

Learning Outcomes

What are Learning Outcomes?

Learning outcomes are *statements that indicate what successful students should know, value or be able to do by the end of the course or program.*

They are the assessable ends of education, written from the students' perspective, focused on what students can expect to achieve if they have learned successfully. In order to be assessable, they must specify things that can be observed, that are public, and not activities or states that are internal to students' minds. They can be set at both the program and course level.

Why Care About Learning Outcomes?

Strategic use of learning outcomes in your teaching and course design can result in many potential benefits. A few of these are summarized below:

Better Learning

Learning outcomes can be used to provide guidance for students, so they know what is expected of them, and thus, what they should focus on in-class and at home.

Increased Motivation

Learning outcomes reinforce the belief that there is a point to what is being learned and assessed, leading students to take a deeper approach consistent with trying to *understand* what they are learning, instead of memorizing and regurgitating information on exams.

Better Performance on Assignments and Tests

When students know what they are expected to demonstrate, they are better able to do so.

Focused Teaching

By defining what students are supposed to know, value, and be able to do at the end of a course, you generate questions and clarify your own ideas to guide your teaching.

Strategic Teaching

Once you have created learning outcomes for your course, you can use them to plan lessons that strategically target those outcomes, so that your classes have a greater likelihood of helping students learn what they need to learn.

Strategic Assessment

Outcomes can be used to create strategically-targeted and appropriate assessment methods. Assessments that test whether students have met the learning outcomes are also likely to be consistent with the sorts of teaching methods that help students learn those outcomes.

Attention to Outputs

The use of learning outcomes helps us focus on the outputs of our work, rather than the inputs. We work with the students we have, and focus on how much they have learned.

Meeting Requirements

Program-level learning outcomes are now required for university programs in Ontario; they are increasingly being required by professional accreditation boards globally.

Strategic Design of Programs

Learning outcomes at the course level build towards the overall program learning outcomes. Intentionally laying these out help with the strategic and intentional design of the program.

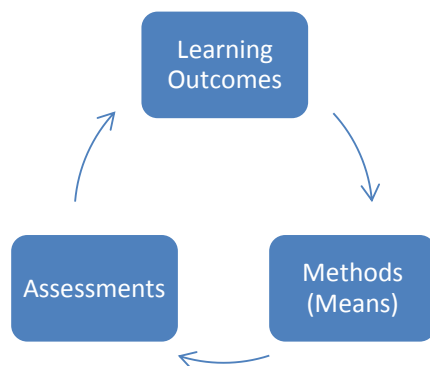
What is the format for Writing Learning Outcomes?

A learning outcome should start with stem, and be completed with an observable action identifying the learning to be demonstrated.

Stem: On successful completion of this course, a student will be able to:

Completion: « Active verb/phrase » + a) Concept/Idea or b) Skill or c) Attitude/Value

Aligning Your Outcomes, Methods, and Assessments



The Three Essentials of Alignment

1. Teaching methods, assessment tasks, and learning outcomes should be aligned, consistent and coherent.
2. Teaching methods should help students develop the ideas, skills and values/attitudes specified in the learning outcomes. *The teaching methods are the means; the learning outcomes are the ends.*
3. Assessment tasks should determine whether, and to what degree, students have achieved the learning outcomes.

Useful Verbs for Use in Learning Outcomes

Here are some active, public and observable verbs that you can use to communicate expectations at each level of Bloom's Revised Taxonomy, which we've adapted and changed to suit our needs. The first column indicates the likely level of complexity (each list starts with the least complex and moves down to the most complex). The second column suggests some verbs associated with each level of complexity. There is some overlap in categories. You don't need to use the verbs we've included; if you know better synonyms, go ahead and use them!

NOTES: Each level subsumes the ones beneath it. So, for instance, an outcome at the level of *application* presupposes that students can *remember* and *comprehend* the relevant information. Although the verbs listed pertain specifically to the cognitive domain, some can be used for the affective domain – and all of them are expressed in performative terms! That's because **cognitive and affective knowledge is often impossible to assess unless it's integrated with some sort of behaviour!**

BLOOM'S REVISED TAXONOMY (Adapted by Potter, 2010)	
Evaluation Using standards, criteria, theories or processes to judge value	Evaluate, argue, verify, assess, test, judge, rank, measure, appraise, select, check, justify, determine, support, defend, criticize, critique, weigh, assess, choose, compare, contrast, decide, estimate, grade, rate, revise, score, coordinate, select, choose, debate, deduce, induce, recommend, monitor, compare, contrast, conclude, discriminate, explain (why), interpret, relate, summarize
Synthesis / Creation Relating items of information to each other, integrating them, and generating something new	Write, plan, integrate, formulate, propose, specify, produce, organize, theorize, design, build, systematize, combine, summarize, restate, discuss, derive, relate, generalize, conclude, produce, arrange, assemble, collect, compose, construct, create, perform, prepare, propose, strategize, compare, contrast, hypothesize, invent, discover, present, write, deduce, induce, bring together, pretend, predict, strategize, modify, improve, set up, adapt, solve, categorize, devise, explain (why), generate, manage, rearrange, reconstruct, relate, reorganize, revise, argue, extend, project
Analysis Distilling and/or organizing information into its components; solving problems	Analyze, estimate, detect, classify, discover, discriminate, explore, distinguish, catalogue, investigate, break down, order, determine, differentiate, dissect, examine, interpret, calculate, categorize, debate, diagram, experiment, question, solve, test, dissect, deconstruct, focus, find coherence, survey, compare, contrast, classify, investigate, outline, separate, structure, categorize, determine evidence/premises and conclusions, appraise, criticize, debate, illustrate, infer, inspect, inventory, select, deduce, induce, argue, balance, moderate, identify, explain (how/why)
Application Using information in new situations	Apply, sequence, carry out, solve, prepare, operate, generalize, plan, repair, explain, predict, instruct, compute, use, perform, implement, employ, solve, construct, demonstrate, give examples, illustrate, interpret, investigate, practice, measure, operate, adjust, show, report, paint, draw, collect, dramatize, classify, order, change, write, manipulate, modify, organize, produce, schedule, translate, complete, examine
Comprehension / Interpretation Constructing meaning from information	Translate, extrapolate, convert, interpret, abstract, transform, select, indicate, illustrate, represent, formulate, explain (who/what/when/where/that/how), classify, describe, discuss, express, identify, locate, paraphrase, recognize, report, restate, review, summarize, find, relate, define, clarify, diagram, outline, compare, contrast, derive, arrange, estimate, extend, generalize, give examples, ask, distinguish
Recollection Recalling items of information	Recall, identify, recognize, acquire, distinguish, state, define, name, list, label, reproduce, order, indicate, record, relate, repeat, select, tell, describe, match, locate, report, choose, cite, define, outline, complete, draw, find, give, isolate, pick, put, show

Problem Words/Phrases

Understand	Be aware of	Grasp
Appreciate	Be conscious of	Have a knowledge of
Comprehend	Perceive	Learn
Know	Value	Perceive
See	Apprehend	Get
Accept	Be familiar with	

Ask yourself:

1. Is this outcome public and observable?
2. How will I, and the students, know when this outcome has been achieved?
3. Does the learning outcome follow from the stem (is it a complete sentence)?
4. Is it about the ends not the means (what students will be able to do when they leave the course, not the specific assignments they complete in the course)?

Real – *and Real Bad* – Examples

1. Is it public and observable?

Upon successful completion of this course, you should be able to:

- Appreciate the intricacy of theoretical constructs
- Understand theory
- Think about complex adaptations

2. How will I, and the students, know when the outcome has been achieved? (Is it clear enough for students?)

Upon successful completion of this course, you should be able to:

- simulate a sizeable process
- work effectively in a project team

3. Does it follow the stem and make a complete sentence when read aloud?

Upon successful completion of this course, students will be able to:

- Have done team skills
- Develop an introductory knowledge in bridge building
- Good safe practice

4. Is it about the ends (what students will be able to do when they leave the course) not the means (the specific assignments and lessons they complete in the course)?

Upon successful completion of this course, you should be able to:

- The course includes a group project requiring teamwork and collaboration skills
- Get involved in team works and independent studies through assignments and projects
- Formulate answers to assignment problems
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Resources

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- Anderson, L.W. and Krathwohl, D.R. (Eds.). (2001). *A Taxonomy for Learning, Teaching and Assessing* (Based on Bloom's Taxonomy).
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