

How to Write Learning Competencies and Objectives

ISUCVM Office of Curricular and Student Assessment

Please help us “map” our curriculum! This will only work if we can clearly pinpoint the knowledge and skills we teach, where they are taught, and the depth to which they are taught. Following the recommendations in this document should help facilitate and standardize that process for the College of Veterinary Medicine.

Definitions

Learning competencies are the main ideas or skills you expect students to master (these are also called “goals”) We expect there to be 3-6 of these for each credit hour of instruction.

Examples:

1. Provide a morphologic diagnosis given a gross tissue specimen of the liver.
2. Diagram how urine is created.
3. Demonstrate aseptic technique.

Learning objectives are the specific abilities necessary to accomplish the learning competency.

Examples:

1. Given a piece of paper and a pencil, draw and label the micro anatomy of the kidney including all structures relevant to the production of urine from the afferent arteriole to the renal pelvis and ureter.
2. Given a number of multiple choice items, correctly identify the direction of flow and content of the flow of water, cells, proteins, Na, Cl, Urea, K, H from when blood enters the afferent arteriole til urine is deposited in the ureter.
3. Given a surgical gown pack and sterile gloves, put on the gown and gloves without breaking sterility of the gloves and gown.

What we need each course instructor or designee to do:

1. Write 3-6 learning competencies for each credit hour of instruction in your course(s), using the format described in this document.
2. Write 2-10 learning objectives for each learning competency using the format described in this document.
3. Give your competencies and objectives to Dr. Jared Danielson (jadaniel@iastate.edu).

What if I have already written competencies and objectives for my course?

If you already have a syllabus or similar document that has competencies and objectives, please feel free to send your existing documents to Dr. Danielson, and assessment staff will attempt to put those into the standardized format. However, depending on the current format of your competencies and objectives, we may need to solicit your input! If you choose to send documents you already have, you can help us by “coding” your document for us. For example, you could highlight main ideas/skills (instructional competencies) in yellow, and you could highlight instructional objectives in green, indicating which instructional competency each objective supports.

Learning Competencies

Guidelines

1. Outline the major skills or big-picture ideas you are teaching students
2. Tell what you want learners to be able to do by the end of your course
3. Most classes will have **3 to 6 main ideas/skills per credit hour**

Elements of a well-written Learning Competency (big-picture idea/skill):

- Begin with an action verb (one verb)
- Clear and concise (short)
- Includes a student **behavior** you can observe and measure
- Avoid the words “know”, “learn”, and “understand”

Good Examples

- Perform venipuncture
- Implement infection control strategies
- Administer medications via the intravenous route
- Describe how the components of the innate immune system interact
- Explain how primary and secondary immunodeficiency relate to disease
- Obtain a health history

Poor Examples

- Understand venipuncture
- Cannot observe “understanding”
- Be aware of infection control strategies
- Awareness is difficult to define or measure
- Learn about administering IV medications
- Not an active outcome
- Understand how the components of the innate immune system interact
- Cannot observe “understanding”
- Understand primary vs. secondary immunodeficiency and how they relate to disease
- Cannot observe “understanding”
- Know how to obtain a health history
- Cannot observe “knowing how”

In some courses, one or two nearly identical learning competencies might be repeated for slightly different contexts, or content areas (such as organ systems). For example, in Clinical Pathology the learning competency “interpret clinical laboratory data . . .” is replicated for multiple systems or sub-systems of particular interest.

For Example:

- Interpret clinical laboratory data associated with erythrocytes
- Interpret clinical laboratory data associated with leukocytes
- Interpret clinical laboratory data associated with hematopoietic neoplasia
- Interpret clinical laboratory data associated with fluids, electrolytes, and acid base balance
- etc.

Learning Objectives

Guidelines

1. Describe specific activities a student will do to show that he or she has learned
2. Include 2-10 learning objectives for each Learning Competency (main idea or skill)
3. **A**udience + **B**ehavior + **C**ondition + **D**egree = Learning Objective (ABCD)

Elements of a well-written Learning Objective (ABCD)

- A**udience – Who is doing the learning? Often this can be stated once for the entire course, and therefore can be omitted from individual objectives.
- B**ehavior - Indicate the task, product or process you will observe or measure (action)
- C**ondition - Indicate the resources available, where performed and/or what information is given to learner
- D**egree - Indicate the measure of success or expectations for satisfactory performance (criteria)
 - o Degree/criteria may include accuracy, speed, frequency, percentage or number to be achieved, degree of excellence, qualities/elements of performance, or may reference published standards

Examples

<u>Audience</u>	<u>Behavior</u>	<u>Condition</u>	<u>Degree</u>
<ul style="list-style-type: none">• VM1 (2, 3, etc.) students• Graduate students with a DVM degree	<ul style="list-style-type: none">• Describe• Diagnose• List• Perform• Interpret	<ul style="list-style-type: none">• in a written assignment...• in a classroom setting...• by the end of the semester...• using a given set of lab values...• provided a case study...• while performing surgery ...	<ul style="list-style-type: none">• report exhibits correct grammar, usage, spelling, and punctuation• relevant history items are all complete and accurate• Anatomical structures are identified with complete accuracy within 5 minutes• learner follows standard procedures for controlling hemorrhage

Learning Competency: Show how the components of the innate immune system interact

(In the effective examples, **Behaviors** are bolded, *Conditions* are italicized, and Degree is underlined.)

Effective Learning Objectives

- *Given a scenario of a stressed animal*, the student will **explain, succinctly and including all key mechanisms, how the margination pool influences neutrophil count.**
- *Given a bacterial infection in a specified part of the body*, the student will **describe to a molecular level how a neutrophil leaves the bloodstream, arrives at the site and kills the bacteria.**

Less Effective Learning Objectives

- Understand what happens with the margination pool and neutrophil counts in stressed animals.
 - No behavior, condition or degree
- Know the steps involved in a neutrophil going from the blood stream to killing bacteria.
 - No behavior, condition, or degree

Learning Competency: Evaluate and manage a traumatic wound

Effective Learning Objective

- *Provided a selection of materials and a specific kind of wound*, **correctly bandage a wound on an extremity.**

Less Effective Learning Objective

- Learn how to apply bandages to extremities.
 - Learning not observable. No condition or degree.