

Creating Learning Objectives



Effective Teacher Series

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UT Southwestern Medical Center

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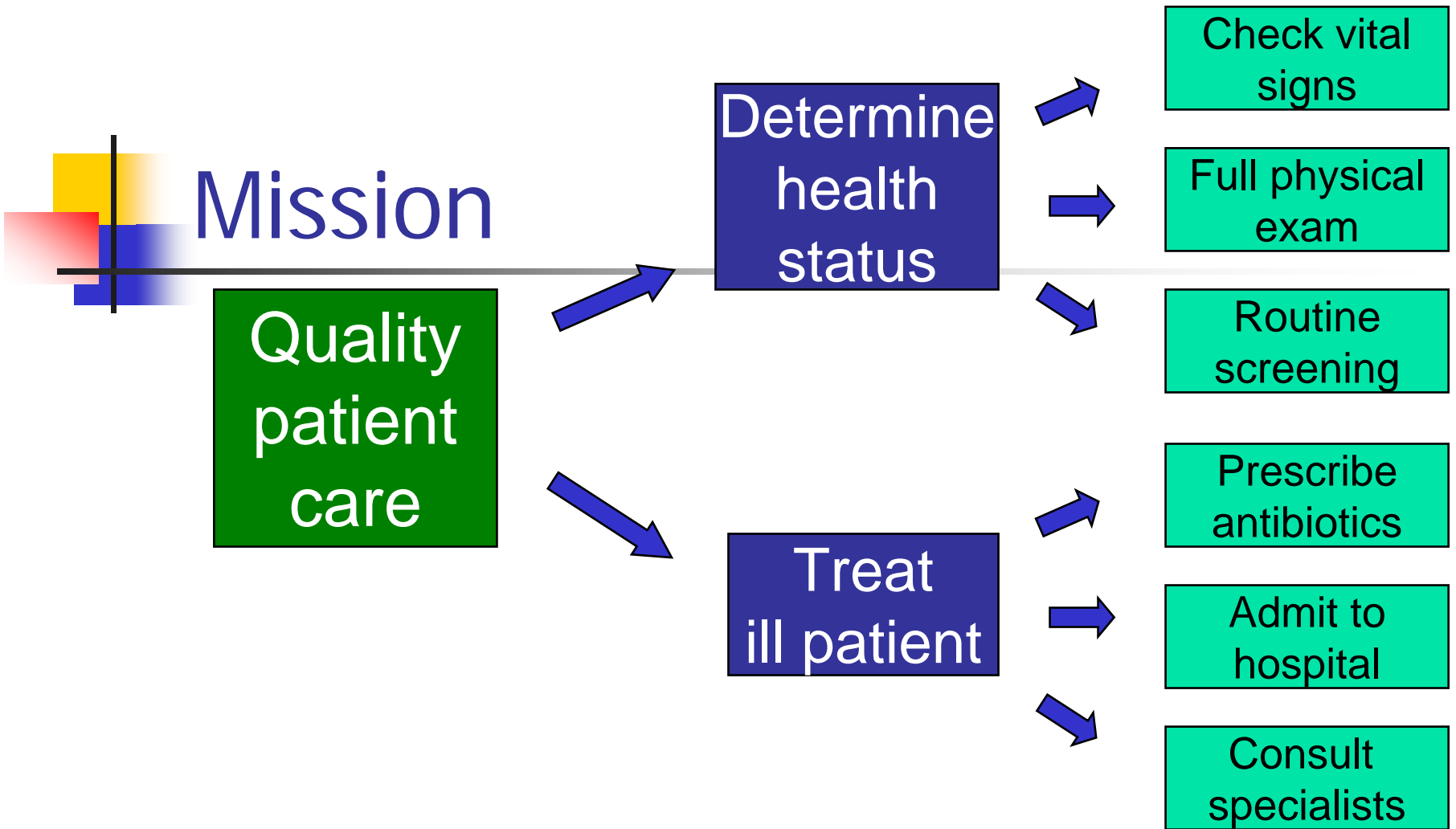
Objectives of this workshop

1. Know learning objectives real good
2. Fully understand how to write them
3. Definitely appreciate how to improve learning objectives
4. Be able to use learning objectives in your own teaching



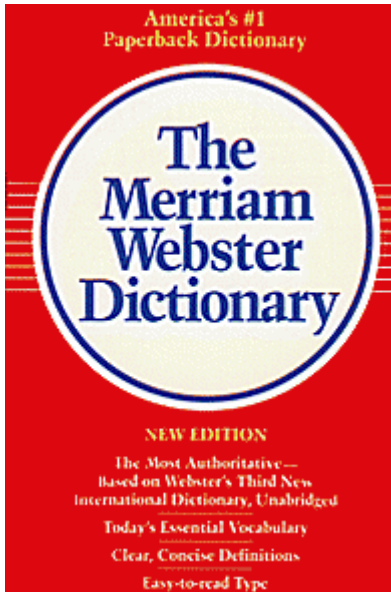
Objectives of this workshop

1. Define missions, goals, and objectives
2. State the rationale for learning objectives
3. Describe:
 - the anatomy of a learning objective (three parts)
 - the cognitive levels of performance (two levels)
4. Given a learning objective, identify strengths and weaknesses



A “Mission” is an even higher level of purpose for which multiple goals may be defined.

Goals vs. objectives



- According to Webster, not much difference!
 - Goal: the end toward which effort is directed
 - Objective: something toward which effort is directed : an aim, goal, or end of action
- But in education these words tend to be used differently



Distinguishing goals from objectives

<u>Goal</u>	<u>Objective</u>
General	Specific
Indirectly observable	Directly observable and measurable
Medium to high inference	Low inference

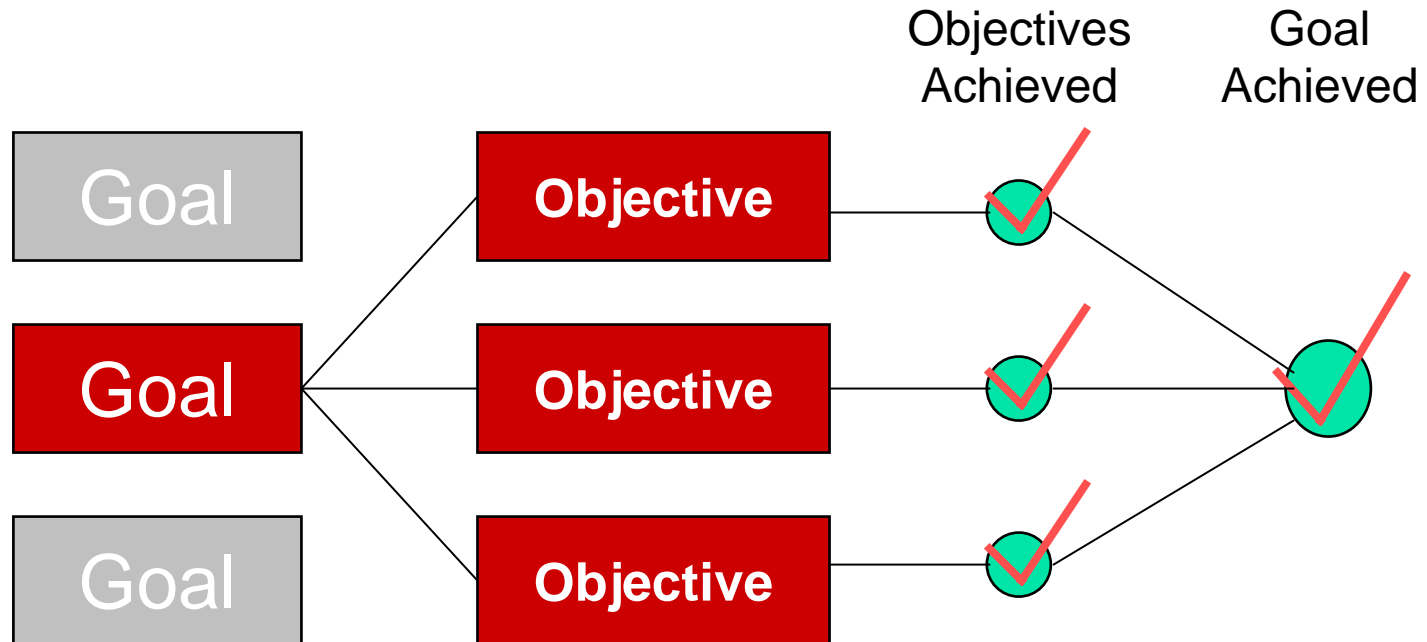


Example:

Goal: Understand the medical problems afflicting infants during the first month of life.

Related objective: Given a simulated patient, accurately obtain a history of pregnancy and perinatal events relevant to the newborn.

How to achieve goals? One objective at a time!





Example:

Goal: Determine health status of patients.

Related objectives:

- Check patient's vital signs.
- Perform full physical exam.
- Check routine screening blood tests.
- Check chest x-ray.
- Check EKG.



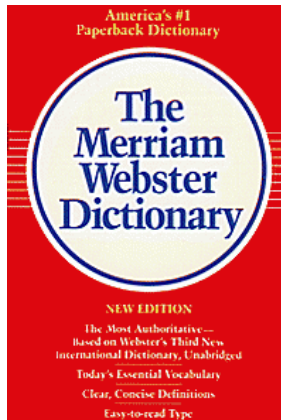
Why goals?

Why not just objectives?

We need both:

- Unless we link objectives to a goal, we may lose sight of *why* we want to achieve an objective.
- Without objectives, we aren't sure how to measure progress towards the goal.

What is a learning objective?



Webster's definition of "objective":
something toward which effort is directed; an aim, goal, or end of action.

An educational definition:
a statement of what learners are expected to demonstrate to show that they have learned.



What is a learning objective?

Example:

Given a history and physical examination of a patient with chest pain in an emergency department, diagnose myocardial infarction within fifteen minutes.



What is a learning objective?

Learning objectives should be stated in terms of what the **learner** will do rather than what the teacher will do:

Example of a teacher-centered objective (bad!):

This lecture will explain the cardiovascular system...



Rationale: why we need objectives

- Defines expected outcomes of instruction for both teachers and learners
 - Knowledge
 - Skills
 - Attitudes
- Provides guidance for teaching and testing



A thought process for writing learning objectives

1. Consider, what knowledge, skills, and attitudes do you want your learners to have as an outcome of the instruction?
2. For each outcome, how would you complete the following statement? “After this learning experience, you should be able to _____.”



A thought process for writing learning objectives

3. Fine tune your objective:

- What level of learning (remember, apply) do you want learners to achieve for each objective?
- What verb/objective combination works best?
- What are the conditions under which the learner should demonstrate learning?
- What are the criteria of success?



Steps in writing objectives

Step 1. Finish the sentence: "After completing this instruction, you should be able to..."

Step 2. Make sure the verb and its object clearly specify what the learner will actually do to show that learning has occurred. It must be observable!

Step 3. Specify any conditions and criteria for judging acceptable performance.

Example:

- ~~1. Understand everything about learning objectives~~
- ~~2. Write a learning objective~~
3. In a content area of your choice, write a 3-part learning objective that specifies the expected action, conditions, and criteria (within 10 minutes).



Anatomy of an Objective: The 3 Parts

1. Conditions

- what is “given” to the learner

2. Action

- a verb
- and its object

3. Criteria

- standards of acceptable performance

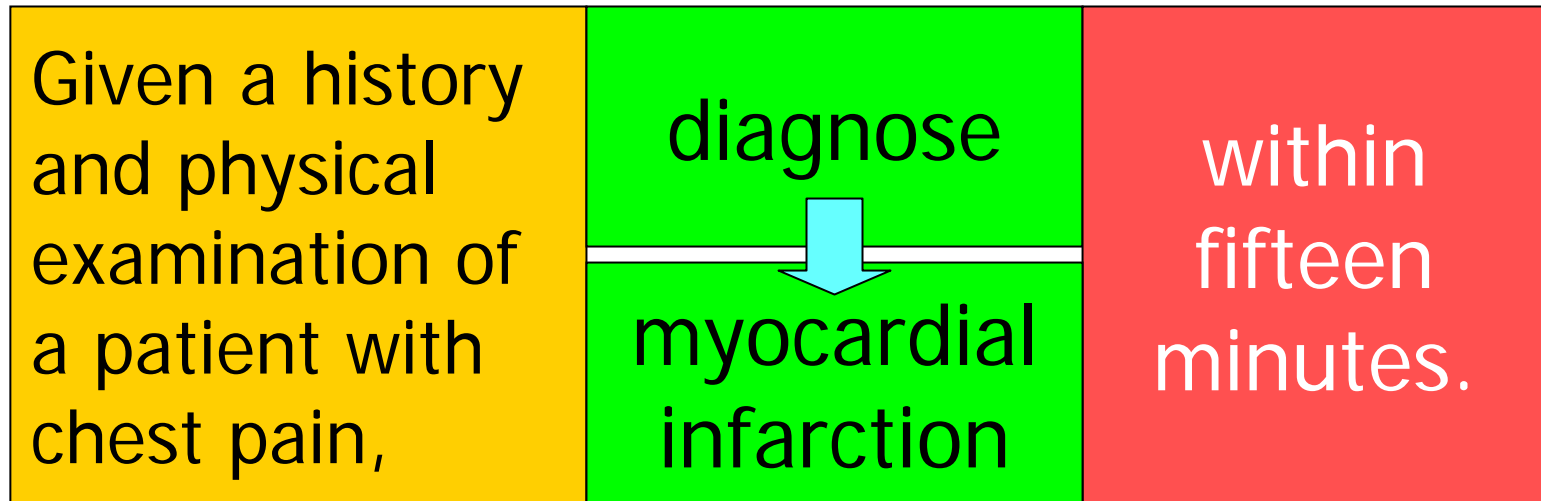
Anatomy of an Objective: The 3 Parts

Condition

Action

Criterion

Verb



Object



Anatomy of an Objective: The 3 Parts

Use of the three parts:

- *action* is always used
- *conditions* and *criteria* are used as needed to be clear to learners and teachers



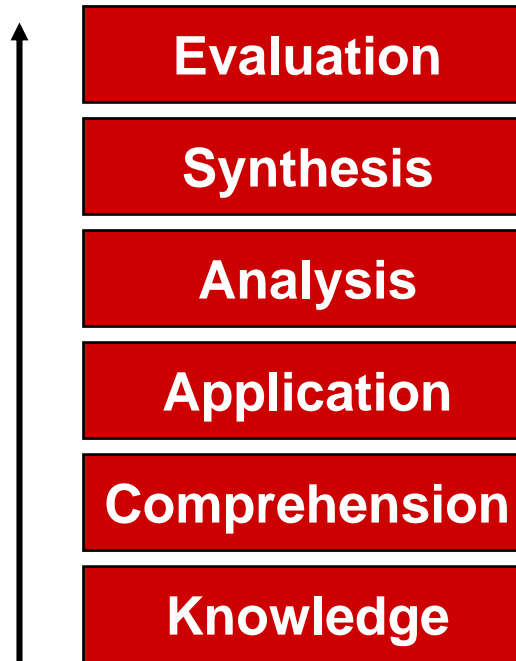
Cognitive Levels of Performance

- Bloom's taxonomy
- Clark's content-performance matrix

Bloom's Taxonomy: Levels of cognitive objectives

Six cognitive performance levels:

**Increasingly
complex
and
abstract
thinking**

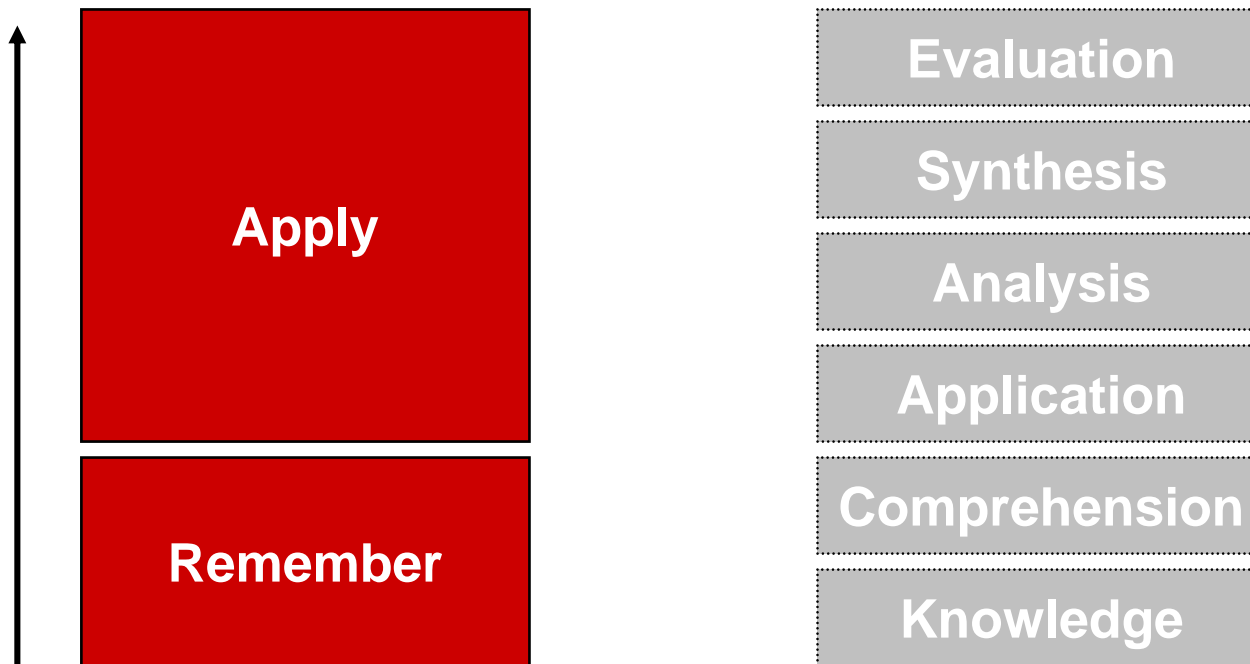


Bloom BS, ed. (1956). Taxonomy of educational objectives. New York: Longmans.



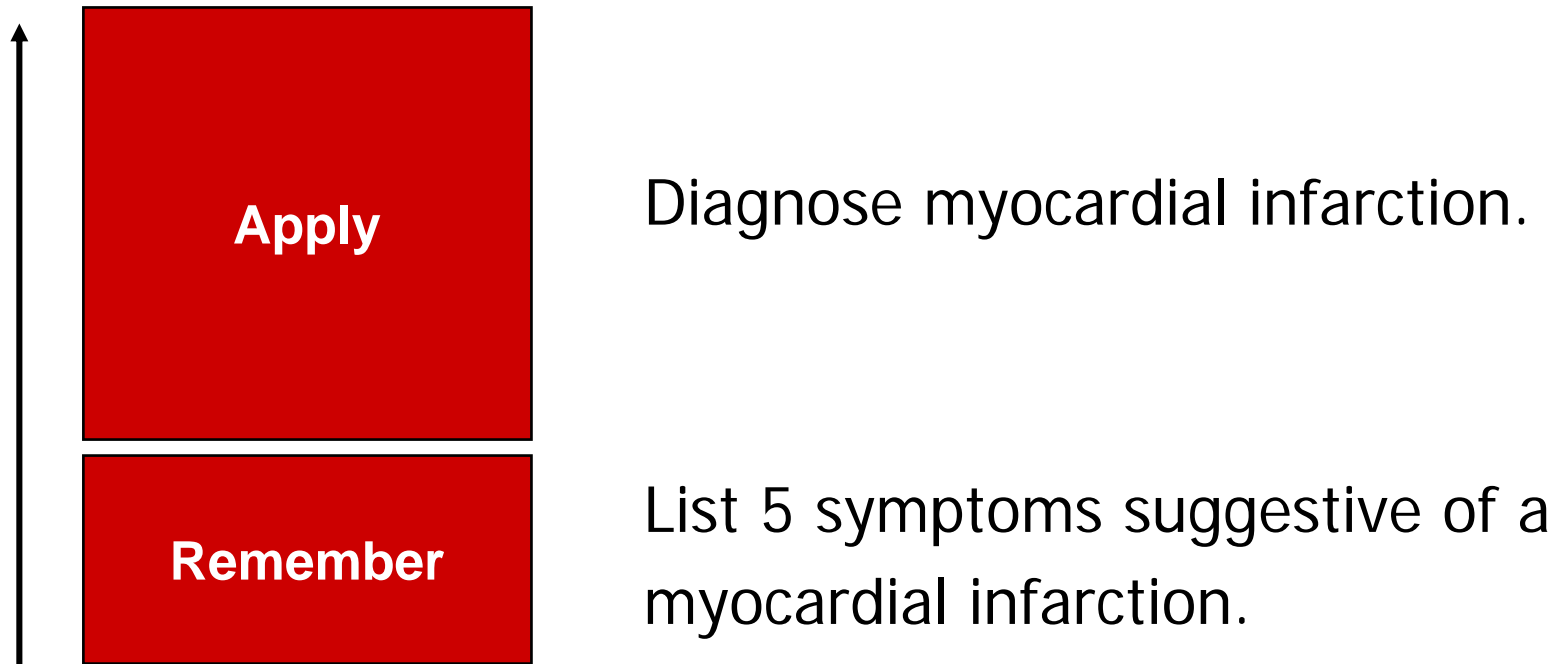
Clark's Content-Performance Matrix

Two performance levels: Remember & Apply





Clark's Content-Performance Matrix





Verb examples

- Remember-level

- Define
- Identify
- List
- Name or label
- Recite
- Select or choose

- Apply-level

- Arrange or sort
- Assemble
- Classify
- Compute
- Diagnose
- Diagram
- Treat



Avoid vague verbs!

Vague/Unobservable

- *Know*
- *Understand*
- *Be able*

Precise/Observable

- *Name*
- *Classify*
- *Perform*



Audience Response System Trial Run

Which of the following is your favorite?

- Ice cream (Press 1 or A)
- Apples (Press 2 or B)
- Broccoli (Press 3 or C)
- Pumpkin pie (Press 4 or D)
- Cranberry sauce (Press 5 or E)



Exercise 1

Classify objectives by level:

- Remember (press 1 or A)
- Apply (press 1 or B)



Remember (1) or Apply (2)?

- R** ■ Name the side effects of the 3 most common antibiotics.
- A** ■ Using a chart, calculate appropriate dosage for 45-pound child.
- R** ■ List five causes of joint pain.
- A** ■ Classify findings as significant or not significant to the presenting problem.
- R** ■ State the patient's history of present illness in your own words.
- A** ■ Rank order your differential diagnoses concerning the cause of the patient's symptoms.



Exercise 2

For each of the following learning objectives, identify its strengths and weaknesses.



Reviewing objectives

1. *Strong*
- 2.
- 3.
- 4.
5. *Weak*

Example:

Be able to identify a myocardial infarction.

Commentary:

- "be able to" is unnecessary (action)
- Do we mean "identify" or "diagnose"? (action)
- Given what? (conditions) a biopsy? A gross specimen? An EKG? A patient?
- Remember or apply?



Reviewing objectives

1. *Strong*
- 2.
- 3.
- 4.
5. *Weak*

Example:

Understand the anatomy of the skin.

Commentary:

- "Understand" is vague verb (action)
- Do we mean "identify" or "list"? (action)
- To what detail? (criterion) 5 layers? Types of cells?
- Given what? (conditions)
- Remember or apply?



Reviewing objectives

1. *Strong*
- 2.
- 3.
- 4.
5. *Weak*

Example:

Given a photomicrograph of normal skin, identify the five layers of the epidermis, the epidermal-dermal junction, and the dermis.

Commentary:

- "Identify" works in this context (action)
- "Given" is clearly stated (conditions)
- The number of layers is defined (criteria)
- Remember or apply?



Summary

- Objectives describe observable actions that we're willing to accept as an indication of learning.
- With clear objectives, students and teachers will know more precisely what they are expected to accomplish and whether they have achieved it.



Summary

- Objectives should have three components
 - Conditions (explicit or implied)
 - Action
 - Criteria (explicit or implied)
- An action verb is precise and observable
- The action should involve an appropriate level of performance
 - Remember
 - Apply