Faculty of Arts and Science

Learning Outcomes and Curriculum Mapping: a practical guide

What are learning outcomes?

Learning outcomes are broad yet direct statements that describe the knowledge, skills and attitudes that students should reliably demonstrate as a result of undertaking an educational experience. They can be articulated at several levels, including lesson, course, program, degree, etc.

What are the advantages of using learning outcomes?

Learning outcomes…

- Set shared expectations between students and instructors
- Provide a valid source for students to set learning goals
- Provide clear directions for educators when making instruction and assessment decisions
- Provide links between learning goals across courses and years

What's the difference between a learning outcome, goal, objective and degree level expectation?

Not much. Usually a learning outcome articulates a goal from the student perspective while a learning objective articulates the goal from an instructor perspective. Degree level expectations are learning outcomes at the degree, not course, level.

How do I write a learning outcome?

1. Choose a verb that describes the level of learning you intend, i.e. lesson, course, Plan, program.
2. State the content the student will be considering.
3. State what the student will be able to do as a result.

Examples of course-level learning outcomes

Art History - Students will *interpret* art works to establish a perspective on the subject matter and the meaning of their imagery (iconography)

Chemistry- Students will *develop* an appreciation for the application of organic synthesis to the solution of modern-day technological and social challenges

English Language and Literature - Students will *deconstruct* literary language to explore the processes by which it may be produced, contested, and reinvented

Anatomy of a learning outcome

Each learning outcome statement answers 3 questions about the student's experience:
Do what? (*verb*) With what? (content) For what? (this is what you will assess)

How do I use learning outcomes to design a learning experience such as a course?

The following three questions are typical of "backward design," where you determine the outcome, then the assessment and then the learning activities:

1. What will students learn? → learning outcomes
2. How will outcomes be measured? → appropriate assessments
3. What will students do to achieve these outcomes? → appropriate learning activities to develop the required knowledge, skills or attitudes

For example, if a learning outcome is to develop writing skills then the assessment might include a short essay (rather than a multiple-choice exam), and the learning activities might include working in groups to identify good thesis statements and improve a weak one (rather than a lecture).

What is curriculum mapping?

Curriculum mapping is the process by which you determine where, when, and how learning outcomes are taught and assessed within a degree program. The product of this exercise, the curriculum map, clearly demonstrates in which courses learning outcomes are taught and assessed in the curriculum.

What are the advantages of mapping a curriculum?

Curriculum mapping…

- Provides an effective strategy for articulating, aligning and integrating learning outcomes across a sequence of courses
- Communicates to students, instructors, administrators and external stakeholders how student learning outcomes are achieved within a degree program
- Stimulates curriculum reform by highlighting high-impact teaching and learning practices and revealing gaps and redundancies in your curriculum

How do we map a curriculum?

1. Work as a team, involving all members of the department. Curriculum mapping cannot be completed by an individual.
2. Seek help from educational developers in the *Centre for Teaching and Learning*.
3. Determine your Plan-level outcomes (Major, SSP, Medial, etc.) – what will students know and be able to do once they've completed their concentration?
4. Assess how your Plan-level outcomes correspond to the required provincial *Degree Level Expectations.*
5. Gather information about course-level outcomes from all core and option courses in your Plan.
6. Determine which courses lead to each Plan-level outcome. Often several courses will lead to a single Plan-level outcome, with increasing levels of sophistication: introduce, reinforce and master skills or knowledge.
7. You can develop your own chart to map the curriculum. The Office of the Provost is planning to introduce curriculum-mapping software in the near future.

What's the larger context for learning outcomes in Ontario?

- *Degrees*: The Ontario Council of Academic Vice-Principals (OCAV) has developed *Degree Level Expectations* for undergraduate and graduate degree programs in the province.
- *Programs/Plans*: The provincial Ontario Quality Assurance Process is based on a learning outcomes framework. This means learning outcomes are central to your department's self-study in the *Cyclical Program Review*, and to any new program proposals that you develop.
- *Courses*: The Faculty of Arts and Science is integrating learning outcomes into our curriculum approval process starting in 2014/15. All submissions for new and revised courses will need to articulate learning outcomes. The inclusion of learning outcomes will also be recommended as part your course syllabus.

Bloom's Taxonomy – Action Verbs

Bloom's levels	1 **Knowledge**	2 **Comprehension**	3 **Application**	4 **Analysis**	5 **Synthesis**	6 **Evaluation**
Bloom's Definition	Remember previously learned information	Demonstrate an understanding of the facts	Apply knowledge to actual situations	Break down objects or ideas into simpler parts and find evidence to support generalizations	Compile component ideas into a new whole or propose alternative solutions	Make and defend judgments based on internal evidence or external criteria
Verbs	arrange define describe duplicate identify label list match memorize name order outline recognize relate recall repeat reproduce select state	classify convert defend describe discuss distinguish estimate explain express extend generalize give examples identify indicate infer locate paraphrase predict recognize rewrite review select summarize translate	apply change choose compute demonstrate discover dramatize employ illustrate interpret manipulate modify operate practice predict prepare produce relate schedule show sketch solve use write	analyze appraise break down calculate categorize compare contrast criticize diagram differentiate discriminate distinguish examine experiment identify illustrate infer model outline point out question relate select separate subdivide test	arrange assemble categorize collect combine comply compose construct create design develop devise explain formulate generate plan prepare rearrange reconstruct relate reorganize revise rewrite set up summarize synthesize tell write	appraise argue assess attach choose compare conclude contrast defend describe discriminate estimate evaluate explain judge justify interpret relate predict rate select summarize support value