

The ABCDs of Writing Instructional Objectives

The ABCD method of writing objectives is an excellent way to structure instructional objectives. In this method, "A" is for audience, "B" is for behavior, "C" for conditions and "D" is for degree of mastery needed.

Example: -"Given a sentence written in the past or present tense, the student will be able to re-write the sentence in future tense with no errors in tense or tense contradiction (i.e., I will see her yesterday.)."

The key here is to use verbs that indicate a clearly observable and measurable action. Appropriate action verbs for the cognitive, affective, and psychomotor domains are listed below.

Bloom's Taxonomy of the Cognitive Domain

Bloom's taxonomy of cognitive learning, originated by Benjamin Bloom and collaborators in the 1950's, describes several categories of cognitive learning.

ORIGINAL BLOOM COGNITIVE TAXONOMY	
Category	Description
Knowledge	Ability to recall previously learned material.
Comprehension	Ability to grasp meaning, explain, restate ideas.
Application	Ability to use learned material in new situations.
Analysis	Ability to separate material into component parts and show relationships between parts.
Synthesis	Ability to put together the separate ideas to form new whole, establish new relationships.
Evaluation	Ability to judge the worth of material against stated criteria.

This taxonomy was revised in 2001 by Anderson and Krathwohl to change the category names from nouns to verbs, and to switch the Evaluation and Synthesis levels in the hierarchy.

REVISED ANDERSON AND KRATHWOHL COGNITIVE TAXONOMY	
Category	Description
Remember	Ability to recall previously learned material.
Understand	Ability to grasp meaning, explain, restate ideas.
Apply	Ability to use learned material in new situations.
Analyze	Ability to separate material into component parts and show relationships between parts.
Evaluate	Ability to judge the worth of material against stated criteria.
Create	Ability to put together the separate ideas to form new whole, establish new relationships.

Many people also call the analysis, synthesis/create, and evaluation categories "problem solving."

ACTION VERBS APPROPRIATE FOR EACH LEVEL OF BLOOM'S/ANDERSON & KRATHWOHL'S TAXONOMY (Cognitive Domain)					
<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
Define	Choose	Apply	Analyze	Appraise	Arrange
Identify	Cite examples of	Demonstrate	Appraise	Assess	Assemble
List	Demonstrate	Dramatize	Calculate	Choose	Collect
Name	use of	Employ	Categorize	Compare	Compose
Recall	Describe	Generalize	Compare	Critique	Construct
Recognize	Determine	Illustrate	Conclude	Estimate	Create
Record	Differentiate	Interpret	Contrast	Evaluate	Design
Relate	between	Operate	Correlate	Judge	Develop
Repeat	Discriminate	Operationalize	Criticize	Measure	Formulate
Underline	Discuss	Practice	Deduce	Rate	Manage
	Explain	Relate	Debate	Revise	Modify
	Express	Schedule	Detect	Score	Organize
	Give in own words	Shop	Determine	Select	Plan
	Identify	Use	Develop	Validate	Prepare
	Interpret	Utilize	Diagram	Value	Produce
	Locate	Initiate	Differentiate	Test	Propose
	Pick		Distinguish		Predict
	Report		Draw conclusions		Reconstruct
	Restate		Estimate		Set-up
	Review		Evaluate		Synthesize
	Recognize		Examine		Systematize
	Select		Experiment		Devise
	Tell		Identify		
	Translate		Infer		
	Respond		Inspect		
	Practice		Inventory		
	Simulates		Predict		
			Question		
			Relate		
			Solve		
			Test		
			Diagnose		

References

Anderson, L.W., & Krathwohl (Eds.). (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Bloom, B.S. and Krathwohl, D. R. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals, by a committee of college and university examiners. Handbook I: Cognitive Domain*. NY, NY: Longmans, Green.

Krathwohl and Bloom's Taxonomy of the Affective Domain

Krathwohl and Bloom's 1964 taxonomy of the affective domain describes several categories of affective learning.

AFFECTIVE TAXONOMY		
Level	Definition	Example
Receiving	Being aware of or attending to something in the environment.	Individual reads a book passage about civil rights.
Responding	Showing some new behaviors as a result of experience.	Individual answers questions about the book, reads another book by the same author, another book about civil rights, etc.
Valuing	Showing some definite involvement or commitment.	The individual demonstrates this by voluntarily attending a lecture on civil rights.
Organization	Integrating a new value into one's general set of values, giving it some ranking among one's general priorities.	The individual arranges a civil rights rally.
Characterization by Value	Acting consistently with the new value.	The individual is firmly committed to the value, perhaps becoming a civil rights leader.

ACTION VERBS APPROPRIATE FOR EACH LEVEL OF KRATHWOHL & BLOOM'S TAXONOMY (Affective Domain)				
<u>Receiving</u>	<u>Responding</u>	<u>Valuing</u>	<u>Organization</u>	<u>Characterization by Value</u>
Accept Attend Develop Recognize	Complete Comply Cooperate Discuss Examine Obey Respond	Accept Defend Devote Pursue Seek	Codify Discriminate Display Order Organize Systematize Weigh	Internalize Verify

References

Krathwohl, D.R., Bloom, B.S. and Masia, B. B. (1964). *Taxonomy of educational objectives, Book II. Affective domain*. New York, NY. David McKay Company, Inc.

Psychomotor Domain

The following is a synthesis of the taxonomies of Simpson (1972), Dave (1970), and Harrow (1972).

PSYCHOMOTOR TAXONOMY		
Level	Definition	Example
Observing	Active mental attending of a physical event.	The learner watches a more experienced person. Other mental activity, such as reading may be a part of the observation process.
Imitating	Attempted copying of a physical behavior.	The first steps in learning a skill. The learner is observed and given direction and feedback on performance. Movement is not automatic or smooth.
Practicing	Trying a specific physical activity over and over.	The skill is repeated over and over. The entire sequence is performed repeatedly. Movement is moving towards becoming automatic and smooth.
Adapting	Fine tuning. Making minor adjustments in the physical activity in order to perfect it.	The skill is perfected. A mentor or a coach is often needed to provide an outside perspective on how to improve or adjust as needed for the situation.

ACTION VERBS APPROPRIATE FOR THE PSYCHOMOTOR TAXONOMY		
Bend Calibrates Constructs Differentiate (by touch) Dismantles Displays Fastens Fixes Grasp	Grinds Handle Heats Manipulates Measures Mends Mixes Operate	Organizes Perform (skillfully) Reach Relax Shorten Sketches Stretch Write

References

- Dave, R.H., in R. J. Armstrong et al., *Developing and Writing Behavioral Objectives* (Tucson, AZ: Educational Innovators Press, 1970).
- Harrow, A.J. (1972). *A taxonomy of the psychomotor domain*. New York: David McKay Co.
- Simpson, E. (1972). *The classification of educational objectives in the psychomotor domain: The psychomotor domain*. Vol. 3. Washington, DC: Gryphon House.

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