

Develop Objectives

Observable Action (task)

This describes the observable performance or behavior. An action means a verb must be in the statement, for example "type a letter" or "lift a load." Each objective covers one behavior, hence, only one verb should be present. If there are many behaviors or the behaviors are complicated, then the objective should be broken down into one or more enabling learning objectives that support the main terminal learning objective.

At Least One Measurable Criterion (standard)

This states the level of acceptable performance of the task in terms of quantity, quality, time limitations, etc. This will answer any question such as "How many?" "How fast?" or "How well?". For example "At least 5 will be produced", "Within 10 minutes", "Without error". There can be more than one measurable criterion. Do not fall into the trap of putting in a time constraint because you think there should be a time limit or you cannot easily find another measurable criterion. Use a time limit only if required under the normal working standards.

Conditions of performance (usually) (condition)

Describes the actual conditions under which the task will occur or be observed. Also, it identifies the tools, procedures, materials, aids, or facilities to be used in performing the task. This is best expressed with a prepositional phrase such as "without reference to a manual" or "by checking a chart".

Listed below are four examples of learning objectives

Example 1: *Write a customer reply letter with no spelling mistakes by using a word processor.*

- Observable Action: Write a customer reply letter
- Measurable Criteria: with no spelling mistakes
- Conditions of Performance: using a word processor

NOTE: If more than one type of word processor or computer is used in the organization, then it should be more specific. For example: *Given a personal computer, Word for Windows, and printer, create a printed customer reply letter with no spelling mistakes.* The conditions of performance are "Given a personal computer, Word for Windows, and printer". Generally speaking, the larger the organization or the more technical the task, the more specific the conditions of performance must be spelled out.

Example 2: *Copy a table from a spreadsheet into a word processor document within 3 minutes without reference to the manual.*

- Observable Action: Copy a table from a spreadsheet into a word processor document
- Measurable Criteria: within 3 minutes
- Conditions of Performance: without referencing the manual.

The Conditions of performance may also include a variable as shown in the next example.

Example 3: *Smile at all customers, even when exhausted, unless the customer is irate.*

- Observable action: Smile
- Measurable Criteria: at all customers
- Conditions: even when exhausted
- Variable: unless the customer is irate

Sometimes its helpful to start with the phrase "After training, the worker will be able to..."

Example 4: *After training, the worker will be able to load a dumptruck within 3 loads with a scooploader, in the hours of darkness, unless the work area is muddy.*

- Observable Action: load a dumptruck
- Measurable Criteria: within 3 loads
- Conditions: with a scooploader in the hours of darkness
- Variable: unless the work area is muddy

Learning Domains or Bloom's Taxonomy

The Three Types of Learning

There is more than one type of learning. A committee of colleges, led by Benjamin Bloom, identified three domains of educational activities. The three domains are cognitive, affective, and psychomotor. Since the work was produced by higher education, the words tend to be a little bigger than we are normally used to. Domains can be thought of as categories. Cognitive is for mental skills (Knowledge), affective is for growth in feelings or emotional areas (Attitude), while psychomotor is for manual or physical skills (Skills). Trainers often refer to these as KAS, SKA, or KSA (Knowledge, Attitude, and Skills). This taxonomy of learning behaviors can be thought of as "the goals of the training process." That is, after the training session, the learner should have acquired these new skills, knowledge, or attitudes.

The committee then produced an elaborate compilation for the cognitive and affective domains, but none for the psychomotor domain. Their explanation for this oversight was that they have little experience in teaching manual skills within the college level (I guess they never thought to check with their sports or drama department).

This compilation divides the three domains into subdivisions, starting from the simplest behavior to the most complex. The divisions outlined are not absolutes and there are other systems or hierarchies that have been devised in the educational and training world. However, Bloom's taxonomy is easily understood and is probably the most widely applied one in use today.

Cognitive

The cognitive domain involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties. That is, the first one must be mastered before the next one can take place.

Knowledge: Recall of data.	Examples: Recite a policy. Quote prices from memory to a customer. Knows the safety rules. Key Words: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
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<p>Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.</p>	<p>Examples: Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet.</p> <p>Key words: comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.</p>
<p>Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the workplace.</p>	<p>Examples: Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.</p> <p>Key Words: applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.</p>
<p>Analysis: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.</p>	<p>Examples: Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training.</p> <p>Keywords: analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates.</p>
<p>Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.</p>	<p>Examples: Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome.</p> <p>Keywords: categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes.</p>
<p>Evaluation: Make judgments about the value of ideas or materials.</p>	<p>Examples: Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.</p> <p>Keywords: appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports.</p>

Affective

This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five major categories listed in order are:

<p>Receiving phenomena: Awareness, willingness to hear, selected attention.</p>	<p>Examples: Listen to others with respect. Listen for and remember the name of newly introduced people.</p> <p>Keywords: asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.</p>
<p>Responding to phenomena: Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).</p>	<p>Examples: Participates in class discussions. Gives a presentation. Questions new ideals, concepts, models, etc. in order to fully understand them. Know the safety rules and practices them.</p> <p>Keywords: answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes.</p>
<p>Valuing: The worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.</p>	<p>Examples: Demonstrates belief in the democratic process. Is sensitive towards individual and cultural differences (value diversity). Shows the ability to solve problems. Proposes a plan to social improvement and follows through with commitment. Informs management on matters that one feels strongly about.</p> <p>Keywords: completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.</p>
<p>Organization: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating an unique value system. The emphasis is on comparing, relating, and synthesizing values.</p>	<p>Examples: Recognizes the need for balance between freedom and responsible behavior. Accepts responsibility for one's behavior. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life plan in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family, and self.</p> <p>Keywords: adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes.</p>

<p>Internalizing values (characterization): Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).</p>	<p>Examples: Shows self-reliance when working independently. Cooperates in group activities (displays teamwork). Uses an objective approach in problem solving. Displays a professional commitment to ethical practice on a daily basis. Revises judgments and changes behavior in light of new evidence. Values people for what they are, not how they look.</p> <p>Keywords: acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, verifies.</p>
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Psychomotor

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The seven major categories listed in order are:

<p>Perception: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.</p>	<p>Examples: Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet.</p> <p>Keywords: chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.</p>
<p>Set: Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets).</p>	<p>Examples: Knows and acts upon a sequence of steps in a manufacturing process. Recognize one's abilities and limitations. Shows desire to learn a new process (motivation). NOTE: This subdivision of Psychomotor is closely related with the "Responding to phenomena" subdivision of the Affective domain.</p> <p>Keywords: begins, displays, explains, moves, proceeds, reacts, shows, states, volunteers.</p>
<p>Guided response: The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.</p>	<p>Examples: Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift.</p> <p>Keywords: copies, traces, follows, react, reproduce, responds</p>

<p>Mechanism: This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.</p>	<p>Examples: Use a personal computer. Repair a leaking faucet. Drive a car.</p> <p>Keywords: assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.</p>
<p>Complex Overt Response: The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce.</p>	<p>Examples: Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano.</p> <p>Keywords: assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches. NOTE: The key words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.</p>
<p>Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.</p>	<p>Examples: Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the learners. Perform a task with a machine that it was not originally intended to do (machine is not damaged and there is no danger in performing the new task).</p> <p>Keywords: adapts, alters, changes, rearranges, reorganizes, revises, varies.</p>
<p>Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.</p>	<p>Examples: Constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine.</p> <p>Keywords: arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.</p>

A Quick Guide to Writing Learning Objectives

- 1) Select a verb for performing the task.
- 2) Determine if the verb you have chosen best describes the type of behavior that the learners need to display after training (see Bloom's Taxonomy).
- 3) Under what conditions must the task be performed?
- 4) Determine to what standards the task must be performed.
- 5) Sample outlines for writing a learning objective:

1) After the training period the learner will be able to perform _____ (task) _____.
The task must be performed under the following conditions: _____ (condition) _____,
_____ (condition) _____, and _____ (condition) _____. The following standards must be
met: _____ (standard) _____, _____ (standard) _____, and _____ (standard) _____.

2) Perform _____ (task) _____ when given _____ (condition) _____ and
_____ (condition) _____. The learners must be trained to
_____ (standards) _____.

3) Given a _____ (condition) _____, _____ (condition) _____, and _____ (condition) _____,
perform _____ (task) _____. The task must be performed as
_____ (standards) _____.

4) (Verb) _____ (task) _____ with
_____ (condition) _____, _____ (condition) _____, and _____ (condition) _____, by
_____ (standard) _____, _____ (standard) _____, and _____ (standard) _____.

Task - What must the learner perform (one behavior, one verb)?

Condition - How will it be performed?

Standard - How well must it be performed?

Standards

Standards are measurable criteria:

- How often?
 - at least once per hour
 - at the start of every cycle
 - Before starting the task or after
- How well?
 - exactly 7%
 - no more than 1 error
 - accurate to three decimal points
 - within 15 minutes (never use a time standard unless it is required by the job)
- How many?
 - identify at least 16 items
 - produce 4 items
- How much?
 - 100 meters long
 - 1/2 block before turning
- How will we know it is OK?
 - until the left hand is touching
 - by speaking only after the customer has spoken
- Combination
 - produce at least 15 per hour (how many and how often)
 - until the ditch is 300 feet long with tapering slopes (how much and we know it is OK)

Conditions

- What is given?
 - by checking a chart
 - by looking at photo
 - by referring to the manual
- or not given
 - without reference to the manual
 - with no supervision
- What are the variables?
 - no matter how upset the customer becomes
- Combination
 - when driving (what is given) in the city (variable)