Writing Learning Objectives

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An objective defines what is to be accomplished in a learning session – a single activity, a course session, a full course, or a complete program (e.g., degree, certificate, diploma, etc.). Objectives are also called goals or purposes, and are sometimes written as planned outcomes.

A learning objective defines, in observable and measurable terms and the simplest language possible, what the student will know or be able to do at the end of the learning session(s). They keep the work of both teacher and students focused on specific learning outcomes. A good learning objective follows an A-B-C-D format (Cantor, 1992):

- A (audience) – it is written from the student's perspective.
    - Who will be doing the learning – "the learner will"; "the student will"

- B (behaviour) – it describes the future behaviour (knowing, doing or valuing) of the learner, rather than the performance of the instructor.
    - What this student will be doing or an action verb that describes some type or level of knowing, doing or feeling/valuing – e.g., detect, demonstrate, describe, analyse, express, etc.
    - A reference to the knowledge, skill or attitude (content) to be learned as a statement that completes the verb – e.g., "detect changes in chemical equilibrium"; "demonstrate how to take human fingerprints"; "measure temperature, heart and respiratory rate, and blood pressure"; "describe the effects of the Battle on the Plains of Abraham on the cultural history of Canada"; "analyse the ergonomic problems within a selected workplace"; "express an integrated set of values about working with international students".

- C (condition) – it delimits the conditions under which this behaviour is to be demonstrated by specifying such conditions as:
    - the location or context in which the behaviour is to be performed – "in a clinical setting"; "in a written assignment"
    - the set of tools to be used – "an electronic calculator provided by the instructor"; "non-electronic measuring devices".
    - the learning materials to be used – "using an approved translation dictionary"; "without the use of reference materials or textbook".

- D (degree) – it defines standards or criteria for acceptable performance in terms of such criteria as:
    - speed – "within a 10-minute time period"
    - accuracy – "with 90% accuracy"

- quality – "avoiding the use of gender-exclusive language"
- quantity – "in no more than two pages, typed, double-spaced".

Clearly stated learning objectives help the student focus on what is expected in terms of both preparing for individual class sessions and preparing for assignments, tests and examinations. They help the instructor stay on topic and avoid wandering down the garden path to watch the butterflies when harvesting peas was the objective. Watching butterflies is a nice break but detracts from achieving planned outcomes.

A clearly stated learning objective can serve two additional functions:

- imply a suitable teaching method; and
- lead directly to a suitable assessment method.

A learning objective and a planned outcome are similar, but a planned outcome usually includes a criterion, or a set of criteria, that will allow both the student and the instructor to assess progress toward the outcome.

The general purpose and major learning objectives for a course should be shared with the students as part of the course syllabus. The instructor should also prepare a set of objectives for each learning session to help stay on track. It is useful to share each of these sets with the students to help them stay focused on the major intent of each course session.

An Example

An example might be helpful:

In a course entitled Program Planning in Adult Education (ED6145, UNB, Faculty of Education), one of the course objectives states:

> *By the end of the course, the learner will understand and be able to demonstrate each phase of the program planning process. . .*

This version of the objective states two action verbs – *"understand" (comprehension level) and "demonstrate" (application level)* – and completes the verb by stating the content to be understood and demonstrated –*"each phase of the program planning process."* This objective could be clarified by stating the number of phases in the program planning process.

A fuller version of this objective states:

> *By the end of the course, the learner will understand and demonstrate each phase of the program planning process as a result of attending and actively participating in class sessions, preparing a draft plan for a program, presenting this draft plan to other class members for feedback, revising this plan on the basis of feedback, and submitting the revised plan in written form to the course instructor for assessment.*

This enlarged version of the objective tells the student what is expected, under what conditions the action verbs will be carried out, and what will be evaluated for a course mark. It also implies that the material to be worked on comes from the students themselves and that the physical set-up for the class must accommodate small group consultations.

Objectives for specific topics follow the same format. For example, in the program planning course, in relation to the topic "Writing Objectives," the specific objectives are:

- *based on readings in the textbook and other materials provided, write at least one objective for his/her program plan prior to coming to class;*
- *revise this objective in class on the basis of feedback from the course instructor and other class members; and*
- *develop a set of objectives (at least four) for his/her program plan.*

This set of objectives tells the student, as well as the course instructor, what is expected in terms of preparation and follow-up assignments; and implies how the learning and instructing will occur. For example, the second item in the list indicates that the class will include a work session in which students will share their written objective with others, will receive (helpful) feedback, and will then revise the objective. This class session clearly does not lend itself to a lecture; more likely the activities will include large and small group discussions, peer consultations, and individual consultations with the instructor.

Selecting the Action Verb

To help you identify suitable action verbs, look at the three tables that are included at the end of this article. Each table outlines verbs suitable for objectives related to one of three domains – cognitive, psychomotor, and affective – or types of learning (Bloom, 1984; Simpson, 1972; Krathwohl, Bloom & Masia, 1964; Anderson & Krathwohl, 2001). The UNB Faculty of Nursing refers to these three categories of objectives as knowing, doing and being.

- cognitive or knowing objectives relate to:
    - recalling facts and concepts (knowledge),
    - understanding knowledge,
    - applying knowledge,
    - analysing knowledge,
    - synthesizing new or revised knowledge, and
    - evaluating knowledge.

  The first two levels – recalling and understanding – are basic to the acquisition of knowledge. The third level – applying – involves using knowledge in new situations and contexts and covers basic problem solving (e.g., well-defined problems). The top three levels – analyzing, synthesizing and evaluating – are viewed as higher order or enhanced cognitive skills that lead to higher order problem solving and problem finding abilities (e.g., ill-defined problems).

- Psychomotor, skill or doing objectives relate to:
    - perceiving a need to develop a skill,
    - developing readiness to learn a skill,
    - developing initial responses under the guidance of a trainer or instructor,
    - refining responses and developing expertise under the guidance of a coach or mentor,
    - adapting skills for use in new contexts, and
    - creating new skill sets.

  Many university courses involve the use of skills although the instructor may not prepare a clear set of objectives for them. The first two levels – perception and set – collectively refer to readiness to learn a skill. The next three levels – guided response, mechanism and complex overt response – represent increasing levels of competency, speed, accuracy and efficiency in performing the skill, and decreasing levels of required supervision. The top two levels – adaptation and origination – represent advanced levels of skill development that might be found in programs designed for elite athletes or professional artists.

- Affective, attitudinal or being objectives relate to:
    - developing an awareness of feelings, attitudes and values;
    - responding to the need to develop attitudes and values;
    - actively responding by doing something;
    - accepting responsibility for personal behaviour; and
    - developing self-discipline, self-assessment, and self-direction.

  Every university course helps students develop attitudes and values, although few instructors stop long enough to think about what attitudes and values they are helping students develop. The first two levels – receiving and responding – collectively refer to readiness to learn. The third level – valuing – refers to the actual development and active use of the planned attitude or value. The top two levels – organizing and consistency of response – refer to the development of an integrated set of attitudes and values that are consistent with each other and that are used in consistent ways within a variety of different contexts and situations.

In all three domains, writing objectives for the lower and middle levels is easier than writing objectives for the higher levels, particularly with regard to specifying the conditions and criteria for assessment. Each objective you write must be written at a level that is consistent with the general purpose of the course. The objectives for an introductory course may be written entirely at the lower levels in the three domains, whereas the objectives for an advanced undergraduate course may need to be written at a variety of levels.

The Cognitive Domain of Learning

The cognitive domain involves knowledge and the development of intellectual skills. Six major levels have been identified as part of this domain of learning. The Knowledge level is the simplest form of learning while the Evaluation level is the most complex.

Lower levels of cognitive learning <----------->Higher levels of cognitive learning						
Level	**Knowledge**	**Comprehension**	**Application**	**Analysis**	**Synthesis**	**Evaluation**
Definition of level	Recall or recognition of facts, principles and theories; methods and processes; patterns, structures, and settings or contexts	Understand and express concepts in own words; understand translations; understand instructions.	Use concepts in new contexts; solve problems by selecting among and using "best" techniques, apply what has been learned in novel situations.	Separate material and concepts into constituent parts and detect relationships among parts and the way they are organized.	Build a structure or pattern from diverse elements to form a new whole, with emphasis on creating a new meaning or structure.	Make judgments about the value of ideas or materials on the basis of distinct criteria.
Example	Learner repeats another's definition of a principle	Learner explains a principle, using an example of its use in other contexts or situations.	Learner personally applies principle to procedures in a real or simulated situation	Learner separates a fact from an assumption within a principle	Learner combines several principles into a new operating strategy	Learner judges the use of the new strategy developed at synthesis level.
Verbs suitable for objectives at this level	define describe identify know label list locate match name outline quote recall recite recognize repeat reproduce restate select show state	comprehend convert defend distinguish discover estimate explain extend generalize give examples inquire interpret locate paraphrase predict rewrite summarize translate understand	apply calculate change code compute construct demonstrate discover draft dramatize draw estimate manage manipulate modify operate practice predict prepare produce schedule show solve use	analyse break down categorize compare contrast deconstruct diagram differentiate discriminate dissect distinguish illustrate outline select separate sort subdivide take apart	adapt combine compile compose create design devise generate hypothesize imagine improve infer integrate invent modify organize plan rearrange reconstruct reorganize revise	appraise assess compare contrast conclude critique defend dispute evaluate judge justify prove recommend support

The Psychomotor Domain of Learning

The psychomotor domain includes learning that relates to physical movement, coordination, and the use of finely-controlled motor skills. Development in these skills requires practice and is measured in terms of speed, precision, distance, and execution technique.

	Lower levels of psychomotor learning <----------->Higher levels of psychomotor learning						
Levels	**Perception**	**Set**	**Guided Response**	**Mechanism**	**Complex Overt Response**	**Adaptation**	**Origination**
Definition of Level	Use of sensory cues to guide motor activity; awareness of objects, qualities and relationships through the senses	Readiness to act; the disposition or mindset that pre-determines a person's response to different situations.	Early stage of learning a skill; learner uses imitation and trial-and-error. Adequate performance is achieved through practice under guidance of instructor.	Habitual responses; apply and combine previously known responses to appropriate situations; movements performed with confidence and proficiency	Smooth and efficient performance of complex motor acts. Proficiency is high, requires minimal energy.	Adapts motor responses when meeting demands of new, problematic situations.	Creates new motor acts for manipulating materials out of existing psychomotor knowledge and skills.
Example	Learner sees how a technical procedure is set up	Learner shows correct handling of an instrument	Learner practices a simple procedure under supervision	Learner consistently and correctly carries out a simple procedure without supervision	Learner easily and correctly handles more complex tasks	Learner adjusts use of instruments and procedures according to different situations	Learner creates a new procedure
Verbs suitable for objectives at this level	choose detect differentiate distinguish identify isolate link listen observe relate select	display explain point to proceed react respond show volunteer	Verbs similar for all three levels; criteria used to assess performance increases. adjust assemble build calibrate close construct dismantle dissect disconnect draw duplicate fasten grind heat load loosen manipulate mend open organize replace rotate select sort			adapt alter change modify rearrange revise reorganize vary	arrange build create devise combine compose construct design initiate originate

The Affective Domain of Learning

The affective domain describes the manner in which we learn to deal with objects, events and people emotionally, and includes learning related to feelings, values, interests, attitudes and motives.

	Lower levels of affective learning <----------->Higher levels of affective learning				
Level	**Receiving**	**Responding**	**Valuing**	**Organizing**	**Consistency of Response**
Definition of Level	Become aware of situation, phenomenon, or state of affairs; be willing to tolerate given stimulus, not avoid it; and control one's attention so that favored stimuli are selected and attended to, despite competing and distracting stimuli.	Willingness to comply, respond, and find satisfaction in response; active involvement. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding.	Based on internalized set of values; accepting preferring and/or having commitment to a value.	Organizing values into priorities by contrasting different values, resolving conflicts among them, and creating personal and unique value system.	Develop a persistent and consistent response to a set of related values and an internal consistency among in using these values in differing contexts and situations.
Example	Learner listens to others with respect.	Learner actively participates in class discussions	Learner actively shows concern about the democratic process.	Learner accepts need for balance between freedom and responsibility.	Learner shows self-discipline and initiative in a variety of contexts
Verbs suitable for objectives at this level	ask choose describe follow give hold identify listen locate name observe question request select use	aid answer assist attempt comply conform discuss follow help perform practice read report respond select volunteer	accept appreciate choose commit complete concern demonstrate describe differentiate distinguish explain express initiate invite join justify propose share	adhere arrange change combine compare contrast defend explain formulate generalize identify integrate organize recognize synthesize	act demonstrate display influence maintain mediate perform practice propose qualify question revise serve solve verify

Related Reading

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