Goals and Objectives

Standards, Goals and Objectives

- Standards are general expressions of our values that give us a sense of direction. They are written broadly enough to be acceptable to large numbers of individuals, such as teachers, school administrators, parents and taxpayers.
- Goals are derived from standards to more specifically identify what must be accomplished and who must do in order for the standards to be met. Goals express standards from the teacher's, learner's or school's point of view and identify what teachers must teach, students must learn, and schools must do.

- GOALS

- Schools need to increase the time they devote to teaching elementary school science, improve the problem-solving and decision-making skills of high school graduates, or better integrate technology and web-based learning into the classroom.

- Standards and goals provide little direction as to what strategies to use in the classroom to achieve them or when or if they are met. A satisfactory answer to these questions requires that you prepare unit and lesson **objectives,** which convey to your learners the specific behaviors to be attained, the conditions under which the behavior must be demonstrated, and the proficiency level at which the behaviors are to be performed.

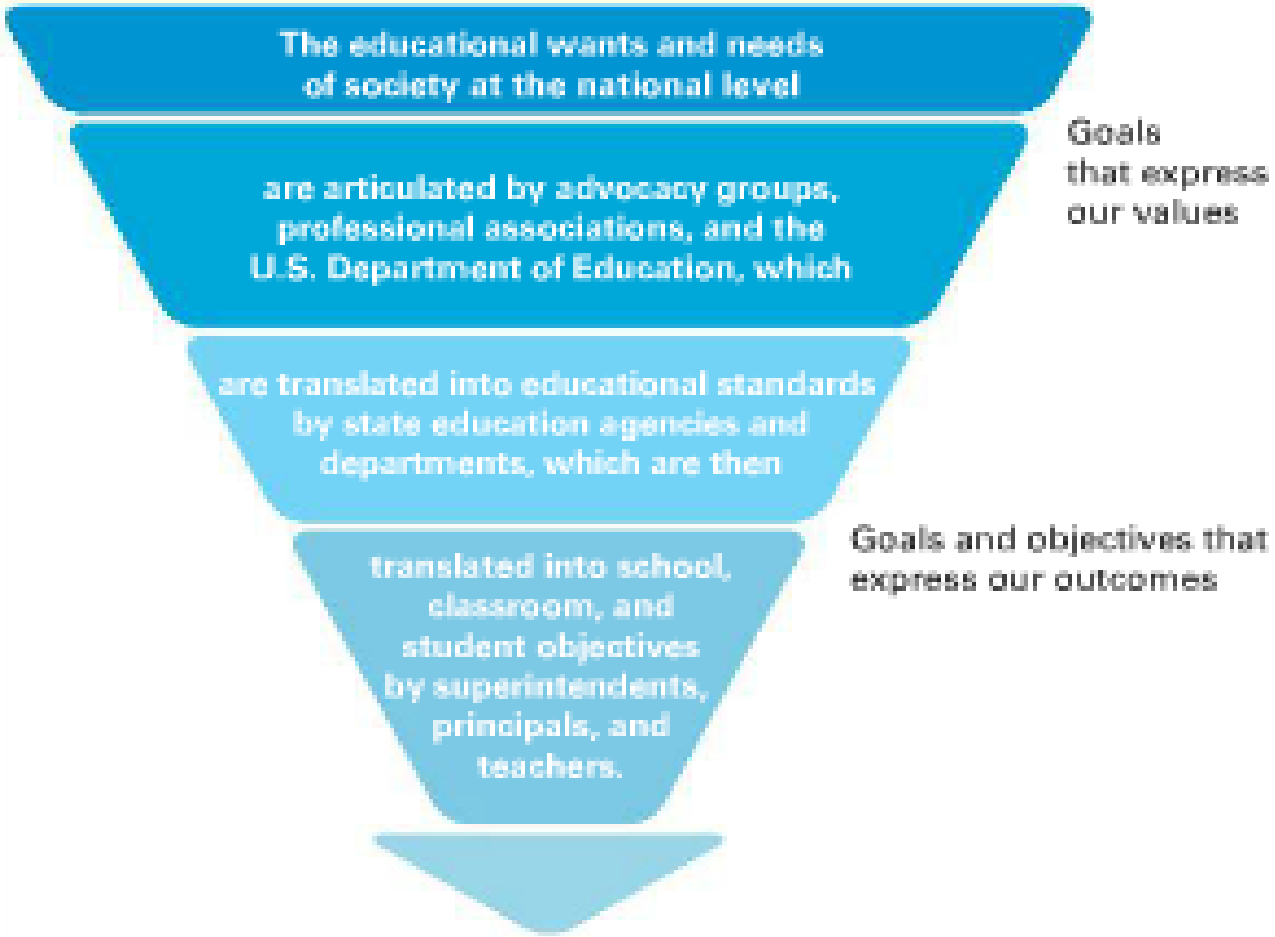
Table 5.1 The Differences among Goals, Standards, and Objectives

Goals	Standards	Objectives
Express our values that give us a sense of direction	Identify what will be learned—energize and motivate	Convey the specific behavior to be attained, the conditions under which the behavior must be demonstrated, and the proficiency at which the behavior must be performed
Examples	**Examples**	**Examples**
1. Every citizen should be prepared to work in a technological world.	1. Students should understand the use of the computer at home and at work.	1. Students will, using their own choice of a word-processing application, produce an edited two-page manuscript free of errors in 15 minutes or less.
2. Every adult should be functionally literate.	2. Students should be able to read and write well enough to become gainfully employed.	2. Students will, at the end of grade 12, be able to write a 500-word essay with no more than two grammatical and punctuation errors.
3. Every American should be able to vote as an informed citizen in a democracy.	3. Students should know how to choose a candidate and vote in an election.	3. Students will, at the end of an eighth-grade unit on government, participate in a mock election by choosing a candidate and giving reasons for their choice.

Educational Goals

- Provide direction for your unit and lesson planning.
- Communicate the importance of your instruction to parents and to the community.
- Energize your learners to higher levels of commitment and engagement in the learning process.

Figure 5.2 The Funneling of Standards into Instructional Objectives



The translation of standards into objectives as a funneling or narrowing of focus in which goals, guided by our standards, are gradually translated through subject matter curricula into a specific objectives for instruction.

The Purpose of Objectives

- Objectives have two practical purposes. The first is to move goals toward classroom accomplishments by identifying the specific classroom strategies by which the goals can be achieved.
- The second is to express teaching strategies in a format that allows you to measure their effects on learners. A written statement that achieves these two purposes is called a **behavioral objective.**

What Does *Behavioral* Mean?

- When the word *behavioral* precedes the word *objective*, learning is being defined as a change in observable behavior. Therefore, the writing of behavioral objectives requires that the behavior being addressed be observable and measurable.

AN OVERVIEW OF BEHAVIORAL OBJECTIVES

- Writing behavioral objectives involves three steps:

1. Identifying a specific goal that has an observable learning outcome.
2. Stating the conditions under which a learning outcome can be expected to occur. (e.g., with what materials, texts, and facilities and in what period of time)
3. Specifying the criterion level, that is, the degree of learning that can be expected from your instruction under the specified conditions.

Specifying the Learning Outcomes

- The first step in writing a behavioral objective is to identify an observable **learning outcome.** For an objective to be behavioral, it must be observable and measurable, so you can determine whether the behavior is present, partially present or absent.
- In a behavioral objective, learning outcomes must be expressed directly, concretely, and observably, unlike the way behaviors usually are described in the popular press, television, and even some textbooks.

- One way to make your behavioral objectives specific and noncontroversial is to choose behavioral expressions from a list of an action verbs that have a widely accepted meanings.
- For example, instead of expecting students to be informed or literate in a subject, expect them to
  - Differentiate between…
  - Identify the results of…
  - Solve a problem in…
  - Compare and contrast…

  These action verbs describe what being *informed* or *literate* mean by stating specific, observable behaviors that the learner must perform.

- The following examples differentiate between verbs used for learning outcomes and verbs used for learning activities:

Learning outcomes (Ends)	Learning Activities (means)
identify	study
recall	watch
list	listen
write	read

- Behavioral objectives must include the end product, because you will use this end product in choosing your instructional procedures and evaluating whether you have achieved the desired result.

Identifying the Conditions

- The second step in writing a behavioral objective is to identify the specific **learning conditions** under which learning will occur. If the observable learning outcome can be achieved only through use of particular materials, equipment, tools, or other resources, state these conditions in the objective.

- Here are some examples of objectives that state conditions:
  - Using the map of strategic resources handed out in class, identify the economics conditions in the South resulting from the civil war.
  - Using an electronic calculator, solve problems involving the addition of two-digit signed numbers,
  - Using pictures of fourteenth-to eighteenth-century Gothic and Baroque European cathedrals, compare and contrast the styles of architecture.

- If the conditions are obvious, they need not be specified. For example, it is not necessary to specify *using a writing instrument and paper, write a short story.*
- Because objectives form the basis for tests, your tests might be more fair to some students than others, depending on the assumptions they make in the absence of stated conditions.

- Here are examples of multiple conditions, indicated by italics:
  - Using a *compass*, *ruler*, and *protractor*, draw the three conic sections of different sizes and three triangles of different types.
  - Using 4 grams of *sodium carbonate* and 4 grams of *sodium bicarbonate*, indicate their different reactions in H_2O.
  - Using a *computer* with word processing capability, correct the spelling and punctuation errors on a *two-page manuscript in 20 minutes or less.*

- It is important not to add so many conditions that learning is reduced to trivial detail.

- The idea behind stating conditions, especially multiple conditions, is not to complicate the behavior but rather make it more natural and close to he conditions under which the behavior will have to be performed in the real world and in subsequent instruction.

Stating Criterion Levels

- The third step in writing behavioral objective is to state the level of performance required to meet the objective.
- **Criterion level** is the degree to performance desired or the level of proficiency that will satisfy you that the objective has been met.
- At first, criterion levels should be taken as educated guesses. They should indicate the approximate degree of proficiency needed to adequately perform the behavior.

- Criterion levels come in many sizes and shapes. For example they can be stated in the following ways:
  - Number of items correct on test
  - Number of consecutive items correct (or consecutive errorless performances)
  - Essential features included (as in an essay question or paper)
  - Completion within a prescribed time limit (where speed of performance is important)
  - Completion with a certain degree of accuracy.

- *Using a short story by John Steinbeck and another by Mark Twain, differentiate between their writing styles.* With only the information given, it would be difficult and arbitrary. Now, lets add a criterion to this objective:
  - Using short stories by John Steinbeck and Mark Twain, differentiate their writing styles by selecting four passages from each author that illustrate differences in their writing styles.

- Consider another example:
  - Using an electronic calculator, the student will solve problems involving the addition of two-digit signed numbers.
- Now, let's add a criterion level:
  - Using an electronic calculator, the student will correctly solve 8 of 10 problems involving the addition of two-digit signed numbers.

  This objective now precisely identifies the **minimum proficiency,** that must be observed to conclude the desired behavior has been attained.

- Using a centigrade thermometer, measure the temperature of 2 liters of water at a depth of 25 centimeters (to within 1 degree accuracy).
- Using the list of foods provided, fill in the blanks in the food pyramid to represent a healthy, well-balanced diet, (placing every food correctly).
- Using a computer with word processing capacity, correct the spelling and punctuation errors for a two-page manuscript in *20 minutes* (with 100% accuracy).

Keeping Objectives Simple

- Be sure to include these three essential components in every objective you write:

1. Observable learning outcome
2. Conditions
3. Criterion level

THE COGNITIVE, AFFECTIVE, AND PSYCHOMOTOR DOMAINS

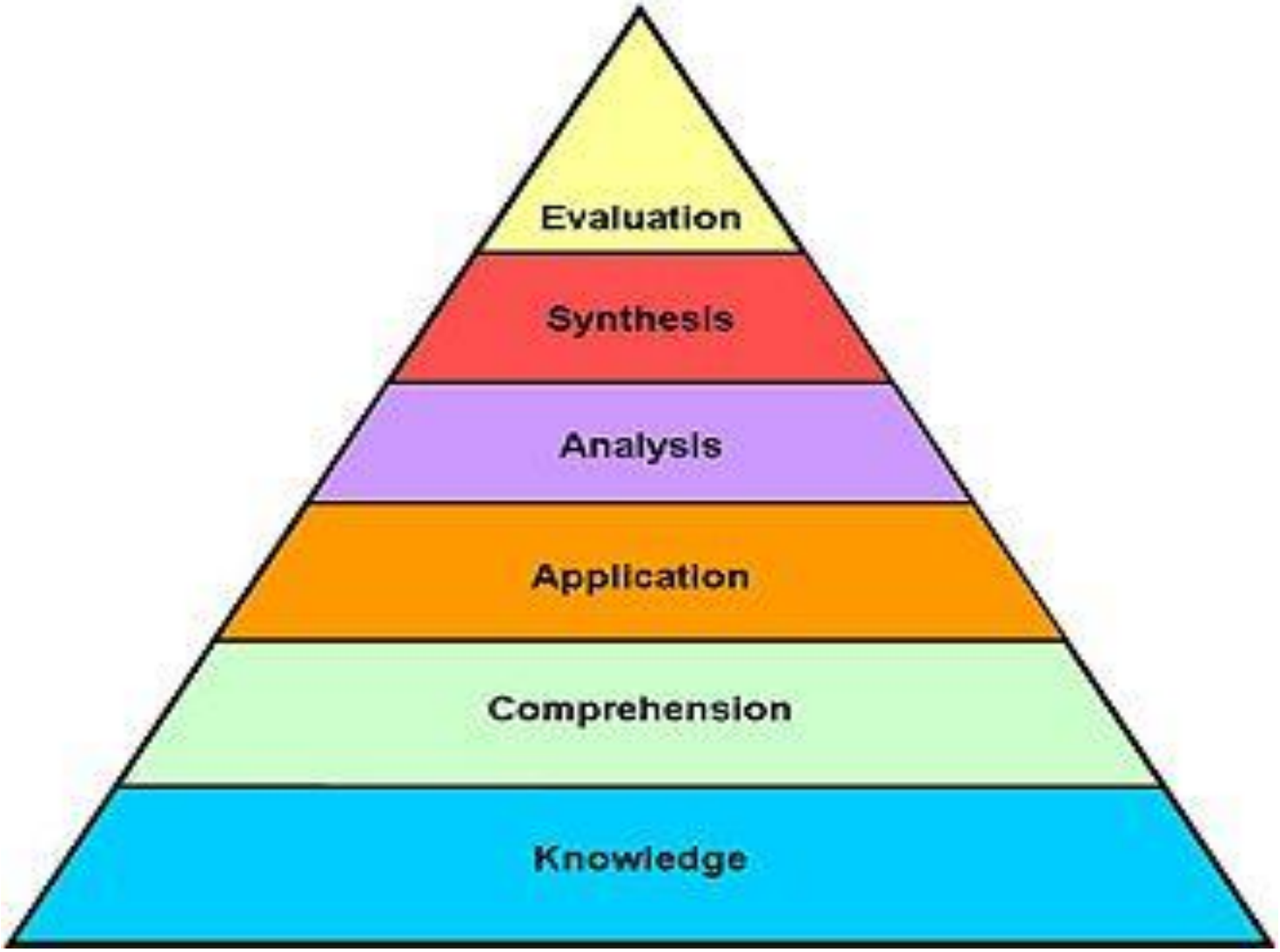
- Objectives can require vastly different levels not only of **cognitive complexity** but of **affective** and **psychomotor** complexity as well.

  - **Cognitive** (development of intellectual abilities, and skills)
  - **Affective** (development of attitudes, beliefs, and values)
  - **Psychomotor** (coordination of physical movements and performance)

1. The Cognitive Domain

- Bloom, Englehart, Hill, Furst and Krathwohl describe the levels as hierarchical; the higher-level objectives include, and are dependent on, lower-level cognitive skills. Thus objectives at the evaluation level require more complex mental operations -higher cognitive skills- than objectives at the knowledge level.

- Objectives requiring higher-level cognitive, affective, and psychomotor skills represent more **authentic behaviors** because they identify the types of performances required of your learners in the world in which they must live work, and play.


Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

a. **<u>Knowledge</u>:** Objectives at the knowledge level require your students to remember or recall information such as facts, terminology, problem-solving strategies, and rules. Some action verbs that describe learning outcomes at the knowledge level are:

define	**list**	**recall**
describe	**match**	**recite**
identify	**name**	**select**
label	**outline**	**state**

- Examples of knowledge objectives that use these verbs:
  - The student will recall the four major food groups, without error, by Friday.
  - Form the memory, the student will match U.S. Generals with their most famous battles, with 80% accuracy.

b. **Comprehension:** Objectives at the comprehension level require some degree of understanding. Students are expected to be able to change the form of a communication; translate; restate what has been read; see connections or relationships among parts of communication (interpretation); or draw conclusions or see consequences from information (inference).

convert	estimate	infer
defend	explain	paraphrase
discriminate	extend	predict
distinguish	generalize	summarize

Examples of comprehension objectives that use these verbs:

- By the end of the six-week grading period, the student will summarize the main events of a story in grammatically correct English.
- The student will discriminate between the realists and naturalists, citing examples from the readings.

c. **Application:** Objectives written at the application level require the student to use previously acquired information in a setting other than the one in which it was learned. Application objectives differ from comprehension objectives in that application requires the presentation of a problem in a different an often applied context.

change	modify	relate
compute	operate	solve
demonstrate	organize	transfer
develop	prepare	use

Examples of application objectives that use these or similar verbs:

- On Monday, the student will demonstrate for the class an application to real life of the law of conservation of energy.
- Given single-digit fractions not covered in class, the students will multiply them on paper with 85% accuracy.

d. **Analysis:** Objectives written at the analysis level require the student to identify logical errors (e.g., point out a contradiction or an erroneous inference) or to differentiate among facts, opinions, assumptions, hypotheses, and conclusions. At the analysis level, student are expected to draw relationship among ideas and to compare and contrast.

break down	**distinguish**	**point out**
deduce	**illustrate**	**relate**
diagram	**infer**	**separate out**
differentiate	**outline**	**subdivide**

Example of analysis objectives that use these verbs:

- Given absurd statements (e.g., A man had flu twice. The first time it killed him. The second time he got well quickly.), the student will be able to point out the contradiction.

e. **Synthesis:** Objectives written at thw synthesis level require the student to produce something unique or original. The students are expected to solve some unfamiliar problem in a unique way or to combine parts to form a unique or novel solution.

categorize	**create**	**formulate**
compile	**design**	**predict**
compose	**devise**	**produce**

Examples of synthesis objectives that use these or similar verbs are:

- Given a short story, the student will write a different but plausible ending.
- Given a problem to be solved, the student will design on paper a scientific experiment to address the problem.

f. **Evaluation:** Objectives written at the evaluationn level require the student to form judgements and make decisions about the value of methods, ideas, people, or productsa that have a specific purpose.

appraise	**criticize**	**justify**
compare	**defend**	**support**
contrast	**judge**	**validate**

Examples of evaluation objectives that use these verbs are:

- Given a short story, the student will write a different but plausable ending.
- Given a problem to be solved, the student will design on paper a sicentific experiment to address the problem.

2. The Affective Domain

- This taxonomy delineates five levels of affective behavior ranging from the receiving level to the characterization level. As in the cognitive domain, these levels are assumed to be hierarchical-higher-level objectives are assumed to include and be dependent on lower-level affective skills.
- The following sections contain examples of action verbs indicating each level of the affective domain:


Characterization
by Value Set
Organization
Valuing
Responding
Receiving

a. **Receiving:** Objectives at the receiving level require the student to be aware of, or to passively attend to, certain phenomena and stimuli. At this level students are expected simply listen or be attentive.

atttend	discern	look
be aware	hear	notice
control	listen	share

Example of receiving objectives that use these verbs is:

- The student will be able to listen to all of a Mozart concerto without leaving his or her seat.

b. **Responding:** objectives require the student to comply with given expectations by attending or reacting to certain stimuli. Students are expected to obey, participate, or respond willingly when asked or directed to do something.

applaud	**follow**	**play**
comply	**obey**	**practice**
discuss	**participate**	**volunteer**

Example of responding objectives that use these verbs is:

- The student will practice a musical instrument when asked to do so.

c. **Valuing:** students are expected to demonstrate a preference or display a high degree of certainty and conviction.

act	debate	help
argue	display	organize
convince	express	prefer

Example of valuing objectives that use these verbs is:

- Thestudent will express an opinion about nuclear disarmament whenever nationa events raise the issue.

d. **Organization:** students are expected to organize their likes and preferences into a value system and then decide which ones will be dominant.

abstract	**decide**	**select**
balance	**define**	**systematize**
compare	**farmulate**	**theorize**

Example of organization objectives that use these verbs is:

- The student will be able to formulate the reasons why he/she supports civil rights.

e. **Characterization:** Evaluation of this level of behavior involve the extent to which the student has developed a consistent philosophy of life.

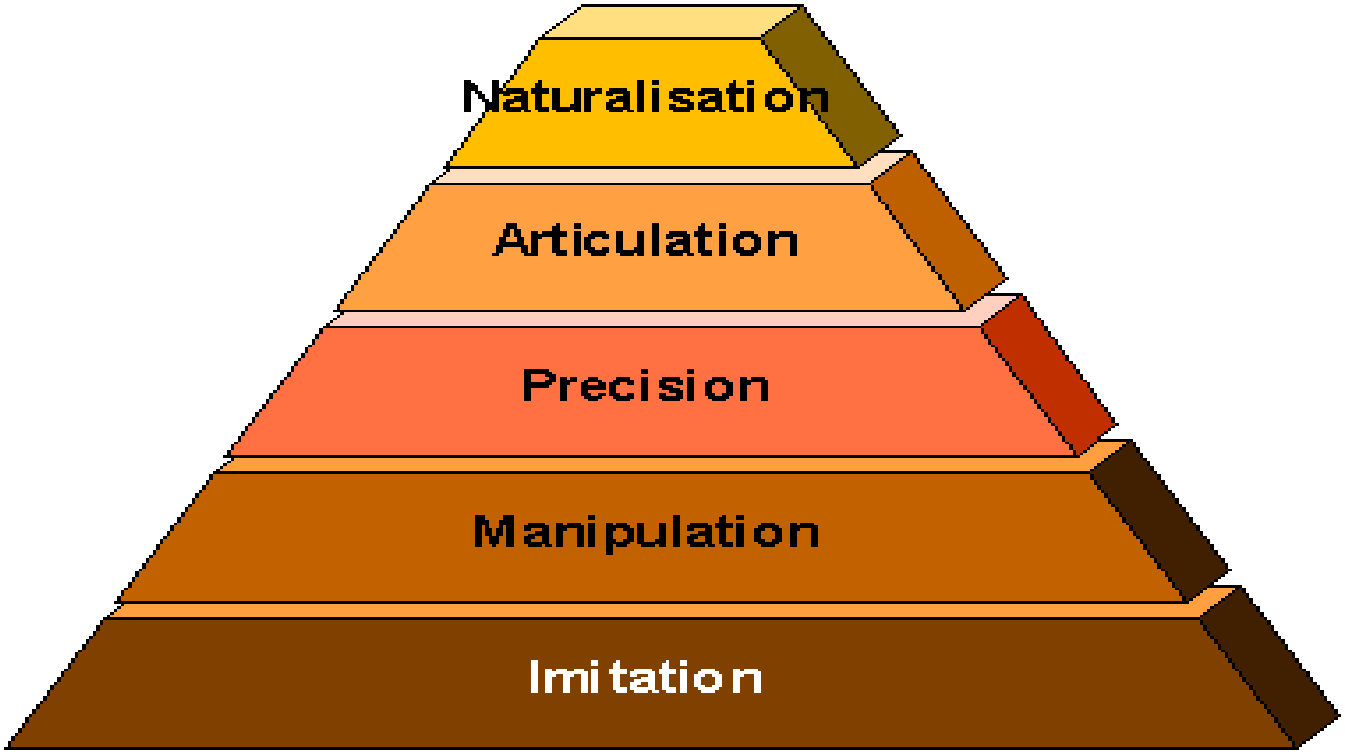
avoid	**internalize**	**resist**
display	**manage**	**resolve**
exhibit	**require**	**revise**

Some example objectives are:

- The student will exhibit a helping and caring attitude towards student with disabilities by assisting with their mobility both in and out of classrooms.

3. The Psychomotor Domain

- These behaviors place primary emphas,s on neuromuscular skills involving various degrees of physical dexterity.



Are Some Behaviors More Desirable Than Others?

- Some teachers pride themselves on preparing objectives almost exclusively at the highest level of cognitive complexity. but objectives at a lower order of complexity often represent the knowledge base from which students achieve more complex behaviors. When task-relevant prior knowledge or skills necessary for acquiring more complex behaviors have not been taught, students may demonstrate high error rates and less active engagement in the learning process at the higher levels of behavioral complexity.

What is an Authentic Behavior?

- Behaviors representing higher cognitive skills often do take on importance outside the classroom exactly as they are taught. Evaluation (cognitive domain), characterization (affective domain), and naturalization (psychomotor domain) are examples of such behaviors. Deciding which candidate to vote for, assuming the responsibility of an informed citizen, and being able to read and complete a voting ballot are all authentic behaviors because they are necessary performances in daily life. Therefore, higher cognitive skills often are more authentic than lower cognitive skills.

Are Less Complex Behaviors Easier to Teach?

- Another misconception is that behaviors of less complexity are easier to teach than behaviors of greater complexity.
- Although simpler behaviors may be easier to teach some of the time, it can be just the opposite.
- Also, whether a behavior is easier or more difficult to teach always will depend on the learning needs of your students.