Writing Course- and Program-Level Learning Outcomes – Things to Consider

Learning outcomes are statements of the essential knowledge, skills, and attributes that students are expected to attain and demonstrate by the end of a unit, course, or program. In other words, they are the intended results of the curriculum. In this summary, we will review some key elements of learning outcomes, what should be included when writing a learning outcome, and the benefits of having stated outcomes for both students and instructors.

Effective learning outcomes have the following key elements[1]:

Student-Centered	They emphasize what a student will be able to know, do, or value as a result of instruction. They do not describe what the instructor or program will do to cause learning, or simply state content covered in the course.
Specific	They should express what students are expected to be able to do and the level at which you expect them to demonstrate their learning. Choosing verbs that make your expectation clear will be more meaningful for students and for instructors who are teaching and measuring learning. It is tempting to use more general catch-all verbs like 'understand' but these should be avoided, as they can be interpreted very differently by students or by different instructors. Ask yourself how students will show their understanding and then consider using the more specific verbs in your answer. See "Sample Bloom's taxonomy Verbs" document on our website.
Demonstrable	They must be assessable in some way, so you can determine whether your course is meeting its intended goals. For this reason, outcomes are often aligned to assessments; however, achievement may be qualitative, quantitative, or discipline specific. Program-level outcomes are typically achieved through course-level outcomes.
Achievable	If students cannot achieve the learning outcomes with reasonable time and effort, including reasonable effort on their part outside of class time, then they are not realistic. Consider their prior knowledge and skills, the workload required to meet the outcome, opportunities to practice and apply new knowledge and skills, and the number of outcomes you are aiming to meet in your course.
Relevant	Outcomes should clarify the level of achievement successful students will reach in the course. They should also tell students something about what they'll be able to do by the end of the course. In other words, students need to see how the course expectations connect to what they are learning in their courses and more broadly to their program. The outcomes only become relevant to students when we explain how they connect to their own lives, their work, their potential career goals, etc. Use clear, concise language and avoid unnecessary jargon.

Developing and Writing Learning Outcomes

Outcomes typically take the form "By the end of this (class/course/program), students should be able to…" followed by a statement describing the expected learning. There may be a wide range of outcomes for a course or program, but they typically fall into the three categories of knowing, acting, and being, as described[2] below:

Student		
	Knowing	What are the key concepts? How are they communicated and reinforced?
	Acting (Do)	When do they act like a member of the discipline? What are the cognitive/process and technical skills are they learning?
	Being (Value)	Have they become confident in the discipline? Do they share disciplinary values, habits of mind, and/or beliefs? Do they have opportunity to challenge disciplinary norms?

Course-level learning outcomes typically contain three parts: (1) an action/verb (the how), (2) a learning statement or task (the what), and (3) the context or conditions in which they will demonstrate acceptable performance, i.e., broadly speaking, where they will demonstrate their learning. Some examples of what this may look like are provided below:

Example 1: Analyze, contextualize, and synthesize information from primary sources into a comprehensive research paper

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[1] Adapted from (1) Teaching and Learning Lab, MIT., *Where to Start: Backward Design*. Date Accessed: Jan 24, 2022, https://tll.mit.edu/teaching-resources/course-design/backward-design/

[2] Barnett, R. and Coate, K. (2005) Engaging the curriculum in higher education. Maidenhead, England: Open University Press.

Example 2: Demonstrate ethical standards in presenting data and work accurately as one's own, for example, by avoiding plagiarizing

While it is good practice to include these three elements in your outcome, you may find that program-level outcomes are better left without specific details of where students will demonstrate the outcome because they may do so in various ways across different courses. Similarly, outcomes at a lesson-level may be quite specific and the context in which students will demonstrate their understanding is not yet fully apparent without additional instruction. The following checklist may help as you work to write and revise your topic- and course-level learning outcomes:

- ☐ Is the outcome student-centered, i.e., does it clearly identify what the student should be able to do?
- ☐ Is the level (verb and context) aligned with your expectations for student learning? If you expect reasoning, does it convey that?
- ☐ Could the outcome be written at a higher-level? Should expectations be at a lower level so that it is achievable?
- ☐ Is it well-defined? Is it clear how you would measure achievement?
- ☐ Is it written clearly so that both you and students know what is expected? Do chosen verbs have a clear meaning?
- ☐ Is it relevant and useful to students?

Additional Information on Writing Program-Level Learning Outcomes

Program outcomes can be more challenging to write as they are typically broader statements that bring together the themes from the collection of courses and experiences of a program. However, they are still characterized by the same general format and elements described above. Ideally, program outcomes would be written as the first step in program development, with courses and specific teaching activities planned so that they align to support students in meeting the program outcomes. However, in practice, this is not always done in this order. Over time, programs undergo changes or curriculum renewal efforts, and program outcomes must be revisited while courses are largely in place. The Centre for Learning and Teaching offers support to groups and individuals as they plan to revisit, write, and revise their program outcomes. We strongly encourage units to contact the Centre prior to beginning these activities. The worksheet "Program-Level Outcomes Worksheet" may also help such efforts. The checklist[3] below provides some direction for groups as they work to *evaluate* their program outcomes.

- ☐ Is the purpose of the program as a whole evident from the learning outcomes?
- ☐ Do they include what is important, special, unique, or innovative about the program?
- ☐ Do they outline the critical knowledge, skills, and attributes/values that students are expected to have by the end of the program?
- ☐ Are the outcomes aligned with the course outcomes? Can you identify the mechanism in which they will be attained and demonstrated?
- ☐ Is anything missing?

Benefits of Outcomes

There are many advantages for both students and instructors to having intended learning outcomes stated at the lesson, course, and program level. Some are outlined below.

Course-Level Outcomes

- Tell students what they should be learning and where to focus their attention (what you expect from them!)
- Help instructors shape instruction and assessment by defining what is it that you want to teach. See "Course Outcome Alignment Worksheet" for additional information.
- Help when it comes to measuring what students are learning and how you can improve instruction

Program-Level Outcomes

- Communicate what is critical, intentional, and special about a program
- Support curriculum development
- Guide creating a cohesive learning experience
- Help students identify the connections between their courses and program-level competencies
- Can guide accreditation efforts

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[3] Adapted from Dyjur, P., Grant, K.A., and Kalu, F. (2019) Introduction to curriculum review. Taylor Institute for Teaching and Learning. Calgary: University of Calgary

Program-Level Outcomes Worksheet

As you begin to create or revisit your program outcomes, it may be helpful to first ask yourself what the ideal characteristics of a graduate of your program will be. In other words, what are the key things that they should be able to know, do, and value by the end of the program. The following worksheet can be used as a first step to creating program-level outcomes.

A student graduating from the program should be able to…		
Know	**Do**	**Value**

Course Outcome Alignment Worksheet

One approach to aligning your teaching with learning outcomes is to consider the variety of ways that students will engage with the content on their way to attaining that outcome. What specific in-class activities and homework support students in achieving the outcome? What assessments address the outcome? What assignment and exam questions will allow students to demonstrate their learning? Are there other outcomes that also help students gain valuable experience in this area? The following worksheet can be used as you document and evaluate your instruction and course design.

Outcome:	
In-Class Instruction/Activities:	
Homework/Assignments:	
Assessment/Exam Questions:	
Other:	
Connected Units/Courses:	