

# IACBE

Advancing Academic Quality in  
Business Education Worldwide

Think critically teams  
21st Century Learning  
Synthesize disparate data design  
person Communicate orally writing  
Perceive the discover ideas big  
**Learning Skills** Visual media Invent picture  
Think creatively  
Collaborate  
Compare and contrast  
problem solve

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





## **PREFACE**

This document contains Bloom's 1956 original taxonomy of educational objectives in the cognitive domain, the 2001 revision of the taxonomy, sample verbs to use in writing intended student learning outcomes that are appropriate for each cognitive level of learning, and guidelines for writing clear and effective statements of intended student learning outcomes.

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

## Bloom's Original Taxonomy (1956)

Bloom's Original Taxonomy of the Cognitive Domain					
Cognitive Level	Sample Verbs to Use in Writing Intended Student Learning Outcomes				
<b>Knowledge</b>	Acquire	Find	Locate	Quote	Reproduce
	Choose	Group	Match	Recall	Select
	Count	Identify	Memorize	Recite	State
	Define	Indicate	Name	Recognize	Tabulate
	Distinguish	Label	Outline	Record	Trace
	Fill-in	List	Point	Repeat	Underline
<b>Comprehension</b>	Associate	Define	Fill in	Outline	Retell
	Change	Differentiate	Find	Paraphrase	Reword
	Classify	Discuss	Generalize	Predict	Rewrite
	Conclude	Distinguish	Give examples	Prepare	Restate
	Compare	Estimate	Group	Put in order	Show
	Contrast	Expand	Infer	Rearrange	Simplify
	Convert	Explain	Illustrate	Recognize	Suggest
	Demonstrate	Express	Interpolate	Reorder	Summarize
	Describe	Extend	Interpret	Reorganize	Transform
	Determine	Extrapolate	Measure	Represent	Translate
<b>Application</b>	Apply	Determine	Generalize	Organize	Put together
	Calculate	Develop	Graph	Participate	Record
	Choose	Discover	Illustrate	Perform	Relate
	Classify	Discuss	Interpret	Plan	Restructure
	Collect information	Distinguish	Interview	Practice	Select
	Compute	Employ	Investigate	Predict	Show
	Construct	Estimate	Locate	Prepare	Solve
	Convert	Examine	Make	Present	Track
	Differentiate	Expand	Manipulate	Produce	Transfer
	Demonstrate	Experiment	Model	Prove	Translate
	Derive	Express in a discussion	Modify	Put into action	Use
			Operate	Put to use	Utilize
<b>Analysis</b>	Analyze	Detect	Draw	Infer	Select
	Categorize	Determine	conclusions	Inspect	Separate
	Classify	Diagram	Examine	Order	Simplify
	Compare	Differentiate	Formulate	Outline	Sort
	Contrast	Discover	Generalize	Point out	Subdivide
	Criticize	Discriminate	Group	Recognize	Take apart
	Debate	Distinguish	Identify (parts)	Relate	Transform
	Deduce	Divide	Illustrate	Search	Uncover

## Bloom's Original Taxonomy of the Cognitive Domain

Cognitive Level	Sample Verbs to Use in Writing Intended Student Learning Outcomes				
<b>Synthesis</b>	Arrange	Deduce	Generate	Predict	Reorganize
	Blend	Derive	Imagine	Prepare	Revise
	Build	Design	Integrate	Prescribe	Rewrite
	Categorize	Devise	Invent	Present (an original work)	Specify
	Combine	Develop	Make up		Suppose
	Compile	Document	Modify	Produce	Summarize
	Compose	Explain	Originate	Propose	Synthesize
	Constitute	Form	Organize	Rearrange	Tell
	Construct	Formulate	Perform	Reconstruct	Transmit
	Create	Generalize	Plan	Relate	Write
<b>Evaluation</b>	Appraise	Consider	Determine	Justify	Select
	Argue	Contrast	Discriminate	Measure	Standardize
	Assess	Criticize	Distinguish	Rank	Summarize
	Award	Critique	Evaluate	Rate	Support
	Choose	Decide	Grade	Recommend	Test
	Compare	Defend	Interpret	Relate	Validate
	Conclude	Describe	Judge	Score	Verify

## The Revised Bloom's Taxonomy (2001)

### Revised Bloom's Taxonomy of the Cognitive Domain

Cognitive Level	Sample Verbs to Use in Writing Intended Student Learning Outcomes				
<b>Remembering</b>	Define	Identify	Name	Recognize	Retrieve
	Duplicate	List	Recall	Reproduce	Tell
<b>Understanding</b>	Calculate	Conclude	Expand	Interpret	Predict
	Categorize	Contrast	Explain	Locate	Report
	Clarify	Describe	Identify	Match	Restate
	Classify	Discuss	Illustrate	Outline	Summarize
	Compare	Exemplify	Infer	Paraphrase	Translate
<b>Applying</b>	Carry out	Demonstrate	Illustrate	Practice	Use
	Classify	Execute	Implement	Solve	Utilize
<b>Analyzing</b>	Appraise	Deconstruct	Distinguish	Integrate	Select
	Attribute	Detect	Examine	Organize	Sequence
	Compare	Differentiate	Formulate	Parse	Structure
	Contrast	Discriminate	Infer	Relate	Test
<b>Evaluating</b>	Appraise	Critique	Dispute	Prioritize	Select
	Check	Defend	Judge	Rate	Support
	Coordinate	Detect	Monitor	Reconstruct	Verify
<b>Creating</b>	Change	Compose	Design	Hypothesize	Plan
	Combine	Construct	Formulate	Improve	Predict
	Compile	Create	Generate	Invent	Produce

## Writing Clear and Effective Statements of Intended Student Learning Outcomes

Intended student learning outcomes are statements that describe the desired learning that students should have acquired and should be able to demonstrate at the end of a program of study. They identify what students should know and be able to do as a result of completing their particular degree programs. Consequently, statements of intended learning outcomes should clearly articulate the intended knowledge, skills, abilities, competencies, attitudes, and values that characterize the essential learning required of a graduate of a program of study.

### How to Write Intended Student Learning Outcomes

Statements of intended student learning outcomes specify both an observable action on the part of the student and the object of that action. In addition, they also may include criteria for acceptable performance and/or other modifiers of the action or object of the action.

Consequently, in writing intended student learning outcomes, it may be useful to begin each learning outcome statement with “Students will be able to...,” followed by an appropriate verb relating to the desired action or performance associated with the intended cognitive level (e.g., using Bloom’s taxonomy and the sample verbs above), and ending with the object of the statement describing the business or business-related learning that students are expected to demonstrate through the action or performance. In addition, learning outcomes statements may also include modifiers that specify standards, conditions, or criteria for acceptable performance or that further clarify or elaborate on the targeted business or business-related learning.

**Note:** The verb that is chosen for intended learning outcomes statements will help to focus on exactly what is to be assessed and to identify the appropriate tools, instruments, and metrics that can be used to assess the extent of the intended learning.

### *General Structure of Intended Student Learning Outcomes*

Alternative formats for intended learning outcomes statements:

1. **Students will be able to + verb** (desired action or performance) + **object** (business or business-related learning) + **optional modifiers** (performance criteria/conditions or targeted learning descriptors).
2. **Students will be able to + verb** (desired action or performance) + **optional modifiers** (performance criteria/conditions or targeted learning descriptors) + **object** (business or business-related learning).

### *Examples*

1. **Students will be able to explain the principal concepts and theories in the functional areas of business.**

In example #1 above:

- We begin with the suggested phrase “**Students will be able to...**”
- **Verb** = explain
- **Object** = the principal concepts and theories in the functional areas of business
- **Modifiers** = none

**2. Students will be able to apply legal and ethical principles in business to organizational decision making.**

In example #2 above:

- We begin with the suggested phrase “**Students will be able to...**”
- **Verb** = apply
- **Object** = legal and ethical principles in business
- **Modifier** = to organizational decision making

**3. Students will be able to formulate innovative management strategies using a triple-bottom-line approach.**

In example #3 above:

- We begin with the suggested phrase “**Students will be able to...**”
- **Verb** = formulate
- **Object** = innovative management strategies
- **Modifier** = using a triple-bottom-line approach

**4. Students will be able to articulate in detailed and specific terms the international dimensions of marketing.**

In example #4 above:

- We begin with the suggested phrase “**Students will be able to...**”
- **Verb** = articulate
- **Modifier** = in detailed and specific terms
- **Object** = the international dimensions of business

*Verbs to Avoid*

In order for intended learning outcomes to provide a useful basis for developing appropriate measures and instruments for assessing student learning, they must contain verbs that describe observable, measurable, and achievable actions and performance levels. Consequently, verbs that represent actions or concepts that are difficult or impossible to measure should be avoided. For example, the following verbs should not be used in writing intended student learning outcomes:

- Appreciate
- Be aware of
- Be familiar with
- Believe
- Comprehend
- Know
- Learn
- Understand

As an example, consider the following intended student learning outcome: ***Students will be able to understand the economic environment of business.***

The verb in this statement – understand – is problematic because it cannot be measured. How does one measure a student’s “understanding”? What we need to ask is this: What type of action or performance would students have to demonstrate in order to provide evidence of their “understanding” of the economic environment of business?

What is needed here is to replace “understand” with a verb that results in an action or performance that can be observed and measured. For example, the following modification results in an intended learning outcome statement that is capable of being measured: ***Students will be able to analyze the impacts of the economic environment on business.***

Although the verbs listed above should not be used when writing intended student learning outcomes, they are appropriate for use in writing broad-based student learning goals as defined by the IACBE. As discussed in Goals, Outcomes, and Objectives on the IACBE website, broad-based student learning goals are generally too broadly stated in order to be measurable in and of themselves. Therefore, intended learning outcomes are articulated in order to make the goals specific and to describe what the goals actually mean. Consequently, terms like ‘appreciate,’ ‘comprehend,’ ‘know,’ and ‘understand,’ etc. can be used in writing broad-based student learning goals inasmuch as it is not the goals but the intended learning outcomes that are being directly measured through the assessment process.

#### Characteristics of Good Intended Student Learning Outcomes

Statements of intended student learning outcomes should:

- specify the level, criteria, or standards for the knowledge, skills, abilities, competencies, attitudes, or values that students are expected to be able to demonstrate.
- include conditions under which students should be able to demonstrate their knowledge, skills, abilities, competencies, attitudes, or values.
- contain active verbs.
- be measurable.
- be expressed in ways that make them capable of being measured by more than one assessment tool, instrument, or metric.

#### Guidelines for Writing Intended Student Learning Outcomes Statements

In writing statements of intended student learning outcomes, an academic business should ensure that its statements:

- are aligned with the academic business unit’s mission and broad-based student learning goals.
- clearly describe the type and level of learning that are expected of graduates of the business programs, i.e., they should specify (i) the areas/fields that will be the focus of assessment, (ii) the knowledge, skills, abilities, competencies, attitudes, and values that students are expected to acquire in those areas/fields upon completion of their programs of study, (iii) the depth of the knowledge, skills, abilities, competencies, attitudes, and values that students are expected to demonstrate.

- are distinct and specific.
- are expressed in terms of the overall program and not individual courses.
- are simple declarative statements that are capable of being assessed by a single assessment method, i.e., they should not be complex statements that combine multiple intended outcomes into a single statement requiring the use of multiple assessment methods. (**Example of a Complex or Combined Statement:** *Students should be able to explain the principal concepts and theories in the functional areas of business and to demonstrate well-developed writing and oral communication skills.* This statement would require two different assessment measures since assessing a student’s knowledge of the functional areas of business would require a different tool that assessing communication skills.)
- are expressed in ways that make them capable of being assessed by more than one assessment tool, instrument, or metric, i.e., they should not impose restrictions on the number or type of assessment methods that can be used to measure the extent to which students are achieving the desired outcomes.
- are expressed from the students’ perspective and not in terms of what the academic business unit will do, will provide, or intends to accomplish.

Checklist for Writing Intended Student Learning Outcomes Statements

The following table provides a checklist for academic business units to use in writing clear and effective statements of intended student learning outcomes for their business programs.

Checklist for Writing Intended Student Learning Outcomes	
<input type="checkbox"/>	The statements specify the level, criteria, or standards for the knowledge, skills, abilities, competencies, attitudes, or values that students are expected to be able to demonstrate.
<input type="checkbox"/>	The statements include conditions under which students should be able to demonstrate their knowledge, skills, abilities, competencies, attitudes, or values.
<input type="checkbox"/>	The statements are written using active verbs that specify definite, observable behaviors or performance levels.
<input type="checkbox"/>	The statements are measurable.
<input type="checkbox"/>	The intended student learning outcomes are distinct and specific to the business programs.
<input type="checkbox"/>	The intended student learning outcomes are aligned with the academic business unit’s mission and broad-based student learning goals.
<input type="checkbox"/>	The statements specify (i) the areas/fields that will be the focus of assessment, (ii) the knowledge, skills, abilities, competencies, attitudes, and values that students are expected to acquire in those areas/fields upon completion of their programs of study, (iii) the depth of the knowledge, skills, abilities, competencies, attitudes, and values that students are expected to demonstrate.
<input type="checkbox"/>	The intended student learning outcomes are expressed in terms of the overall program and not individual courses.



<input type="checkbox"/>	The statements are simple declarative statements that are capable of being assessed by a single assessment method, i.e., they are expressed in ways that do not combine multiple intended outcomes into a single statement requiring the use of multiple assessment methods.
<input type="checkbox"/>	The statements are expressed in ways that make them capable of being assessed by more than one assessment tool, instrument, or metric.
<input type="checkbox"/>	The statements are expressed from the students' perspective and not in terms of what the academic business unit will do, will provide, or intends to accomplish.
<input type="checkbox"/>	It is possible to collect accurate and reliable assessment data for each intended learning outcome.
<input type="checkbox"/>	The statements can be used to identify areas for changes and improvements.
<input type="checkbox"/>	Considered together, the intended student learning outcomes accurately reflect the key desired learning results for each of the academic business unit's programs.

For any checkbox that remains unchecked in the list above, you will need to review your intended student learning outcomes and revise them accordingly before submitting your outcomes assessment plan to the IACBE.

#### Why Develop Intended Student Learning Outcomes?

There are numerous benefits to academic business units, faculty members, and students of developing a set of clear and effective statements of intended student learning outcomes.

##### *Academic Business Units*

Intended student learning outcomes statements help to:

- inform program and curriculum design.
- identify areas for changes and improvements in curriculum, pedagogy, academic support services, etc.

##### *Faculty*

Intended student learning outcomes statements help to:

- inform course content.
- develop teaching methodologies.
- identify learning activities and tasks.
- develop appropriate assessment tools and instruments.

### *Students*

Intended student learning outcomes statements help to:

- provide a framework for guiding their studies.
- inform students of what is expected of them in their programs of study.
- prepare them for assessment.