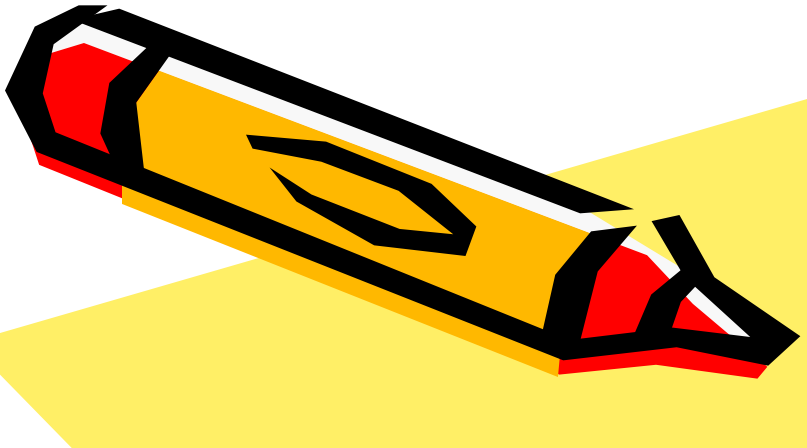
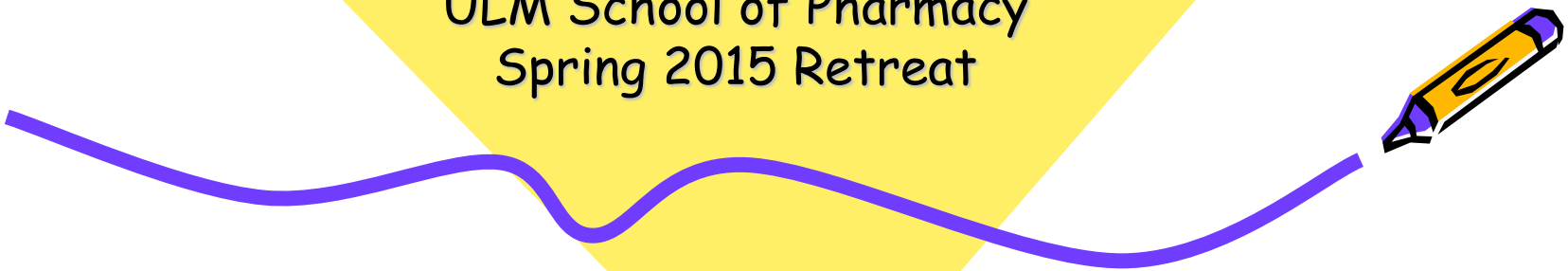
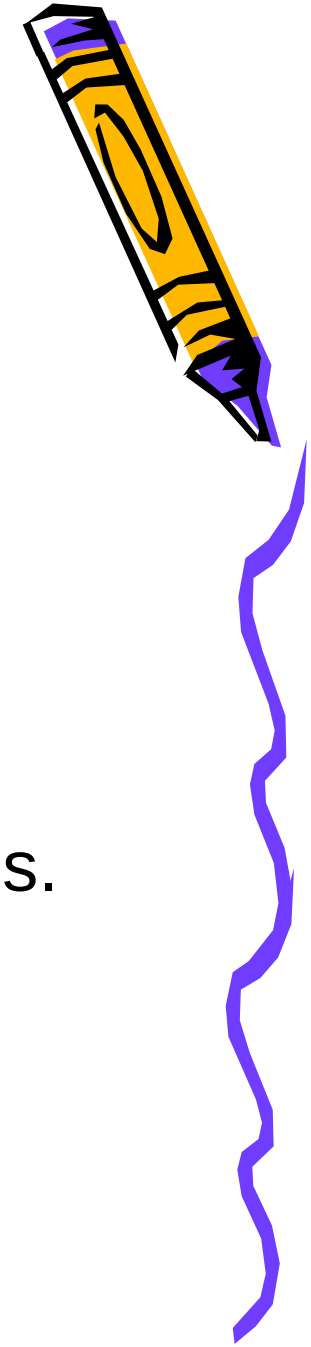


The ABCs of Learning Objectives

Michelle Zagar, Pharm.D., M.Ed.,CGP
ULM School of Pharmacy
Spring 2015 Retreat



Our Learning Objectives

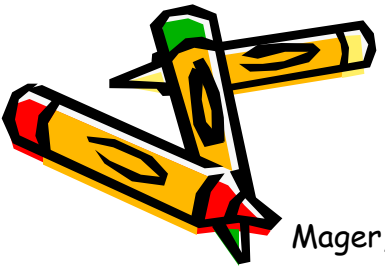


At the conclusion of this presentation, faculty should be able to:

- Distinguish between goals & objectives.
- Recognize the characteristics of useful learning objectives.
- List the 4 components of learning objectives.
- Identify observable, measurable verbs for writing objectives in the cognitive domain.

Background

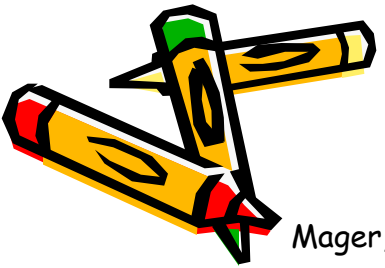
- Activities required for successful instruction
  1. Analysis
     - Consider what students already know
     - Consider what students need to know
  2. Design & development
     - Clearly specify what you intend to accomplish by instruction
     - Select & design learning experiences
  3. Implementation
  4. Evaluation & improvement
     - Assessment of student
     - Assessment of lesson / instructor



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Objectives

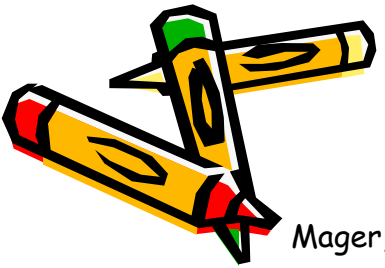
- 1962: Robert Mager's *Preparing Instructional Objectives*
- Learning Objective:
  - "a description of a performance you want learners to be able to exhibit before you consider them competent" p.5



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Why should we write objectives?

1. Needed to select & design appropriate materials, content, & methods
2. Provides evidence of objective accomplishment
3. Helps students organize study toward accomplishment of objectives



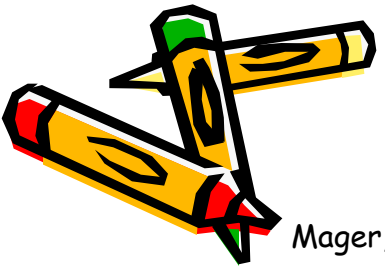
Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Goals vs Objectives

- Goals = broad, general, non-specific
  - Overall learning
    - *SoP goal: Promote wellness and disease prevention.*
- Objectives = specific, observable, measurable
  - Specific learning
    - *In-class objective: Identify patient characteristics for which diabetes screening should be recommended.*

Considerations in Objective Writing

1. Related to ***intended outcomes***, not process for achieving outcomes
2. Concerned with ***students***, not teachers
3. ***Specific*** & ***measurable***, not broad & intangible

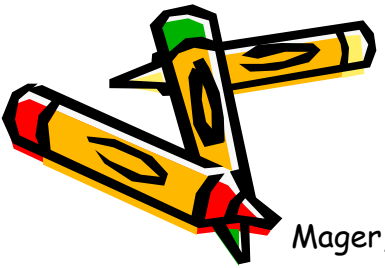


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Outcomes vs. Process

- Teaching & lecturing = part of instructional ***process***, ***not the purpose***

  – *To provide a lecture on antihypertensives.*

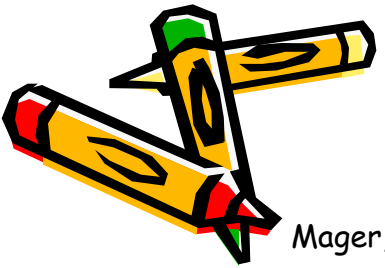


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Outcomes vs. Process

- Teaching & lecturing = part of instructional ***process***, ***not the purpose***

  – *Explain the basic pharmacology of ACE-inhibitors.*

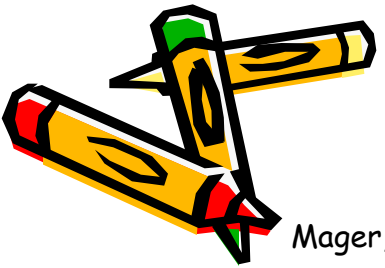


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Specific vs. General

- If objectives aren't specific enough, can't determine if they have been met

  – *Discuss Medicare Part D.*

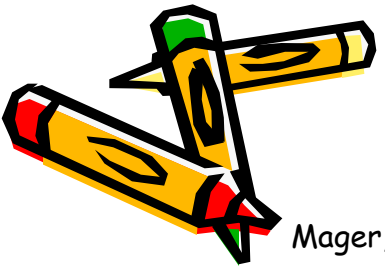


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Specific vs. General

- If objectives aren't specific enough, can't determine if they have been met

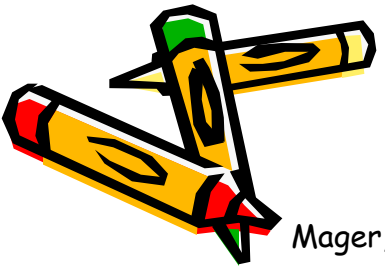
- *Outline the 5 phases of Medicare Part D benefits related to cost structure.*
- *Describe standard and low-income provisions of Medicare Part D.*
- *Differentiate drugs that are categorically covered and excluded by Medicare Part D.*



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Students vs. Instructors

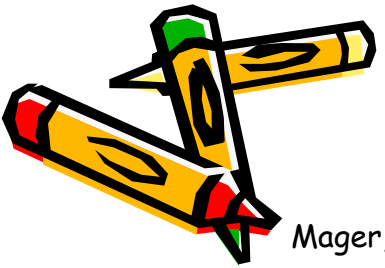
- ***LEARNING*** objectives should describe student's performance, not instructor's
- Ask “Who are my students & what should they be able to do at the end of MY instruction in THIS course?”
  - P1 vs P2 vs P3 vs P4 vs PGY1 vs PGY2 vs PhD vs BCPS



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Students vs. Instructors

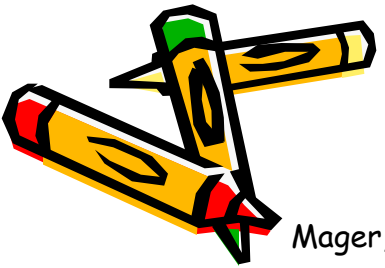
- ***LEARNING*** objectives should describe student's performance, not instructor's
- Ask “Who are my students & what should they be able to do at the end of MY instruction?”
  - *Outline the 5 phases of Medicare Part D benefits related to cost structure.* (P2 - 4077)
  - *Using the Medicare Plan Finder, justify the most appropriate stand-alone prescription drug plan for a given drug list.* (P2 - 4099)



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Students vs. Instructors

- ***LEARNING*** objectives should describe student's performance, not instructor's
- Ask “Who are my students & what should they be able to do at the end of MY instruction?”
  - *Given a patient’s list of medications and using the Medicare Plan Finder, provide Medicare prescription drug plan selection counseling and enrollment assistance.* (P4)

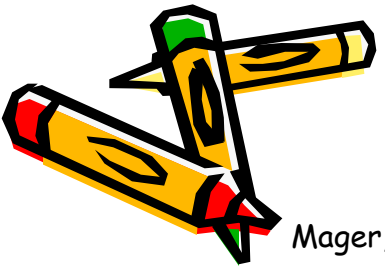


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Measurable vs. Unmeasurable

- Describe outcomes that can be observed

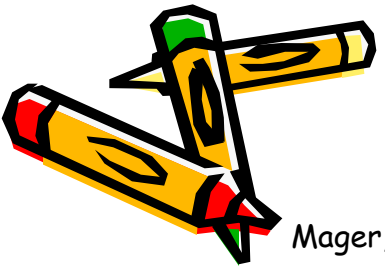
  – *Understand the physiology of aging.*



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Measurable vs. Unmeasurable

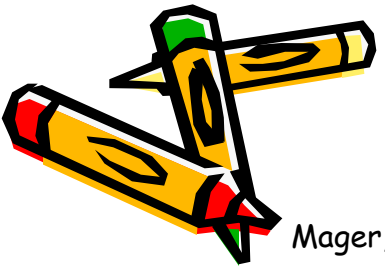
- Describe outcomes that can be observed
  - *Identify age-related changes in pharmacodynamic sensitivity to medications.*



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Components of Objectives

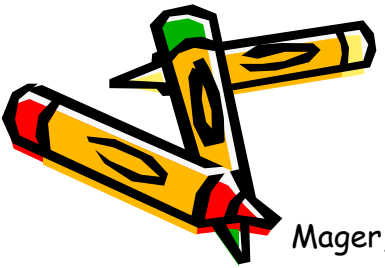
- A = Audience
- B = Behavior
- C = Condition
- D = Degree*



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

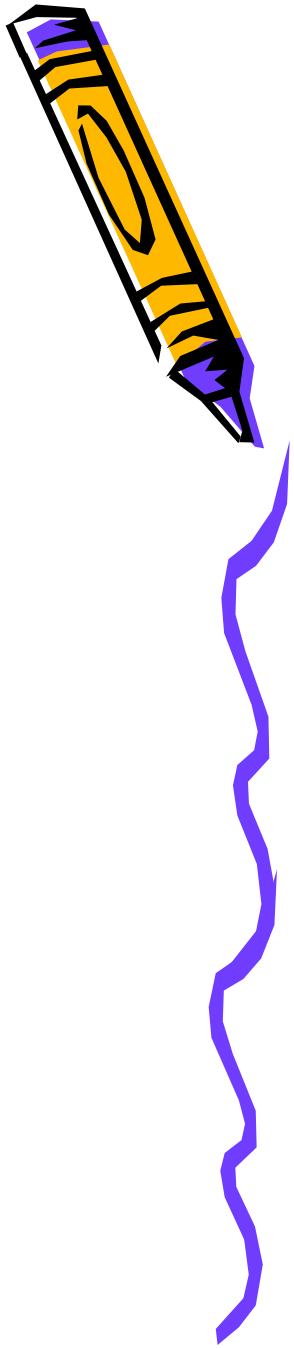
Components of Objectives

- A = Audience
  - LEARNING objectives are for ***students***, not teachers
    - The student will be able to…

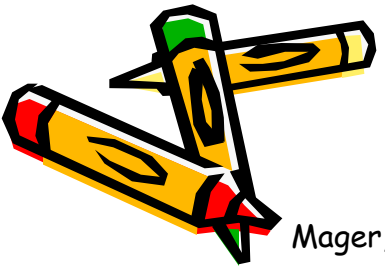


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Components of Objectives



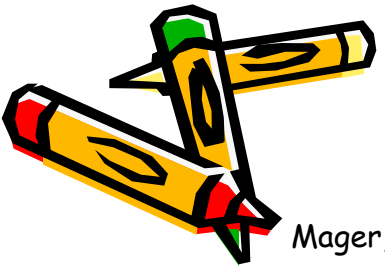
- B = Behavior
  - "skill or knowledge to be gained & the action or skill the student is able to do"
  - should be specific & singular



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Components of Objectives

- B = Behavior
  - The verb that describes the desirable behavior must be ***observable***.
    - What is the learner doing while demonstrating achievement of the objective?
  - Verbs can be categorized by domains of learning.

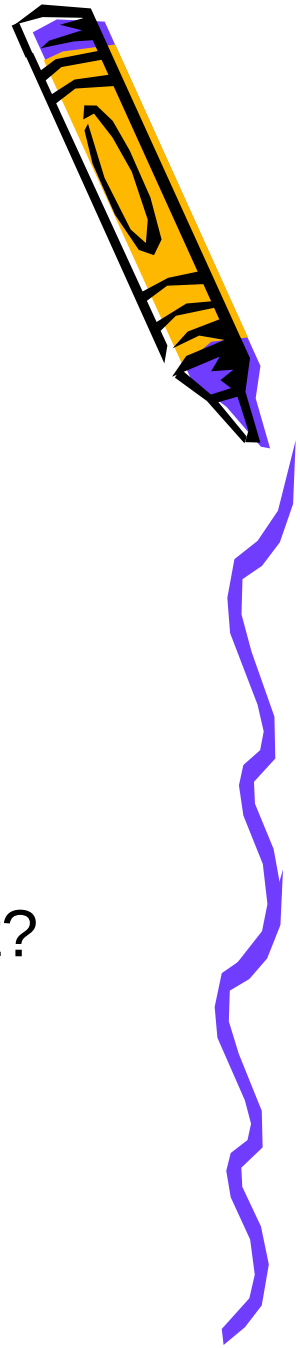


Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

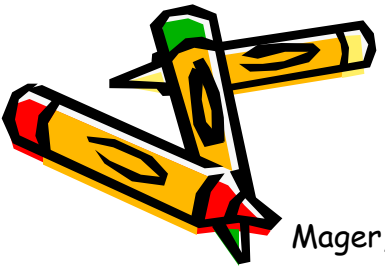
"The Verb"

- Helps to focus on what you will assess
- *The student will **do** research.*
  - Do = ?
    - State hypothesis?
    - Collect data?
    - Analyze data?
    - Interpret results?
    - Draw conclusions?
    - All of the above?

Domains of Learning



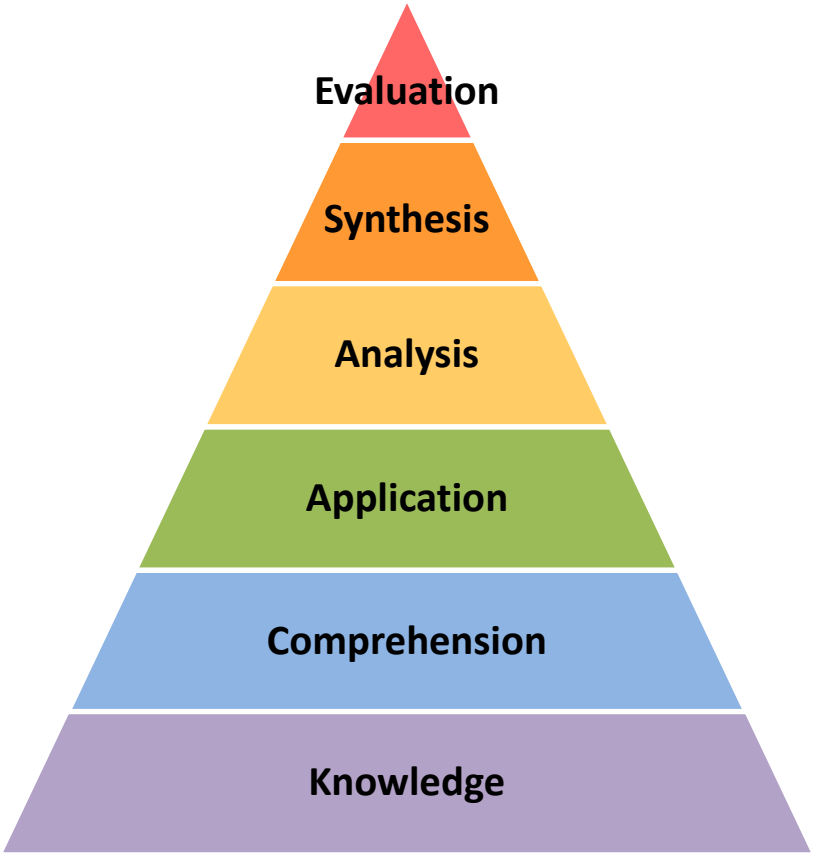
- Cognitive: emphasizes ***knowledge***
  - What should the student know?
- Psychomotor: focuses on ***skills***
  - What should the student be able to do?
- Affective: highlights ***attitudes*** & feelings
  - What should the student think or care about?



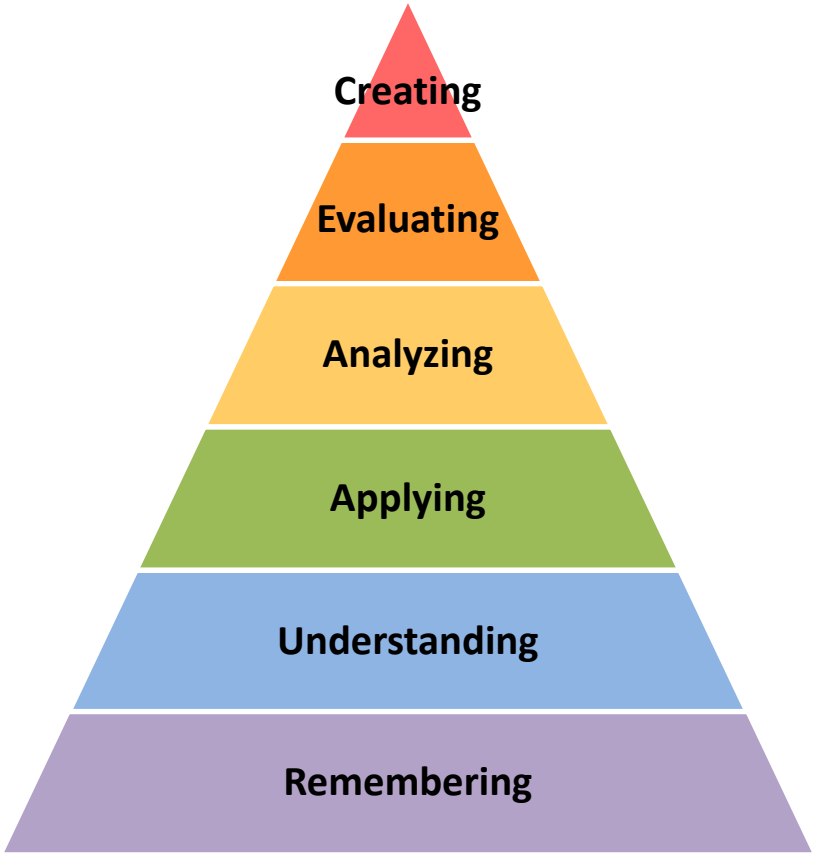
Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Cognitive Domain

Bloom, 1956

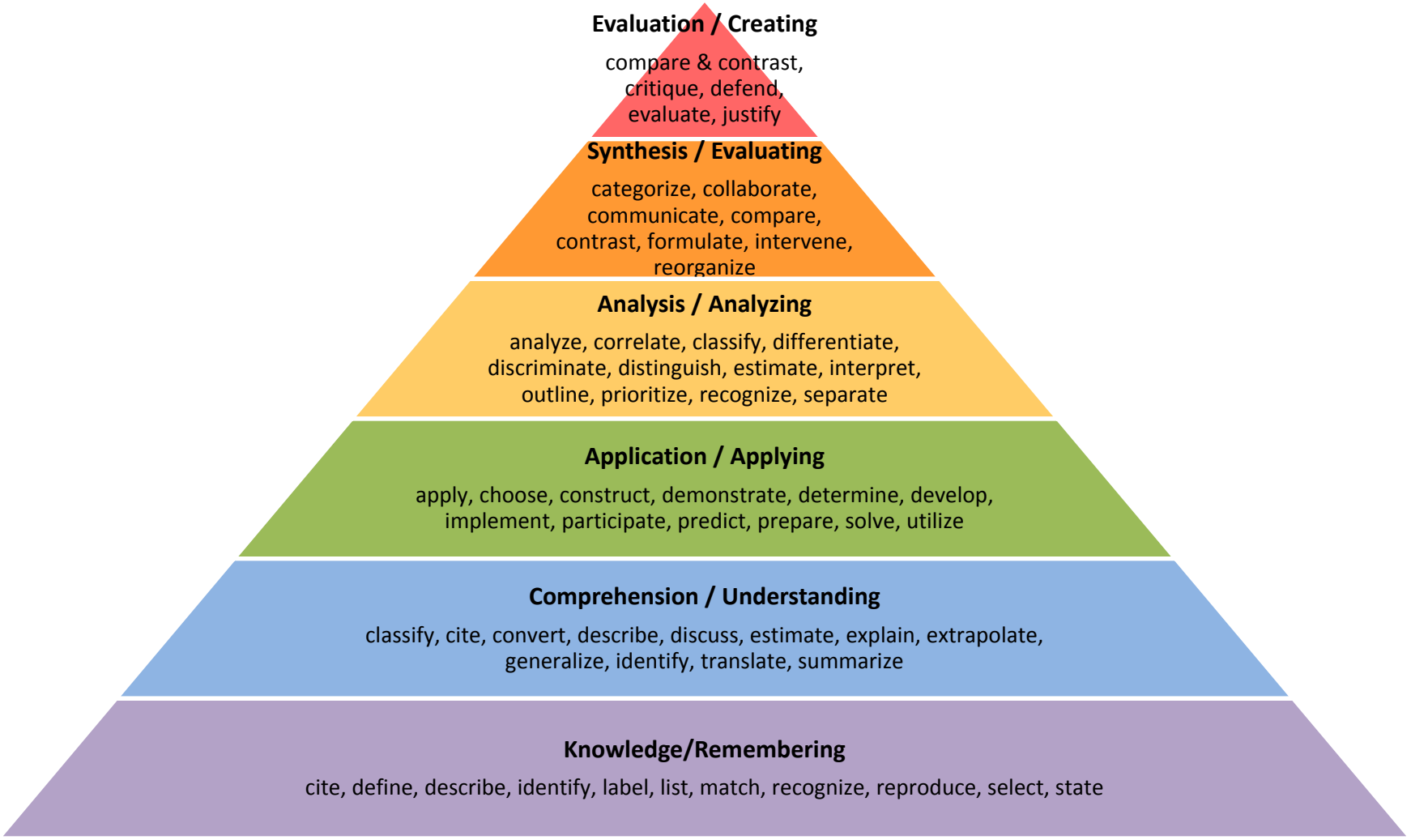


Anderson, 2001



Bloom BS (ed.). *Taxonomy of educational objectives: Handbook I: Cognitive domain.* New York: David McKay; 1956.
Anderson LW, Krathwohl DR. *A taxonomy for learning, teaching and assessing: a revision of Bloom's Taxonomy.* New York: Longman Publishing; 2001.

Observable Behaviors



Bloom BS (ed.). *Taxonomy of educational objectives: Handbook I: Cognitive domain.* New York: David McKay; 1956.
Anderson LW, Krathwohl DR. *A taxonomy for learning, teaching and assessing: a revision of Bloom's Taxonomy.* New York: Longman Publishing; 2001.

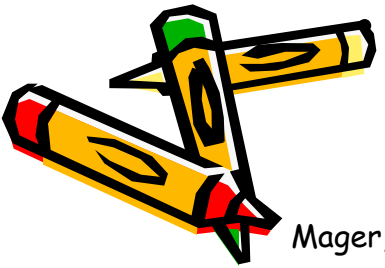
Consider the Level

- Lecture objectives:
  - ~~D~~iscuss goals of management for osteoarthritis (OA).
  - Outline American College of Rheumatology (ACR) recommendations for management of OA.
  - Outline American Heart Association (AHA) recommendations for NSAID use.
  - Given patient-specific information, recommend appropriate non-pharmacologic therapy for OA.
  - Given patient-specific information, develop an appropriate pharmacotherapeutic regimen for OA.
  - Identify monitoring parameters for safety & efficacy of OA treatment regimens.
  - Outline patient education information for OA therapy.

- Course objectives:
  - List goals of management for osteoarthritis.
  - Based upon patient-specific information, recommend appropriate use of nonpharmacologic & pharmacologic therapies for osteoarthritis.

Components of Objectives

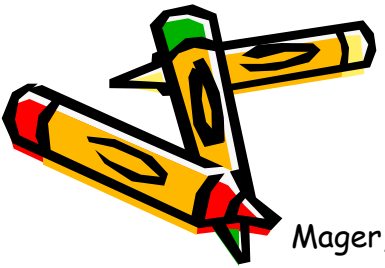
- C = Condition
  - Identifies any conditions under which performance is to occur; includes tools or assistance to be provided
  - Not always stated (if obvious)
  - Examples:
    - *Given a list of normal lab values…*
    - *Given patient-specific information…*
    - *Without the use of references…*
    - *At the conclusion of this module…*



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Components of Objectives

- D = Degree
  - Defines criterion of acceptable performance
  - Not always stated (ex: 70% passing score)
  - Examples:
    - time limits, accuracy, quality



Mager, RF. *Preparing instructional objectives.* 3rd ed. Atlanta, GA: The Center for Effective Performance; 1997.

Recap

- The 4 components of objectives are:
  - A = Audience
  - B = Behavior
  - C = Condition
  - D = Degree

Recap

- Effective learning objectives should be:
  - Consistent with curricular goals
  - Specific & clearly stated
  - Clearly measurable
  - Realistic
  - Important & relevant
  - Appropriate for the level of the learner