. *Preparing Instructional Objectives*. Belmont, CA: Davis S. Lake. 1984.

- This book provides guided practice and self assessment to assist the reader in developing explicit objective for an intended result of instruction, rather than the process of instruction.

Saphier, Jon, Mary Ann Haley-Speca and Robert Gower. *The Skillful Teacher: Building Your Teaching Skills*. Acon, MA: Research for Better Teaching, 2008.

- Part Four, Introduction to Curriculum, provides a Mandala of Curriculum agreements and five kinds of teacher thinking from coverage through mastery.

http://writing.colostate.edu/guides/teaching/lesson_plans/pop2f.cfm

- This on line guide provides several pull down menus to assist in the development of lesson plans including a template for the lesson.

Writing learning objectives

This material was excerpted and adapted from the following web site:
<http://www.utexas.edu/academic/diia/assessment/iar/students/plan/objectives/>

What is a learning objective?

- A learning objective **answers the question:** *What is it that your students should be able to do at the end of the class session and course that they could not do before?*
- A learning objective **makes clear the intended learning outcome** rather than what form the instruction will take.
- Learning objectives **focus on student performance.** Action verbs that are specific, such as *list, describe, report, compare, demonstrate, and analyze*, should state the behaviors students will be expected to perform.

Well-written learning objectives can give students precise statements of what is expected of them and provide guidelines for assessing student progress. Our goal for students is learning and if students don't know what they should be able to do at the end of class then it will be difficult for them to reach that goal.

Clearly defined objectives form the foundation for selecting appropriate content, learning activities, and assessment measures. If objectives of the course are not clearly understood by both instructor and students, if your learning activities do not relate to the objectives and the content that you think is important, then your methods of assessment, which are supposed to indicate to both learner and instructor how effective the learning and teaching process has been, will be at best misleading, and, at worst, irrelevant or unfair.

Think about the lesson you will be teaching. What would you like for each student to know and be able to *do* when he/she has completed the lesson?

Learning objectives

Specific statements describing what you and your students intend to achieve as a result of learning that occurs both in class and outside of class. They can be categorized in the following way:

1. **Cognitive objectives** emphasize knowing, conceptualizing, comprehending, applying, synthesizing, and evaluating. These objectives deal with students' knowledge of the subject matter, and how students demonstrate this knowledge.

2. **Psychomotor objectives** involve the physical skills and dexterity related to the instruction. Successful instruction involves teaching new skills or coordination of old ones (e.g., physical coordination involved in playing tennis or a musical instrument).

Attitudinal objectives

Specific statements about attitudes, values and emotions that students will have as a result of taking part in class activities.

What learning objectives emphasize

1. Learning objectives emphasize observed activity

The only way you can determine whether or not a student has learned something is to observe some kind of behavior that indicates learning has taken place. This behavior may range from correctly answering multiple-choice questions to requiring that the student actually demonstrate a skill.

EXAMPLE

Given a thesis statement in class, the student will write 3 topic sentences for paragraph development of the given statement.

Instead of...

The student will be able to write appropriate topic sentences for paragraph development of a thesis statement.

EXAMPLE

Given 4 theorems that he/she has never seen, the student will formulate a proof for each theorem by drawing on elements from previous sources and will rate them together to form a pattern proof—with 80% accuracy.

Instead of...

The student will understand the concept of the Derivative.

2. Learning objectives emphasize student activity

Instructors sometimes state objectives in terms of their activities. However, learning objectives focus exclusively on student behaviors, not on the behaviors of the instructor.

EXAMPLE

Given the necessary materials, the student will glue a black and white photo clipping from a magazine onto a 6x9" paper. The student will extend the black, white, and gray design of the photo to cover the area of the paper with a relevant design—in class.

Instead of...

The student will be able to demonstrate understanding of color theory.

EXAMPLE

The student will listen to several letters read from the editorial page of a newspaper or magazine. He/she will participate in a discussion about the type of logic employed, the effectiveness of the evidence, and the validity of the argument.

Instead of...

The student will understand the processes of inductive and deductive reasoning.

3. Learning objectives emphasize student outcomes

Instructors often state objectives in terms of process or procedure while learning objectives refer to the end results of instruction. A good learning objective states what a student will know or be able to do at the end of instruction.

EXAMPLE

Given a list of chemical compounds, the student will select 1 that is found at each step in the process of respiration and 1 that is found at each step in the process of photosynthesis.

Instead of...

The student will understand the fundamentals of respiration.

EXAMPLE

In class, the student will assign to each of 10 given statements 1 of the following terms: business ethics, ethics and the law, professional standards in business, and conflicts of interest; 70% accuracy.

Instead of...

The student will examine the ethical conduct of American business.

Advantages of using learning objectives

The writing of learning objectives focuses attention away from content and onto the students. This re-focusing often produces revisions in teaching methods.

1. **Planning instruction:** Once you have developed learning objectives for a course you can more rationally sequence instruction, allot time to topics, assemble materials, prepare outlines and booklists, etc. Learning objectives can also be used as a guide to teaching, as when you plan different instructional methods for presenting various types of content based on the desired learning outcomes (e.g., small-group editing of reports to give students experience in evaluating content logic and correct usage).

2. **Facilitating evaluation:** Learning objectives can facilitate various evaluation activities, evaluating students, evaluating instruction, evaluating the curriculum. They can form the basis for grading or for determining levels of competence in a mastery learning system. They can also be used to demonstrate effective teaching by matching student learning, as measured by exams, etc., to the desired outcomes.
3. **Aiding in communication with others:** There is a need to communicate learning objectives to others: between instructor and student, with other instructors. For example, exchanging learning objectives within departments is the most specific way to communicate to one's colleagues what you really cover in your course.
4. **Improving instruction:** If you intend to improve instruction in a particular lesson or course, you usually begin with the learning objectives for that lesson or course.
5. **Producing new insights:** The process of clarifying objectives may produce major changes in those who engage in the effort. For example, instructors who spend time developing learning objectives are said to acquire increased understanding about what is a feasible goal. When more general goals are explicitly identified, many specific sub-goals emerge. Since it may not be possible to reach all the sub-goals, a hierarchy or "trade-off system" of goals must be produced.

Writing learning objectives using Bloom's Taxonomy

Bloom's Taxonomy of the cognitive domain, or thinking skills, can be helpful in constructing course learning objectives. Bloom and colleagues found that over 95% of exam questions required students to activate low-level thinking skills such as recall (1956). In addition, research has shown that students remember more content *when* they have learned a topic through higher thinking skills such as application or evaluation.

Bloom's Taxonomy is a hierarchy of six cognitive skills arranged from less to more complex.

Higher-level cognitive skills



Lower-level cognitive skills

Knowledge

Recognizes students' ability to use rote memorization and recall certain facts.

Action verbs to help write objectives or exam questions for this domain:
cite, define, identify, label, list, match, name, recognize, reproduce, select, state.

EXAMPLE

Learning objectives	Exam questions
The students will <i>recall</i> the four major food groups without error.	Name the four major food groups.
The students will <i>list</i> at least three characteristics peculiar to the Cubist movement.	<i>List</i> three characteristics that are unique to the Cubist movement.
The students will be able to <i>define</i> gram-positive bacteria.	<i>Define</i> gram-positive bacteria.

Comprehension

Involves students' ability to read course content, understand and interpret important information and put other's ideas into their own words.

Action verbs to help write objectives or exam questions for this domain: classify, convert, describe, distinguish between, explain, extend, give examples, illustrate, interpret, paraphrase, summarize, translate.

EXAMPLE

Learning objectives	Exam questions
The students will <i>summarize</i> the main events of a story in grammatically correct English.	Using grammatically correct English, please <i>summarize</i> the main events – in three or four sentences - from the news story given below.
The students will <i>describe</i> in prose what is shown in graph form.	Given a graph of production trends in automobiles, <i>describe</i> what the graph represents in a memo to your boss.
From a “story-problem” description, students will convert the story to a mathematical manipulation needed to solve the problem.	A researcher wonders whether attending a private high school leads to higher or lower performance on an exam of social skills. A random sample of 100 students from a private school produces a mean score of 71.30 on the exam, and the national mean score for students from public schools is 75.62 ($s_x = 29.0$). <i>Convert</i> the information in this word problem into a mathematical representation that will enable you to solve the problem.

Application

Students take new concepts and apply them to another situation.

Action verbs to help write objectives or exam questions for this domain: apply, arrange, compute, construct, demonstrate, discover, modify, operate, predict, prepare, produce, relate, show, solve, use.

EXAMPLE

Learning objectives	Exam questions
The students will <i>multiply</i> fractions in class with 90 percent accuracy.	Solve for the ten following fraction multiplication problems. Please make sure to show all your work.
The students will <i>apply</i> previously learned	According to our definition of socialism,

Learning objectives	Exam questions
information about socialism to reach an answer.	which of the following nations would be considered to be socialist?
The students will <i>demonstrate</i> the principle of reinforcement to classroom interactions.	In a teaching simulation with your peers role-playing 6th grade students, <i>demonstrate</i> the principle of reinforcement in classroom interactions and <i>prepare</i> a 1/2 page description of what happened during the simulation that validated the principle.

Analysis

Students have the ability to take new information and break it down into parts to differentiate between them.

Action verbs to help write objectives or exam questions for this domain:
analyze, associate, determine, diagram, differentiate, discriminate, distinguish, estimate, infer, order, outline, point out, separate, subdivide.

EXAMPLE

Learning objectives	Exam questions
The students will read a presidential debate and <i>point out</i> the passages that attack a political opponent personally rather than the opponent's political programs.	From the short presidential debate transcribed below: <i>Differentiate</i> the passages that attacked a political opponent personally, and those that attacked an opponent's political programs.
The students will <i>point out</i> the positive and negative points presented in an argument for the abolition of guns.	From the argument given below, <i>analyze</i> the positive and negative points presented concerning the abolition of guns and write a brief (2-3 page) narrative of your analysis.
Students will <i>discriminate</i> among a list of possible steps to determine which one(s) would lead to increased reliability for a test.	<p><i>Determine</i> which of the following steps would most likely lead to an increase in the reliability estimate for a test:</p> <ul style="list-style-type: none"> • Increasing the number of persons tested from 500 to 1,000. • Selecting items so that half were very difficult and half very easy

Learning objectives	Exam questions
	<ul style="list-style-type: none"> Increasing the length of the test with more of the same kinds of items Increasing the homogeneity of the group of subjects tested.

Synthesis

Students are able *to take* various pieces of information and *form* a whole *creating* a pattern where one did not previously exist.

Action verbs to help write objectives or exam questions for this domain: combine, compile, compose, construct, create, design, develop, devise, formulate, integrate, modify, organize, plan, propose, rearrange, reorganize, revise, rewrite, tell, write.

EXAMPLE

Learning objectives	Exam questions
The students will write a different but plausible ending to a short story.	Develop one plausible ending for all three short stories below.
After studying the current economic policies of the United States, student groups will <i>design</i> their own goals for fiscal and monetary policies.	Working in your groups and considering the current economic policies of the US that we have been studying, <i>develop</i> your goals for employment, price levels, and rate of real economic growth for the next three years. Write these goals on the newsprint and be ready to discuss why your goals are feasible.
The students will <i>design</i> a series of chemical operations to separate quantitatively the elements in a solution.	In the lab, you will be given a solution to analyze to see what elements make up the solution. Then <i>design</i> a series of chemical operations to separate quantitatively the elements in the solution.

Evaluation

Involves students' ability *to look* at someone else's ideas or principles and *see* the worth of the work and the *value* of the conclusions.

Action verbs to help write objectives or exam questions for this domain: appraise, assess, compare, conclude, contrast, criticize, discriminate, evaluate, judge, justify, support, weigh.

EXAMPLE

Learning objectives	Exam questions
The students will use the principles of socialism to <i>evaluate</i> the US economic system.	Using the basic principles of socialism discussed in this course, <i>evaluate</i> the US economic system by providing key arguments to support your judgment.
Given any research study, <i>evaluate</i> the appropriateness of the conclusions reached based on the data presented.	For years, misinformation about negative effects of aspartame has proliferated on the internet. The committee evaluated peer-reviewed research from the scientific literature on this topic and concluded: “Aspartame consumption is not associated with adverse effects in the general population”. -- Given the data we’ve looked at on this topic, <i>evaluate</i> how appropriate this conclusion is and defend your answer.
The students will <i>compare</i> two pieces of sculpture, giving reasons for their positive evaluation of one over the other.	Two pieces of sculpture from different eras and artists are displayed. Study these two pieces, use the <i>compare-contrast</i> method to determine which piece you prefer and write a 2-3 page report that describes your thinking process as you studied these pieces. Utilize the skills you have learned as we have studied various pieces of sculpture over the past two weeks.

UNIT OF INSTRUCTION

DUTY: 12.0

TASK: 12.1

DUTY STATEMENT: Provision for Other Content

TASK STATEMENT: Nutrition

1.0 OVERVIEW OF TASK:

Upon completion of the lecture, discussion and demonstration, the couples will be able to examine their nutritional habits and discuss current nutritional information, explain good nutritional habits for pregnancy as well as practices for a lifetime.

2.0 DESCRIPTION OF LEARNING ACTIVITY:

Through participation in this learning activity, couples will be able to differentiate good eating habits in pregnancy versus unhealthy eating according to the food groups, list benefits of good foods, write healthy menus, and identify lifestyle changes in nutrition.

3.0 STUDENT PERFORMANCE OUTCOMES:

Upon completion of this lesson, couples will be able to:

Domains

- | | |
|--|---|
| 3.1 list foods eaten during the last 24 hours | P |
| 3.2 explain the difference between healthy pregnancy weight gain and getting fat | C |
| 3.3 describe the different food groups within the food pyramid | C |
| 3.4 list benefits each food group provides the mother's and baby's body | C |
| 3.5 write a healthy menu | P |
| 3.6 list three healthy lifestyle changes in nutrition | A |

STUDENT EVALUATION CRITERIA:

Provided with written materials, handouts and visual aids, couples will understand the difference between healthy eating habits versus unhealthy eating habits; list foods according to the food groups; and write a healthy menu according to the recommended RDA guidelines.

4.0 SEQUENCE OF STUDENT LEARNING ACTIVITIES:

Step 1 Provide all couples with copy of the topic outline for Duty 12.0 and Task 12.1

Step 2 Review information in handouts

Step 3 Explain Food Pyramid and food groups

Step 4 Show unhealthy and healthy foods

Step 5 Put together a healthy menu

Step 6 Couples will put together a healthy menu

- A. Equipment: Easel
- B. Supplies: Handouts
Sample foods and food containers
- C. Instructional Resources: Posters
Food Pyramid

Six Class Schedule

• Class One

Class assessment
Introductions — self, couples, book, teaching area
Anatomy & body changes during pregnancy
Nutrition
Tests during pregnancy
Sex and hormones
Choosing a caregiver and place of birth
Exercise
Pelvic floor exercise
Pelvic tilt exercise
Closing activity

• Class Two

Reintroductions
Brief review of anatomy and exercises
Relaxation
Partner-enhanced relaxation
Keeping baby healthy during pregnancy
Signs of labor/preterm labor
Parenting and child care
Getting ready for labor
Breathing techniques — focal point & relaxing breath

• Class Three

Warm-up activity — getting ready for labor
Signs of impending labor
What it is like to be in labor (group activity)
Labor kit
Relaxation — partner-enhanced, in chair
Breathing technique practice
Labor slides/videos
Closing activity

• **Class Four**

Warm-up activity
Dealing with pain in labor
What might happen during labor?
“Thinking” into relaxation
Breathing technique practice with labor kit
Labor partnering
Drugs in labor
Labor from start to finish
Closing activity

• **Class Five**

Brief relaxation and breathing practice
Pushing
When the unplanned happens
Cesarean birth
Unexpected birth without a caregiver
Labor rehearsal

• **Class Six**

The newborn
What happens to the baby after birth?
Newborn tests
Baby feeding
Taking care of baby at home
Circumcision
Life after birth
Evaluation and closure

Sample: Four Class Schedule

• Class One

Class assessment
Introductions — self, couples, book, teaching area
Anatomy & body changes during pregnancy
Nutrition
Tests during pregnancy
Sex and hormones
Exercise
Pelvic floor exercise
Pelvic tilt exercise
Relaxation and partner-enhanced relaxation
Keeping baby healthy during pregnancy
Signs of labor/preterm labor
Parenting and child care
Closing activity

• Class Two

Reintroductions and warm-up activity
Brief review of anatomy
Getting ready for labor
Signs of impending labor
What it is like to be in labor
Labor kit
Relaxation — partner-enhanced, in chair
Breathing technique practice
Labor slides/videos
Dealing with pain in labor
What might happen during labor
Closing activity

• **Class Three**

Warm-up

“Thinking” into relaxation

Breathing technique practice with labor kit

Labor partnering

Drugs in labor

Labor from start to finish

Pushing

When the unplanned happens

Cesarean birth

Brief labor rehearsal

• **Class Four**

Labor rehearsal

The newborn

What happens to the baby after birth

Newborn tests

Baby feeding

Taking care of baby at home

Circumcision

Life after birth

Evaluation and closure

Sample: Two Class Schedule

• Class One

Introductions — self, couples, book, teaching area
Class assessment
Anatomy & body changes during pregnancy
Relaxation
Partner-enhanced relaxation
Breathing techniques, introduction to
Getting ready for labor (check list and labor kit)
Signs of impending labor
What it is like to be in labor (group activity)
Dealing with pain in labor
What might happen during labor
Breathing techniques, practice
Labor partnering
Brief review of learner objectives

• Class Two

Review of class one
Drugs in labor
Labor from Start to Finish
Relaxation and breathing practice with labor kit
Pushing
What if something unplanned happens
Cesarean birth
The new mother after birth
Labor rehearsal
The newborn
What happens to the baby after birth
Baby feeding
Taking care of baby at home
Evaluation

Action Verbs for Learning Objectives

Abstract	Describe	Maintain	Revise
Activate	Design	Manage	Rewrite
Acquire	Detect	Modify	
Adjust	Develop		Schedule
Analyze	Differentiate	Name	Score
Appraise	Direct		Select
Arrange	Discuss	Observe	Separate
Articulate	Discover	Operate	Sequence
Assemble	Discriminate between	Order	Sing
Assess	Distinguish	Organize	Sketch
Assist	Draw		Simplify
Associate	Dramatize	Perform	Skim
		Plan	Solve
Breakdown	Employ	Point	Specify
Build	Establish	Predict	State
	Estimate	Prepare	Structure
Calculate	Evaluate	Prescribe	Summarize
Carry out	Examine	Produce	Supervise
Catalog	Explain	Propose	Survey
Categorize	Explore		Systematize
Change	Express	Question	
Check	Extrapolate		Tabulate
Cite		Rank	Test
Classify	Formulate	Rate	Theorize
Collect		Read	Trace
Combine	Generalize	Recall	Track
Compare		Recommend	Train
Compute	Identify	Recognize	Transfer
Contrast	Illustrate	Reconstruct	Translate
Complete	Implement	Record	
Compose	Improve	Recruit	Update
Compute	Increase	Reduce	Use
Conduct	Infer	Reflect	Utilize
Construct	Integrate	Relate	
Convert	Interpret	Remove	Verbalize
Coordinate	Introduce	Reorganize	Verify
Count	Investigate	Repair	Visualize
Criticize		Repeat	
Critique	Judge	Replace	Write
		Report	
Debate	Limit	Reproduce	
Decrease	List	Research	
Define	Locate	Restate	
Demonstrate		Restructure	