

AN EASY WAY TO WRITE LEARNING OBJECTIVES

Gail March, Ph.D.

Office of Medical Education

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WHY? LCME STANDARDS

The Liaison Committee on Medical Education (LCME) sets the educational standards for a medical school to be accredited.

6.1 FORMAT / DISSEMINATION OF MEDICAL EDUCATION PROGRAM OBJECTIVES AND LEARNING OBJECTIVES

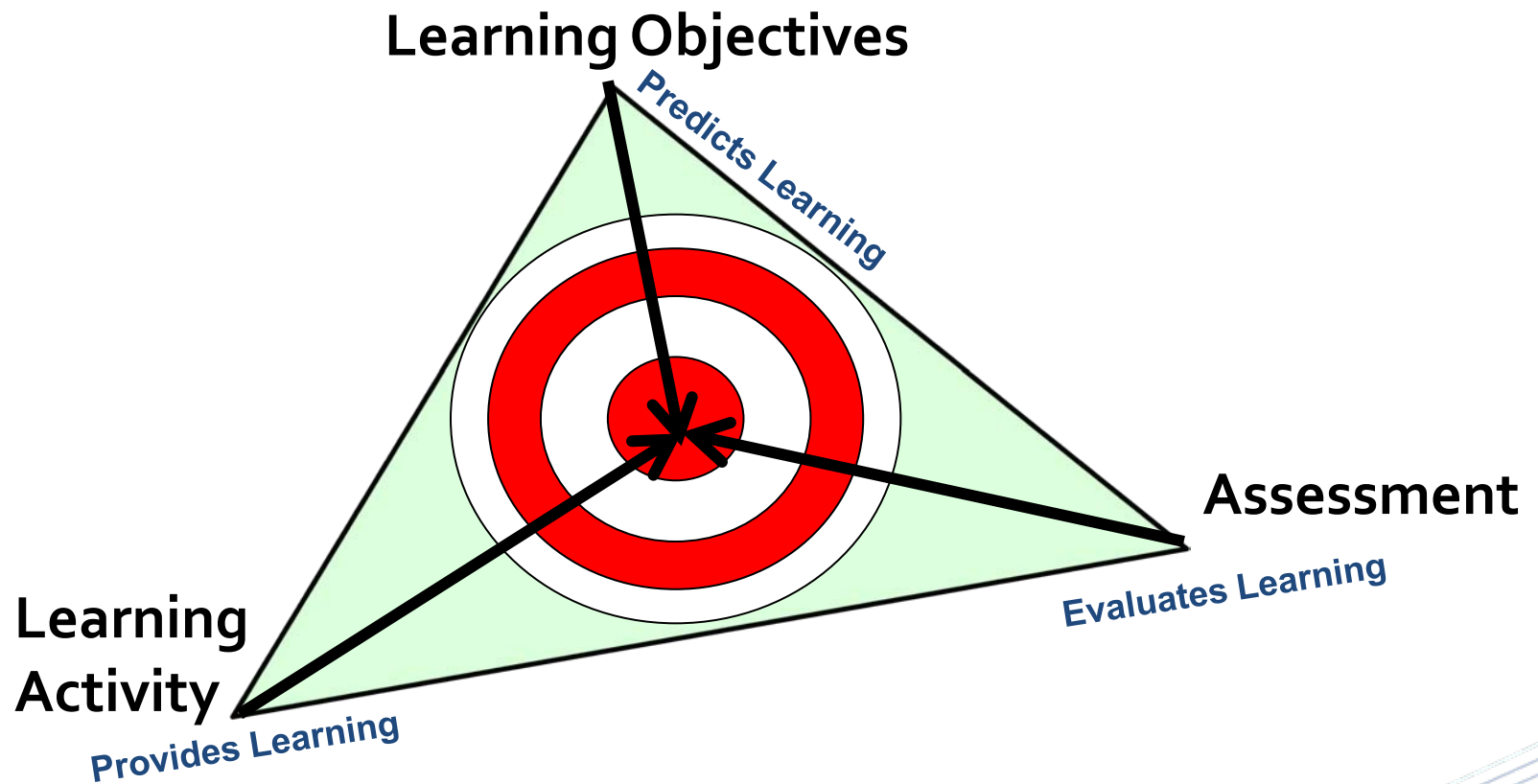
- The faculty of a medical school define its medical education program objectives in **outcome-based terms** that allow the assessment of medical students' progress in developing the competencies that the profession and the public expect of a physician. The medical school makes these medical education program objectives known to all medical students, faculty, residents, and others with responsibility for medical student education and assessment. In addition, the medical school ensures that the learning objectives for each required learning experience (e.g., course, clerkship) are made known to all medical students and those faculty, residents, and others with teaching and assessment responsibilities in those required experiences.

HOW? LEARNING OBJECTIVES HELP

By writing a learning objective, you:

- **Describe** to your students what you value and expect them to be able to do in your session
- **Specify** the desired learning outcomes that can be tested
- **Assess** the student's performance and determine if the educational session is effective

THE MAGIC TRIANGLE



Align Session Learning Objectives to **BUSM Institutional Learning Objectives**

- The acronym BU CARES stands for the BUSM education program's seven fundamental objectives, which describe the knowledge, skills, and attitudes that every graduate should possess. The principles behind BU CARES guide the management of the curriculum, inform student assessments, and form the basis of all course and clerkship learning objectives. Each learning objective must be matched to the appropriate letter(s) of BU CARES.
- BU CARES can be found at the website:
<http://www.bumc.bu.edu/oaa/institutional-learning-objectives/>

CLARIFYING THE TERMS

Goal = a broad statement of expected learning outcomes for a learning experience
(purpose of the lecture/video/clinical visit)

Learning objective = a specific statement of observable student behaviors that can be evaluated and contributes to reaching the goal.
(student learning performance)

Goals are measured using learning objectives.

A GOAL HAS MANY LEARNING OBJECTIVES

- **GOAL** (Family Medicine Clerkship provides basic clinical skills)
 - **Terminal Learning Objective** (describe the diagnostic criteria for diabetes mellitus)
 - **Enabling Learning Objective** (define diabetes mellitus)
 - **Enabling Learning Objective** (recognize the diagnostic criteria for diabetes mellitus)
 - **Terminal Learning Objective** (analyze the epidemiology of type 2 diabetes mellitus in specific populations)
 - **Enabling Learning Objective** (differentiate type 1 and type 2 diabetic patients)
 - **Enabling Learning Objective** (identify specific populations with a large number of type 2 diabetic patients)

DIFFERENT LEARNING OBJECTIVE DOMAINS

<u>Learning Objective</u>	<u>Student performance involves</u>	<u>Examples</u>
Cognitive	factual knowledge	Identify the bone structure of the chest
Affective	specific attitudes, beliefs, emotions or role expectations	listen attentively to patient's concerns about his/her breathing
Psychomotor	using and coordinating the skeletal muscles and 5 senses	Position the chest for an image

FOLLOW THE A + B + C + D LEARNING OBJECTIVE FORMAT

A = Audience = Who are the learners?

B = Behavior = What to do expect them to do?

C = Condition = What do they need to perform the behavior?

D = Degree = How well will the learner need to perform the behavior?

A = TARGET THE LEARNERS

Who will perform the behavior in the class?

Identify the Learner by student's year, name of class/lecture, and when the class takes place

What do they already know about the course topic?

To identify the appropriate content level for learners

How do they learn?

Recognize a variety of learning styles

Consider language, cultural and physical challenges

A = audience = "BUSM III students in Family Medicine Clerkship"

BEGIN WITH WRITING THE LEARNING OBJECTIVE STEM

Identify the:

- **Time** (e.g., After the class, By the end of, As a result of)
- **Name of class/lecture/session**
- **Learner** (BUSM I, II.III. IV student)

Examples:

**By the end of the Pediatric clerkship block 14, the
BUSM III student will be able to:**

**After the Spring 2009 lecture/discussion/clinic, the
BUSM II year student will be able to:**

**“The student will be able to:” does NOT give enough
info (unless previously stated)**

B = WHAT WILL THE LEARNER BE ABLE TO DO?

Behavior = Action verb* + content

- An action verb describes an observable performance
- Behavior is an observable verb using the content

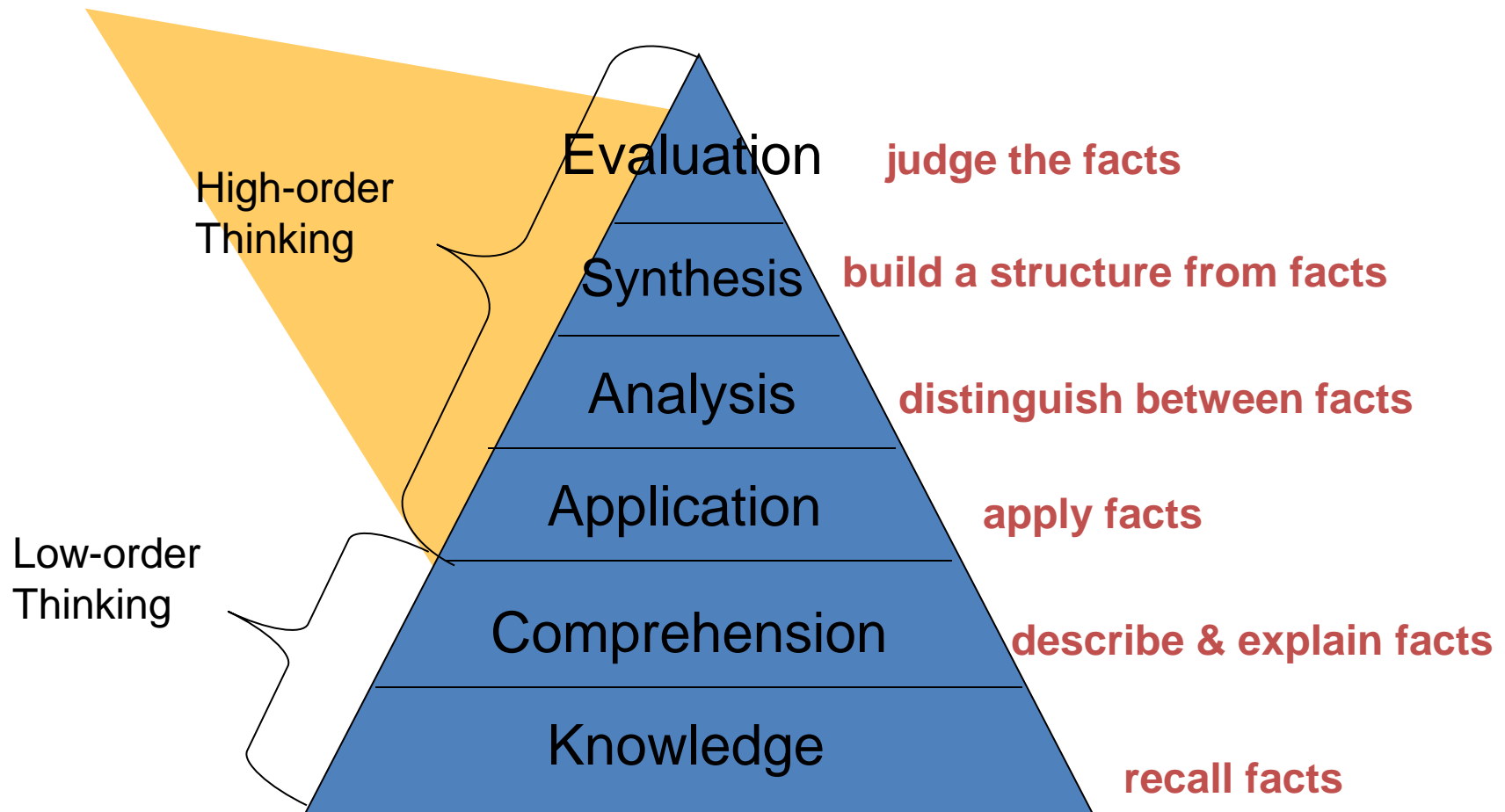
B = behavior = “describe the diagnostic criteria for diabetes mellitus”

USE OBSERVABLE ACTION VERBS*

6. Evaluation: argue, assess, choose, defend, estimate, judge, predict, rate, score, elect, support, value, evaluate
5. Synthesis: arrange, assemble, collect, compose, construct, create, design, formulate, manage, organize, plan, prepare,
4. Analysis: analyze, appraise, calculate, categorize, compare, contrast, diagram, differentiate, discriminate, distinguish,
3. Application: apply, choose, demonstrate, employ, illustrate, interpret, operate, practice, sketch, solve, use
2. Comprehension: classify, describe, discuss, explain, identify, indicate, locate, recognize, report, review, select, translate
1. Knowledge: define, label, list, name, order, recognize, recall, reproduce

*6 Levels of Cognitive Domain Action Verbs from
B. Bloom's Taxonomy of Educational Objectives

Aim for Higher-Order Thinking



Bloom, B. Taxonomy of educational objectives. The classification of educational goals handbook 1; cognitive domain.

SEQUENCE THE LEARNING OBJECTIVES

4. Problem-solving

**To apply principles
and predict outcomes**

3. Principle learning

**To relate two or
more concepts**

2. Conceptual learning

To classify information

1. Factual learning

To recall information

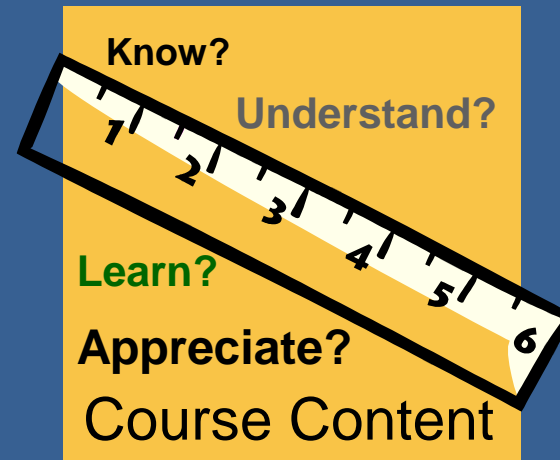


CAN YOU WRITE A TEST ITEM ON YOUR LEARNING OBJECTIVE?

Assessment measures the learning objectives

Objectives are written in such a way that one can assess a student's success or failure at meeting the objective.

- Know the content
- Understand the content
- Learn the content
- Appreciate the content



The above verbs are too open to interpretation and are difficult to measure, so please DO NOT USE

USE ACTION VERBS

Open to interpretation

Do NOT use:



Know, be familiar with

Understand

Learn

Appreciate

Be Aware

Describes active learning

Do use a specific observable behavior:



define, list, recall

describe, explain, identify

name, label, classify

appraise, judge, evaluate

recognize, differentiate

REPLACING “UNDERSTAND”

Many instructors tend to use “understand” in their learning objectives, but it does not specify the learning behavior to be observed and measured in assessments.

To replace “understand, ask yourself: What should the student be able to do if the student understands the content?

- Give examples of the content
- Determine the correct method to...
- Discuss the pros and cons of...
- Identify elements in a given case
- Apply the correct techniques

C = WHAT DO THEY NEED TO BE ABLE TO PERFORM THE LEARNING OBJECTIVE?

C = Conditions = requirements for learning

- ✓ Text book
- ✓ Equipment (lab coat, stethoscope, microscope...)
- ✓ Setting (small group, clinical site, lab)
- ✓ Computer access

C = Conditions = Chapter 27 of the *Essentials of Family Medicine* textbook

D = HOW WELL WILL THE LEARNER NEED TO PERFORM THE LEARNING OBJECTIVE?

Degree = the criteria for assessing performance

- List correctly 2 out of the 3 answers
- Provide a percentage of the results (75% of the treatment options)
- Name the answer (100% correct answer is often implied)

D = Degree = correctly

A + B + C + D **FORMAT**

A = Audience = **BUSM III students in Radiology Clerkship**

B = Behavior = identify normal anatomy and common pathologic entities

C = Conditions = on diagnostic imaging studies

D = Degree = correctly

Learning Objective:

By the end of the Radiology Clerkship, the BUSM III student (**audience**) will be able to identify normal anatomy and common pathologic entities (**behavior**) on diagnostic imaging (**condition**) correctly (**degree**).

FOR A LEARNING OBJECTIVE WITH MULTIPLE LEARNING OBJECTIVES

Learning Objective stem

- Active verb + content + conditions+ degree
- Active verb + content + conditions+ degree
- Active verb + content + conditions+ degree

By the end of the Learning Objectives module, the learner will be able to:

- Identify the reasons and benefits of writing learning objectives
- Differentiate the focus of a goal from a learning objective
- Compose a learning objective using the A + B+ C+ D format
- Apply outcome-based action verbs to describe expected learner behavior

ANY QUESTIONS?

- Contact OME Faculty Development
 - **Gail March, Ph.D., (617) 414-7440, gmarch@bu.edu**
 - check out the Faculty Development website at **<http://www.bumc.bu.edu/fd>**

- Refer to these references:
 - **Bloom, B. (1984). The taxonomy of educational objectives:--Cognitive Domain. NY: Longman.**
 - **Kemp, J.(1977), Instructional design. Belmont, CA: Fearon Publishers.**
 - **Kern, David E. et al.(1998). Curriculum development for medical education. Baltimore, MD: The John Hopkins University Press.**
 - **Gronlund, NE.(1991). How to write and use instructional objectives. NY: MacMillan.**