Writing Learning Objectives

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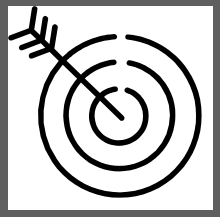
What do you already know about learning objectives?

- Learning has to do with students acquiring new skills and knowledge



- Objective is an aim or direction for the learning

A Learning Objective describes a direction for a student acquiring new skills and knowledge.

Writing Learning Objectives

As a result of viewing this presentation on Writing Learning Objectives, you will be able to:

- Differentiate a goal from a learning objective
- Recognize the reasons for writing a learning objective
- Identify the components of a learning objective
- Compose a learning objective using the A+B+C+D format

What is a Learning Objective?

A **Learning Objective** is a clear, concise and specific statement of observable student behaviors that can be evaluated at the conclusion of the learning activities and contributes to reaching the goal.

Example:
After the small group sessions in Integrated Problems, the second year student will be able to summarize a case and explain the pathophysiological symptoms, diagnosis and treatment.

A Learning Objective is also known as a performance objective or competencies.

Why Do I Need to Write Learning Objectives?

By writing a learning objective, you are:

- **Describing to the students what you value and expect them to be able do (selecting content)**
- **Specifying the desired outcomes that can be tested (developing an instructional strategy)**
- **Assessing the student's performance and if the course instruction is effective (linking to evaluation)**

Which is a learning objective, a course objective or a goal?

Select which statement below is a learning objective, a goal, or instructional objective and see the answer on the following slide.

1. The Integrated Problems course is designed to help first year students develop effective skills in literature research and in verbal and written communication.

2. In the small group sessions in Integrated Problems, the first year student will be asked to analyze and discuss a case and state its hypothesis, the evidence for the hypothesis and research questions.

3. Given a set of clinical data, the first year student in Integrated Problems will be able to state a hypothesis and compose research questions.

Can you tell the difference?

Goal: broad statement of learning outcomes

1. *The Integrated Problems course is designed to help first year students develop effective skills in literature research and in verbal and written communication.*

Instructional Objective: specific statement of teacher-centered performance

2. *In the small group sessions in Integrated Problems, the first year student will be asked to analyze and discuss a case and state its hypothesis, the evidence for the hypothesis and research questions.*

Learning Objective: specific statement of student-centered performance

3. *Given a set of clinical data, the first year student in Integrated Problems will be able to state a hypothesis and compose research questions.*

What is the difference between a Learning Objective and a Goal?

A **Goal** is a broad statement of expected learning outcome of a course.

The Integrated Problems course is designed to help first year students develop effective skills in literature research and in verbal and written communication.

A **Learning Objective** is a specific statement of observable student behaviors that can be evaluated and contributes to reaching the goal.

By the end of the small group sessions in Integrated Problems, the first year student will be able to analyze and discuss a case and state its hypothesis, the evidence for the hypothesis and research questions.

A goal has many learning objectives

GOAL

Students can analyze and present an Integrated Problems case.

Learning Objectives

1. Students can analyze a case
2. Students can generate a hypothesis
3. Students can research a case in original literature, reviews and the internet
4. Students can write research questions
5. Students can write a concise report with a differential diagnosis and evidence to support it
6. Students can give a report orally

Write your course goal

A **Goal** is a broad statement of the overall expected learning outcome of a course.

Write the Name of your course:_____

Start your goal statement with "The purpose is" or "The aim is…"

As a result of taking this course, what overall skills and knowledge will the student leave with?

Write the Goal of your course:

_____

_____

_____

How to write a Learning Objective?

- Focus on student performance, not teacher performance
- Aim at the terminal behavior
- Include one learning outcome per objective

What is the writing format for a learning objective?

Usually a learning objective begins with an introductory stem ("By the end of this course") followed by bulleted statements starting with a verb and followed by content.

Example:

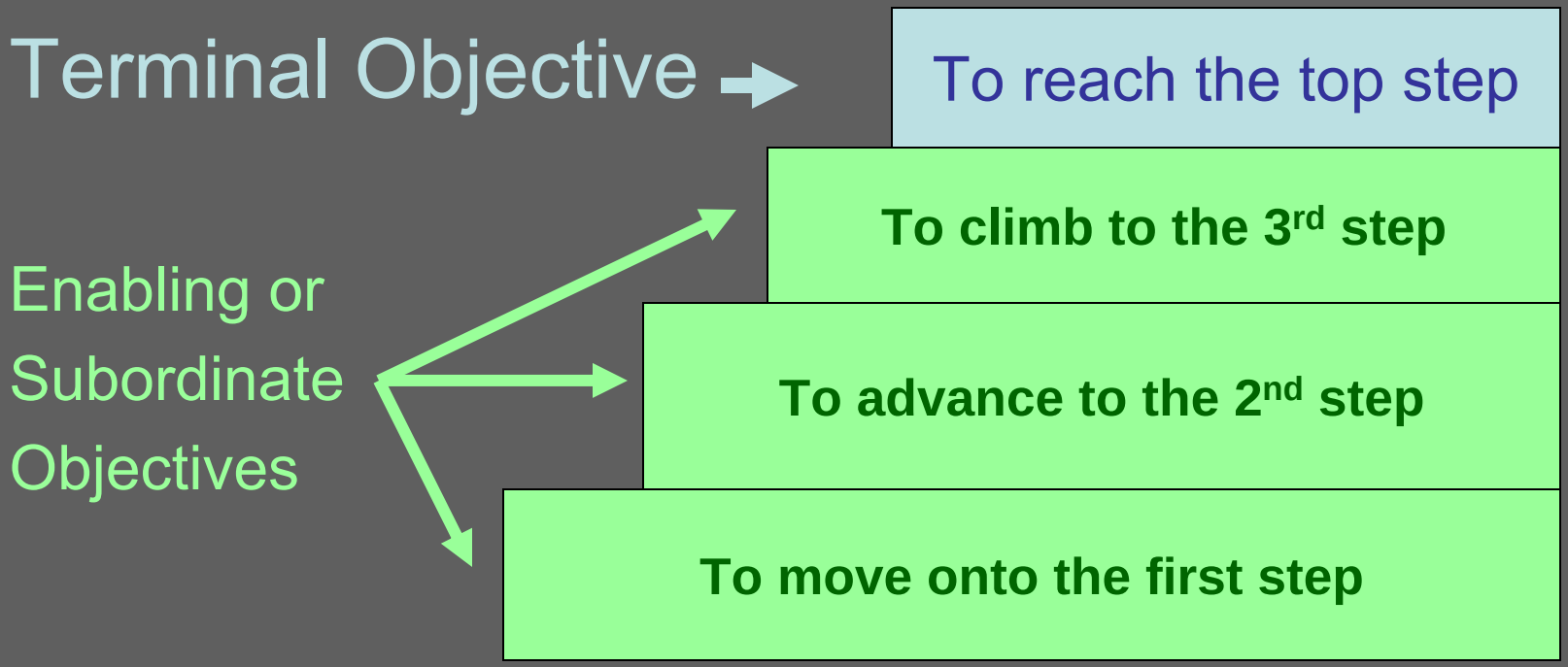
By the end of this presentation, you will be able to:

- Differentiate a goal from a learning objective
- Recognize the reasons for writing a learning objective
- Identify the components of a learning objective

Can you differentiate the types of learning objectives?

- Cognitive Learning Objective : student performance involves factual knowledge, comprehension, application, analysis, synthesis and evaluation
- Affective Learning Objective: student performance involves specific attitudes, beliefs, emotions or role expectations
- Psychomotor Learning Objective: student performance involves using and coordinating the skeletal muscles including vision, hearing, speech or sense of touch

Learning Objective Levels



The major learning objective is the Terminal Objective and it may require many Enabling or Subordinate learning objectives to achieve the Terminal learning objective.

A terminal learning objective has many enabling learning objectives

Terminal Learning Objective

By the end of the Fall course, the student will be able to analyze an Integrated Problems case.

Enabling Learning Objectives

1. The student can identify the relevant pathophysological, environmental and behavioral aspects of a case.
2. The student can delineate the known facts.
3. The student can make a pathophysiological-based differential diagnosis.

Write your terminal learning objective

Complete this statement for your course with one learned behavior:

By the end of the course, the students will be able to:

_____

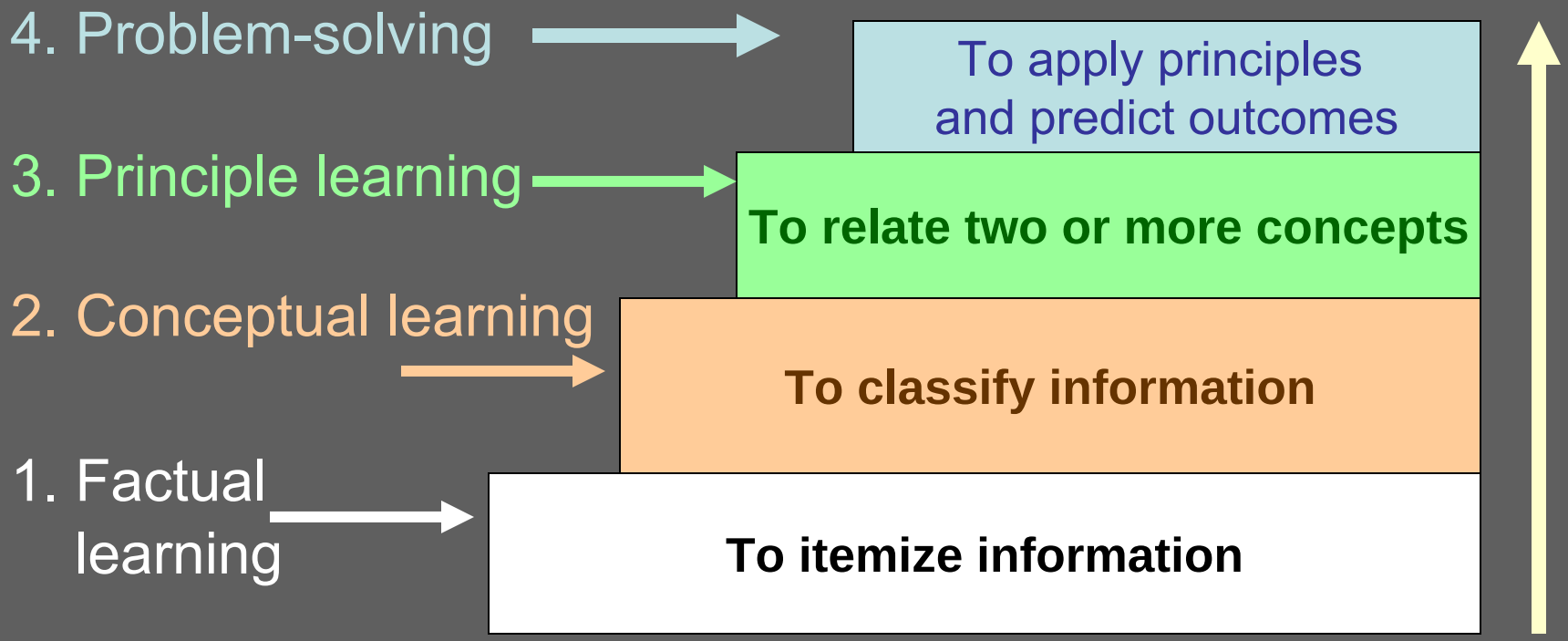
_____

Now, make a list of three learned behaviors they need to accomplish the terminal learned behavior:

- _____
- _____
- _____

Sequencing Learning Objectives

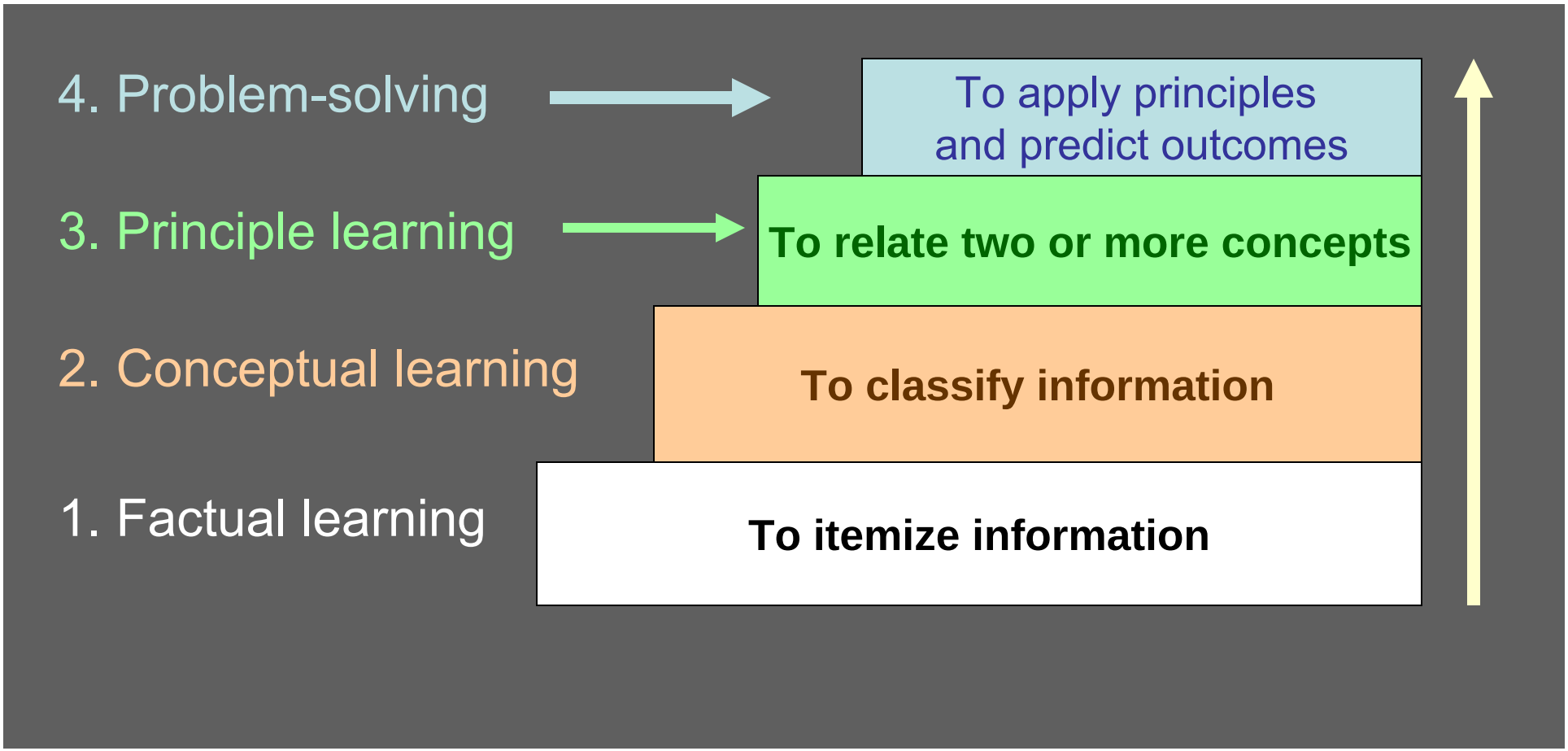
Robert M. Gagne developed a hierarchy of learning:



The student uses lower-level learning to build skills for the higher-level learning.

Sequence your enabling objectives

Divide your terminal learning objective into sequenced enabling objectives.



How to write a Learning Objective?

An easy way to write a learning objective is to combine A + B + C + D:

Letter	Component	Task	Example
A	Audience	**Describes the targeted students in the course**	**1st year students in Integrated Problems**
B	Behavior	**Provides an action verb with content**	**Analyze critically and report clinical cases**
C	Condition	**Defines the requirement(s) needed to perform the task**	**In weekly small group sessions with Faculty**
D	Degree	**Gives the criteria for assessing performance**	**With clear supporting evidence**

A = *Who will perform the learning objective?*

Identify the targeted audience by:

- Course: Title, Year, Session
- Student
  - Year – 1st, 2nd, 3rd, 4th
  - Learner characteristics -- **how do they encode, store and retrieve information**

A = audience = 1st year students in Integrated Problems 2004

Learner Characteristics

Students encode, store and retrieve information by:

- Learning style -- They learn a behavior by:
  1. Interpreting theoretical symbols (words and numbers)
  2. Perceiving through their preferred senses
  3. Deriving meaning through their cultural codes
  4. Retaining through a specific method in their memory
- Learning experience -- They learn a behavior by:
  - Interpreting the content through their previous academic, cultural and social knowledge
  - Motivating their preferred interests to attend to the content

A = *Who are your students?*

- What class year? ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th
- What learner characteristics?
  - How do they learn?
    - Medical students (scientific)
    - ☐ Visual ☐ Verbal ☐ Auditory ☐ Kinesthetic/ Tactile
    - From many different cultures and languages
    - Good memory: rote and higher function
  - What do you expect them to know already?

All of these factors need to be considered when you write the learning objectives for a course.

B = *What will they do?*

Behavior = Action verb + content

- An action verb describes a performance. Verbs such as “know, understand, grasp and appreciate” do not meet this requirement.
- Cognitive Domain action verbs (identified by Benjamin Bloom in “The Taxonomy of Educational Objectives”)

B = behavior = analyze and present an Integrated Problems case

Cognitive Domain Action Verbs

6 levels of Bloom's taxonomy

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

C = *What do they need to perform the learning objective?*

Conditions = requirements for learning

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

C = Conditions = small group sessions

D = *How well will they need to perform the learning objective?*

Degree = the criteria for assessing performance

- Report 2 out three original literature sources
- Provide 20% of the research evidence
- Name the doctor who first diagnosed the illness (100% correct answer is often implied)
- List 5 internet sources

D = Degree = implied 100%

How do learning objectives link to assessment?

Assessment measures the learning objectives

1. **Design** evaluation activities to measure the performance of the learning objectives. If you can't, modify the learning objectives.

2. **Develop** the measurement criteria and methods (what questions best determine learned performance) based on what is stated in the learning objectives.

3. **Select** the evaluation tools (tests, surveys, projects or focus groups).

4. **Choose** data collection procedures and analyze results. Revise evaluation activities as necessary.

Summary

- By writing learning objectives, the instructor is selecting the content, developing the instructional strategy, assessing the student's performance and evaluating the instruction.
- A learning objective is a specific statement of observable student behaviors that can be evaluated and contributes to reaching the goal.
- Learning objectives combine action verbs and content to describe the desired behavior.
- An easy way to write a learning objective is to use the A+B+C+D formula.

Write a learning objective

- When will the learning be achieved (by the end of named clerkship/ lecture / clinic/ lab)?

  Stem:_____
- Who is the learner?

  Audience:_____
- What will the learner be able to do?

  Action verb:_____

  Content:_____
- With what requirements?

  Conditions:_____
- How well?

  Degree:_____

Any Questions?

- Contact Faculty Development
  - Gail March, Ph.D., (617) 414-7440, gmarch@bu.edu
- 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.