

Bloom's Taxonomy of Educational Objectives and Writing Intended Learning Outcomes Statements

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PREFACE

This handbook describes Bloom's Taxonomy of Educational Objectives and contains guidelines for writing intended student learning outcomes for business programs.

The handbook is organized into the following sections:

Introduction : This section summarizes the initial development of Bloom's classification framework for educational goals and objectives.
The Original Taxonomy of the Cognitive Domain : This section describes Bloom's 1956 original taxonomy of educational objectives in the cognitive domain along with sample verbs for use in writing intended learning outcomes for each cognitive level of learning.
The Revised Bloom's Taxonomy : This section describes the 2001 revision of the taxonomy along with sample verbs for use in writing intended learning outcomes for each cognitive level in the revised taxonomy.
Why Use Bloom's Taxonomy? : This section provides several reasons for using Bloom's Taxonomy of Educational Objectives in guiding teaching and learning.
Writing Intended Student Learning Outcomes Statements : This section contains guidelines for writing clear and effective statements of intended student learning outcomes.

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INTRODUCTION

In 1956, Benjamin Bloom along with a group of like-minded educators developed a framework for classifying educational goals and objectives into a hierarchical structure representing different forms and levels of learning. This framework was published as Bloom's Taxonomy of Educational Objectives and consisted of the following three domains:

The Cognitive Domain – knowledge-based domain, consisting of six levels, encompassing intellectual or thinking skills
The Affective Domain – attitudinal-based domain, consisting of five levels, encompassing attitudes and values
The Psychomotor Domain – skills-based domain, consisting of six levels, encompassing physical skills or the performance of actions

Each of these three domains consists of a multi-tiered, hierarchical structure for classifying learning according to increasing levels of complexity. In this hierarchical framework, each level of learning is a prerequisite for the next level, i.e., mastery of a given level of learning requires mastery of the previous levels. Consequently, the taxonomy naturally leads to classifications of lower- and higher-order learning.

In higher education, the cognitive domain has been the principal focus for developing educational goals and objectives while the affective and psychomotor domains have received less attention. Bloom's taxonomy has stood the test of time, has been used by generations of curriculum planners and college and university professors, and has become the standard for developing frameworks for learning, teaching, and assessment.

THE ORIGINAL TAXONOMY OF THE COGNITIVE DOMAIN

Bloom's original 1956 Taxonomy of Educational Objectives identified the following levels of cognitive learning (arranged from lower-order to higher-order levels of learning):

Knowledge – The remembering of previously learned material; this involves the recall of a wide range of material, from specific facts to complete theories.
Comprehension – The ability to grasp the meaning of previously-learned material; this may be demonstrated by translating material from one form to another, interpreting material (explaining or summarizing), or by predicting consequences or effects.
Application – The ability to use learned material in new and concrete situations; this may include the application of rules, methods, concepts, principles, laws, and theories.
Analysis – The ability to break down material into its component parts so that its organizational structure may be understood; this may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles involved.

- □ **Synthesis** The ability to put parts together to form a new whole; this may involve the production of a unique communication (thesis or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information).
- **Evaluation** The ability to judge the value of material for a given purpose; the judgments are to be based on definite internal and/or external criteria.

For each level in each domain, Bloom identified a list of suitable verbs for describing that level in written objectives. For each level in the cognitive domain, the following table provides a list of sample verbs to use in writing intended student learning outcomes that are appropriate for that cognitive level of learning. In the table, the learning levels are arranged from lower-order learning to higher-order learning.

Cognitive Level Sample Verbs to Use in Writing Intended Student Learning C							
Knowledge	Acquire Choose Count Define Distinguish Fill-in	Find Group Identify Indicate Label List	Locate Match Memorize Name Outline Point	Quote Recall Recite Recognize Record Repeat	Reproduce Select State Tabulate Trace Underline		
Comprehension	Associate Change Classify Conclude Compare Contrast Convert Demonstrate Describe Determine	Define Differentiate Discuss Distinguish Estimate Expand Explain Express Extend Extrapolate	Fill in Find Generalize Give examples Group Infer Illustrate Interpolate Interpret Measure	Outline Paraphrase Predict Prepare Put in order Rearrange Recognize Reorder Reorganize Represent	Retell Reword Rewrite Restate Show Simplify Suggest Summarize Transform Translate		
Application The rem	Apply Calculate Choose Classify Collect information Compute	Determine Develop Discover Discuss Distinguish Employ Estimate	Generalize Graph Illustrate Interpret Interpret Interpret Investigate Locate ble in the Membe	Organize Participate Perform Plan Practice Predict Prepare r Only Resource	Put togethe Record Relate Restructure Select Show Solve		