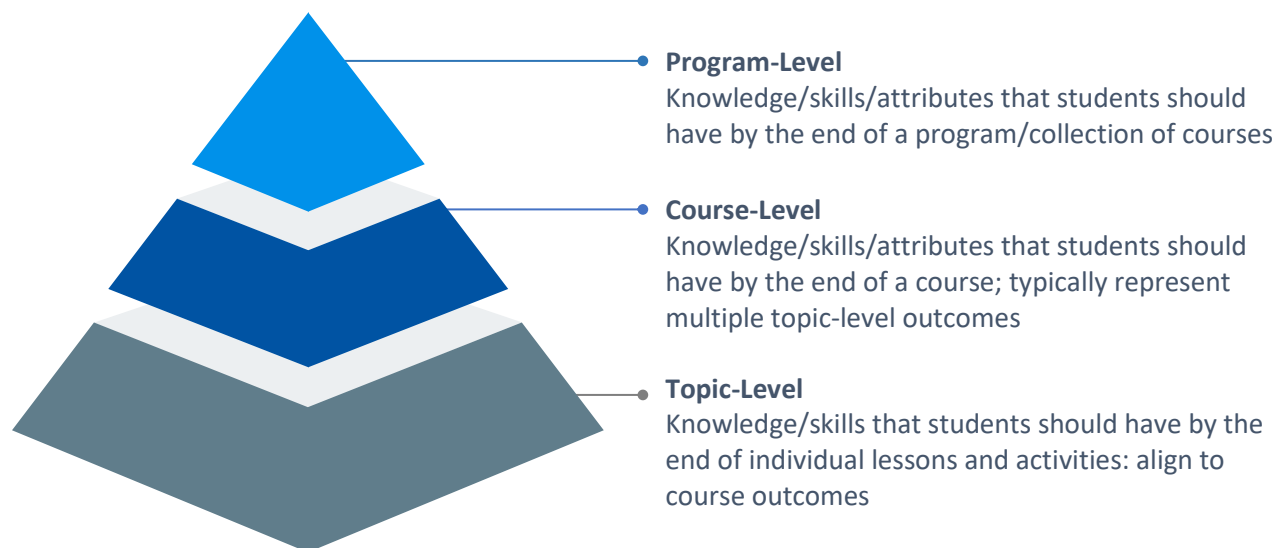# Student Learning Outcomes: An Overview

Learning outcomes describe the essential knowledge, skills, and attributes that students are expected to attain and demonstrate by the end of a unit, course, or program. Their breadth depends on the level at which they are intended. For example, one outcome may state a specific skill you expect students to perform at the end of a lesson while another may describe a collection of information a student will gain over the duration of a course or program. The three main categories of outcomes are described below[1]:

Program-Level
Knowledge/skills/attributes that students should have by the end of a program/collection of courses

Course-Level
Knowledge/skills/attributes that students should have by the end of a course; typically represent multiple topic-level outcomes

Topic-Level
Knowledge/skills that students should have by the end of individual lessons and activities: align to course outcomes

Program-level outcomes are the broadest of the group, and often require that students take more than one course to achieve them. They are articulated in more specific and measurable ways in courses as *course-level outcomes*. Similarly, course-level outcomes can be broken down into more specific outcomes at the topic/module/unit level within a course. One way of thinking about this is that the topic-level outcomes are the building blocks for course-level outcomes; they represent the specific content you expect students to take away from each lesson or unit. As those lessons come together to form courses, themes and connections between the topic outcomes emerge. We express those themes in course outcomes. As students work through their courses, what they are learning starts to grow and integrate to build program outcomes. Typically, a program can be described by 5-15 program-level outcomes; however, these may represent over a hundred course outcomes and hundreds more topic-level outcomes. *It is the sum of the many activities* that students engage in within their courses that contribute to their achieving program-level outcomes.

The example (next page) provides a visual of how outcomes may come together. It shows a single program outcome supported by five course outcomes. These five course outcomes may come from the same or some combination of courses and are supported by many topic-level outcomes. A selection of topic outcomes is included in this example, but it is conceivable that each course outcome could be supported by any number of topic outcomes depending on the breadth and depth of coverage in a course. Though only one program outcome is shown in this example, it is worth noting that a any of the course-level outcomes listed may also support additional program-level outcomes in the same way that a single topic-level outcomes can support multiple course-level outcomes, as shown in the example.

A final note: Institutions may also articulate a list of outcomes for any of their programs and/or degree levels. These are typically referred to as *graduate attributes* and align to the academic vision and values of the institution. They can guide program review and the development of new programs. Accreditation and other regulatory bodies may also have a list of expected outcomes and competencies that should be considered when developing or renewing a program. For more information on writing learning outcomes, please see the resources available on the Centre for Learning and Teaching website.

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[1] 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 Outcome

Effectively communicate discipline-specific research orally, visually, and in writing to multiple audiences.

Course Outcomes

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

Deliver a clear oral presentation of research to their peers.

Visually communicate quantitative data.

Create a persuasive argument in an essay or blog post.

Interpret discipline-specific research for a popular audience.

Topic Outcomes (selected)

Search a database using keywords to identify relevant journal articles

Apply best practices in visual media to create an effective slideshow presentation

Use graphing software to present your data

Express uncertainty and error in graphs and tables

Compose a lead for a blog post

Identify the audience for whom your work is intended

Develop a list of keywords as part of a literature review and explain the steps you took to create your list

Write engaging and honest titles for a presentation

Logically structure an argument by using evidence to support a claim

Decide which articles are relevant to your research using a set of criteria

Evaluate how best to graphically display experimental data

Critically appraise and distill the claims made in a scientific article