SECTION 4

PROGRAM LEVEL OUTCOMES

6. Writing Program Level Outcomes
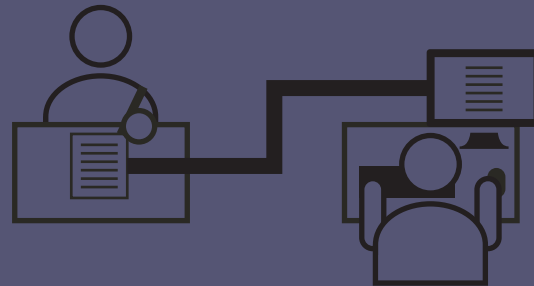**7. Assessing Program Level Outcomes**

6

Writing program level outcomes

SCENARIO

Scenario - Department of Sociology, Writing program level learning outcomes

The Department of Sociology offers two under-graduate programs—the BA major in Sociology and the Bachelor of Arts in Criminology. The Department teaches approximately 7000 students per year with learners from all disciplines attending these classes.

The department completed a comprehensive review and analysis of current course offerings. Laura Aylsworth, a senior graduate student and contract instructor, began by analysing all existing course syllabi to identify & extrapolate existing learning outcomes and then to thematically code them. This process revealed what faculty perceived as important with respect to student learning in individual courses at various levels.

The findings from the comprehensive analysis of course syllabi and feedback were presented to the Undergraduate Teaching Committee. The Department Chair used these themes to draft an initial list of program-level outcomes. A working group was formed to suggest improvements from this initial draft. The working group was comprised of four faculty members representing different department areas.

The goal was to make the learning outcomes as simple, clear and informative as possible. While each member of the working group reviewed the outcomes independently, there was a great deal of consensus as to how the learning outcomes needed to be re-worded, revised, grouped, and sequenced for the Sociology major. These program outcomes were revised and adapted for the under-graduate program in Criminology. The finalized list of learning outcomes was then presented to the Department Council for review and approval.

Next steps

The Department of Sociology views the learning outcomes as living and organic, and the process of articulating and clarifying learning outcomes as promoting reflection and informing program delivery and development; they provide the basis for the departments priorities. It is hoped that instructors will look to the program-level outcomes to inform the development of learning objectives for their own individual courses. The department sees curricular mapping as a means to inform and improve educational delivery.

PROGRAM LEVEL OUTCOMES

Program level outcomes describe what a learner is expected to know, understand and/or be able to demonstrate by the end of a program of study. Program outcomes describe learning which will be common to all graduates of a program, and promote consistency across a program. According to Carey et al. (2015), program outcomes "are achieved through specific learning activities which are integrated at the course-level and build towards overall program-level learning" (p 8).

Although program level outcomes are similar to course and module level learning outcomes in the way that they are written and structured, they are wider in scope. They reflect broad, conceptual knowledge and adaptive vocational & generic skills, and focus on the enduring understanding within a field or discipline. Program outcomes represent the minimum performances which must be achieved to successfully complete a program.

If program level outcomes are written first, they provide a framework for determining more specific learning outcomes in courses. They can also help students understand why they are taking a program (or why they should enroll in it). Bloom (2002) as cited by Kennedy (2006), recommends developing two types of program-level outcomes:

(1) assessable - learners are able to demonstrate these knowledge, skills, or attitudes

(2) "aspirational" or "desirable" - cannot be assessed but rather "gives an indication to employers and other agencies the type of standard of practical performance that graduates of the programme will display at the end of the programme" (p.52).

☑ **EXAMPLE - Sociology Program Learning Outcomes**

Upon completion of the program, learners will be able to:

- relate sociological knowledge to other disciplines;

- identify and reflect on the limits of knowledge and on uncertainty in practices of interpretation;

- rigorously read and critically evaluate sociological texts;

- analyze, synthesize, and problematize diverse sociological research findings;

- make reasoned, well-supported, and coherent arguments about social phenomena;

- evaluate information in multiple forms – oral, written, visual, digital;

- relate sociological knowledge to other disciplines;

- assess the adequacy and interpretation of data (e.g. crime statistics, media reports) found in various domains;

- design and carry out basic research to answer specific sociological questions;

- develop rdsearch skills relevant to both academic and community workplace environments;

- draw on diverse sociological theories, methods, and content knowledge to:

    - critically situate individual experience within broader social contexts and relationships;

    - question assumptions about social phenomena;

    - interrogate forms of power, inequality, and social change;

    - assess social practices, programs, and policies.

MAPPING ASSESSMENTS, COURSES, AND OUTCOMES

Learning outcomes can be used to structure an entire program. Courses can be mapped to program level outcomes, and both program and courses can enter an iterative assessment loop, with changes being driven by student assessment and feedback, changing program and accreditation requirements, and new and emerging information and ways of thinking in a specific field of study.
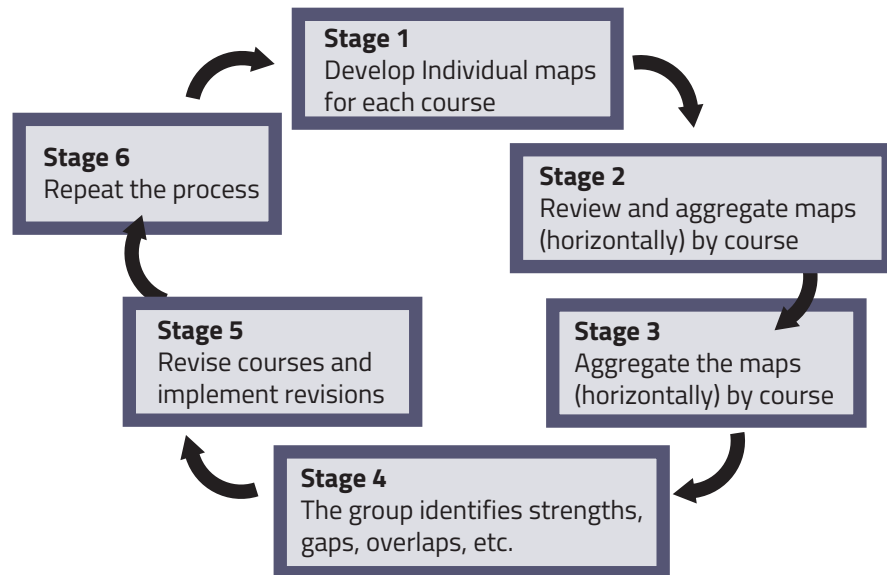
Figure 8. The process of curriculum mapping (Uchiyama & Radin 2009).

Stage 1
Develop Individual maps for each course

Stage 2
Review and aggregate maps (horizontally) by course

Stage 3
Aggregate the maps (horizontally) by course

Stage 4
The group identifies strengths, gaps, overlaps, etc.

Stage 5
Revise courses and implement revisions

Stage 6
Repeat the process

☑ **EXAMPLE - Pharmacy and Pharmaceutical Sciences Program Level Outcomes Outcomes**

The Faculty of Pharmacy and Pharmaceutical Sciences has implemented a series of iterations to develop program goals and outcomes and map them to the curriculum to ensure alignment. For example, in 2013-14, instructor-written course learning outcomes were mapped to the existing program outcomes. The program outcomes were then updated in 2016 requiring a second round of mapping. Concurrently, a new curriculum with a whole new set of instructor-written learning outcomes was developed. The new curriculum was then mapped to the 2016 program outcomes in order to compare the results to the older curriculum. Comparing mapping results allowed Pharmacy to identify how the two curriculums differed in terms of how they represented the program outcomes. This then helped to inform further development.

The iterative process, changing curricula and mapping to program outcomes which are representative of national outcome frameworks, has generated in-depth descriptions of the curriculum to identify gaps and redundancies and to inform ongoing improvement. Using a Syllabus Creation and Mapping tool developed in their Faculty for eClass (see next Chapter), the Faculty is also able to describe their curriculum based on content, assessment methods, teaching strategies, and more.

WRITING PROGRAM LEVEL OUTCOMES

Q1 **HOW DO YOU ARTICULATE PROGRAM-LEVEL OUTCOMES FOR AN EXISTING PROGRAM OF STUDIES?**

A This will depend on the program. For a program which is accredited, program outcomes need to demonstrate alignment with external accreditation. In this case, the program may begin by examining accreditation requirements and articulating program outcomes based on these. Conversely, examining existing course syllabi to identify priorities and themes, as was the approach taken by the Department of Sociology, may be a more suitable starting place. Kennedy (2015) warns against simply compiling a list of course-level outcomes, emphasizing the need to look at overarching outcomes expected throughout the program. Regardless of the approach taken, program-level outcomes will need to align with the university mission.

Q2 **HOW DO YOU ENSURE PROGRAM-LEVEL OUTCOMES ARE SUPPORTED AT THE COURSE-LEVEL?**

A Ensuring the scaffolding of courses—along with their respective learning outcomes and assessments—is aligned to program-level outcomes is critical. According to Carey et al. (2015), "in a constructively aligned program the courses are carefully coordinated to ensure steady development of scaffolding from introduction to mastery of the learning outcomes learning to the achievement of the intended program-level outcomes" (p. 10). See Chapter 7 for a discussion of curriculum mapping.

Also see:
SECTION 1. Introduction to Learning Outcomes.
See Chapter 5 for examples of how to map courses and assessments to program-level outcomes.

STAGES AND CONSIDERATIONS

- Review the University mission and graduate attributes and, where appropriate, accreditation requirements.

- Complete a comprehensive review of current course offerings syllabi. Identify common themes, priorities, overarching outcomes, areas where there is disagreement, or "fuzzy areas" which need to be articulated further.

- Reflect on the following questions:

    - What knowledge, skills and attitudes are learners required to demonstrate by the end of the program?

    - What is important for graduates of this program to be able to know and do?

    - What program level outcomes are graduates required to demonstrate in alignment with the University mission? Accreditation requirements?

    - What are the desired qualities of graduates from this program?

    - What standard of performance standards are graduates expected to meet?

- Based on the findings from the comprehensive review of course syllabi and your answers to the questions listed above, draft an initial list of program outcomes.

- Collaboratively revise and refine the learning outcomes. Carefully consider who needs to be involved in this program to ensure faculty buy-in.

- Realize that you have entered an iterative process where learning outcomes and courses are reviewed and revised regularly based on changes in the field, stakeholder needs, and instructor and student feedback.

TRY IT

Reflect on your overall program. Identify a knowledge, skill or attitude that graduates of your program will need to demonstrate. Using the instructions found on page 21 and the resources in Chapter 4, write one program-level learning outcome which spans the entire program of study.

By the end of the program, students will be able to (measurable verb) + (the knowledge, skill or attitude you expect them to demonstrate).

Double check:

- Can graduates demonstrate it?

- Does it focus on results of the learning experiences (not the means or the process)?

- Does it describe learning which will be common to *all* graduates of a program?

- Does it reflect broad conceptual knowledge or adaptive vocational & generic skills and focus on the enduring understanding within a field or discipline?

- Does it represent the minimum performances which must be achieved to successfully complete a program?

- Does it demonstrate alignment with external accreditation and university mission?

7

Assessing program level outcomes

SCENARIO

The Faculty of Augustana, an undergraduate liberal arts campus, sought to introduce three new academic core skills campus-wide.

Students as critical thinkers, skilled researchers, and effective communicators.

In 2013, the faculty underwent voluntary and unanimous implementation of a campus-wide process for assessing student acquisition of these core skills.

This initiative was in response to feedback given on Augustana's unit review. The faculty needed some way of showing what they were doing. The focus of the initiative was to improve teaching. The faculty at Augustana pride themselves on their commitment to undergraduate teaching, so this helped get faculty on board with the process. Faculty were also aware of the need to show students (and their parents) what concrete skills could be attained through a non-professional, liberal arts degree.

While the directive to develop learning outcomes came from the Dean, faculty were engaged in the process from the beginning. To lead the process, a committee with one representative from each department (Social Sciences, Humanities and Fine Arts, and Sciences) was formed. The Chair of the committee had background knowledge on assessment. The committee began by identifying the core skills and then developed a simple, faculty-driven process to assess these skills.

The following year campus-wide outcomes were developed. Each discipline developed a set of clear outcomes which required students to demonstrate their critical thinking, research and communication
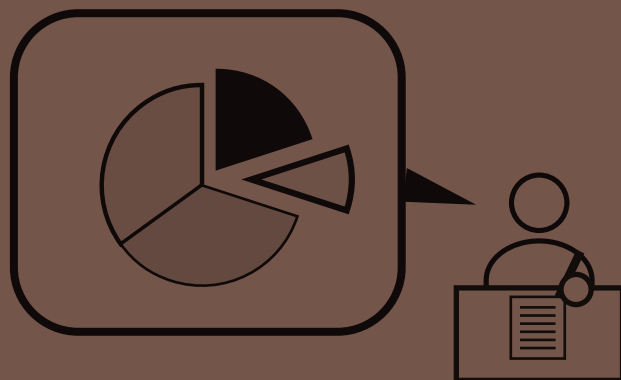
skills. Faculty members were tasked with determining what would be assessed and how. These outcomes brought together the specific goals of a discipline with the broader faculty goals. Faculty members were then responsible for regular reporting. Each discipline offering a major was required to submit a one-page assessment report to the committee. The committee then compiled a final report.

To date, roughly 65% of faculty at Augustana are involved in the development and assessment of learning outcomes which support students' acquisition of core skills.

For example, graduates of the Psychology program at Augustana will be well-versed in psychological topics. They will:

- identify the primary objectives of psychology: to describe, understand, and predict/explain human thought and action.
- apply psychological principles to a broad array of individual, social, political, and cultural issues.
- articulate major psychological approaches, their differences, and their applications.

To see more examples of Augustana's learning outcomes visit the faculty website.

Similar to Augustana's experience, learning outcomes can be written and assessed to demonstrate and document learners' ability to meet core competencies and program goals. According to the Higher Education Quality Council of Ontario, assessing program-level outcomes also enables administrators to demonstrate learners ability to meet accreditation requirements, clearly communicate program expectations to current and prospective students, showcase the quality of their program and its graduates, provide justification for funding, and make improvements to the program (Carey et al., 2015).

QUESTIONS & ANSWERS

Q1 HOW CAN CURRICULUM MAPPING FACILITATE PROGRAM ASSESSMENT?

A At the program level, a curriculum map provides a bird's-eye view of where (or in what courses) learning outcomes are being taught and assessed (see Chapter 5 for examples of mapping courses to program outcomes). A more thorough inventory, which might include an analysis of the courses themselves to determine alignment of the instructional and assessment strategies employed, will reveal how a program can better enable students to meet learning outcomes.

THE UNIVERSITY OF ALBERTA E-CLASS SYLLABUS TOOL

Curriculum mapping has become a mandatory program evaluation activity in pharmacy education programs across Canada (CCAPP, 2018). As such, the Faculty of Pharmacy and Pharmaceutical Sciences created an online tool which can successfully manage, access, extract and map information contained within course syllabi. This tool is used to enter all course syllabi, including learning outcomes (and where possible assessment and instructional types) into a comprehensive database. This information is can then be used in a variety of ways to inform program design, delivery.

The online tool :

- generates standardized course syllabi in eClass powered by Moodle (the University of Alberta Learning Management System);

- facilitates instructor mapping of learning outcomes to assessments and sessions;

- facilitates program administrator mapping of program or external learning outcomes to instructor-provided learning outcomes;

- provides access to course and session level information as spreadsheets, and

- provides basic reports of mapped program outcomes.

The following screen capture illustrates how learning outcomes and assessment information is entered into the on-line tool.

Using this online tool, course information is tagged and the curriculum can be mapped according to:

1. Knowledge, skills, or attitudes being developed,
2. Program and course learning outcomes or competencies,
3. Topics and subject matter areas,
4. Types of assessments, and
5. Types of teaching strategies used to deliver a program.

The program can generate a variety of maps and reports. The following screen captures present two distinct examples.

Map showing the number or learning outcomes tagged for each Interprofessional Education Category.

Number of Learning Outcomes Tagged in Each IPE Category
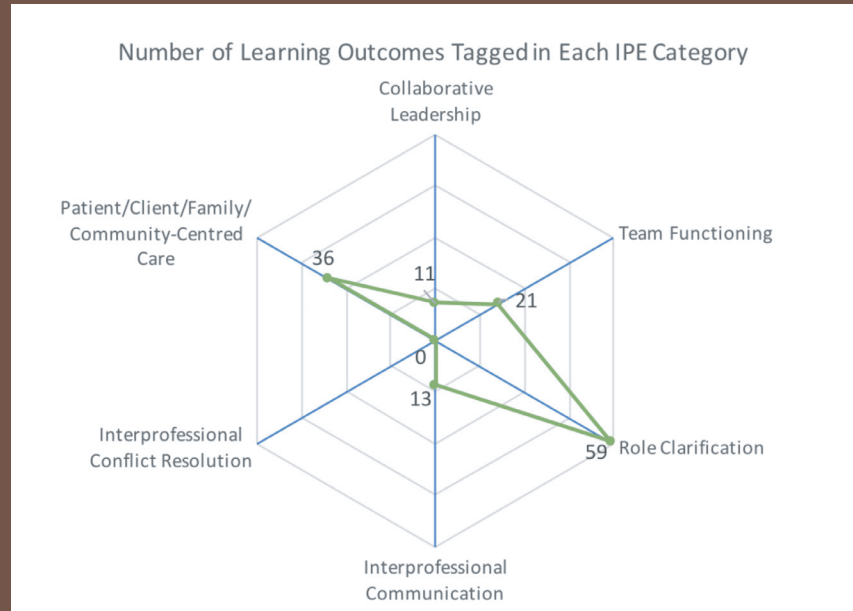
Report showing the sessions that cover pediatric topic

Course	Year	Term	Session Type	Topics
PHARM 307 Wi17 - DERMATOL/EYE,NOSE,THROAT	1st year	Winter	lecture	Demonstrate the correct method: Instilling ea drops(adults & children)
PHARM 327 NUTRITION	2nd year	Winter	lecture	Nutrition guidelines in Children with IBD and separately IBS
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Communication and Child Life
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Pediatrics (Introduction);Demographics and DeterminantsEvolution of Pediatric Practice; Current Trends and Practice;Approach to Ped Care;Ethical Challenge
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Pediatric Toxicology/Medication Safety;Safe medication practices (20 mins);Pediatric age groups;Physiologic differences in children; Im on PK/PD (30 mins)
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	GI: diarrhea/hydration/vomiting, constipatior
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Pediatrics Abuse
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Assessment of Newborn/Neonatal care;Terminology of gestation and birthweight;Prematurity and birthweight implications;Teething;Topical Analgesics
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Clinical Issues in Pediatrics (Respiratory) crou bronchiolitis, fever and febrile seizures
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	seminar	Clinical Issues in Pediatrics;Pediatric referenc guidelines, equations, tools;Review of age appropriate references for dosing, formulatio and recipes
PHARM 387 Wi17 - PEDIATRICS / GERIATRICS	3rd year	Winter	lecture	Autism Spectrum Disorder
PHARM 477 Wi17 - INFECTIOUS DISEASES 2	3rd year	Winter	lecture	Immunizations of children: vaccine schedules adverse effects, illness manifestations
PHARM 489 THERAP & PROF PRACT	4th year	Fall	lecture	Case 1: Pediatric Asthma
PHARM 489 THERAP & PROF PRACT	4th year	Fall	lecture	Case 4: Pediatric Critical Care

Putting all information into a readily-accessible database creates the ability to report on how a curriculum is structured in real time, and also, if desired, serves the purpose of generating standardized course syllabus documents. Despite the initial work to create outcomes and tag assessments, maintenance is relatively easy and there are potential benefits in terms of the ability to describe the curriculum from content, learning outcome, teaching, and assessment strategy perspectives.

STEPS

To assess program level outcomes, the Higher Education Quality Council of Ontario outlines the following 3 stage approach:

STAGE ONE
IDENTIFY EXPECTATIONS OF PROGRAM LEVEL LEARNING OUTCOMES

STAGE TWO
MAP ASSESSMENT TASKS THROUGHOUT THE PROGRAM (INCLUDING DEGREE LEVEL AND EXPECTATION; TEACHING ACTIVITIES AND LEARNING OPPORTUNITIES AND EVIDENCE OF STUDENT ACHIEVEMENT)

STAGE THREE
GATHER AND ANALYZE ASSESSMENT RESULTS

For more detailed information about each stage in the assessment process, read the *Learning Outcomes Assessment: A practitioner's handbook* produced by the Higher Education Quality Council of Ontario, (Carey et al., 2015).

Q2 HOW ELSE CAN PROGRAMS BE EVALUATED?

A The regular review of courses and learning outcomes is only one part of program assessment. Regular student feedback through surveys and focus groups is also critical. Self-reporting instruments have been developed in many disciplines and are also extremely useful when used in targeted ways. Finally, other stakeholders such as alumni and employers can provide useful perspectives.

Guidelines adapted from The University of Guelph suggest collecting the following data from a variety of sources with varying frequency:

Curricular Review Evaluation Methods

Planning and Visioning

Process	Description	Data collected; how often
Curriculum assessment and review plan	A comprehensive document which describes the objectives, assessment methods, participants timelines and data management related to curriculum review cycle.	n/a Every seven years; typically aligned with cyclical review process.
Ideal graduate	Visioning of the attributes and unique strengths of an ideal graduate of the program.	Qualitative Typically collected every four to five years.
Program visioning	Identifying broader program purpose and unique areas of focus (including key disciplinary educational practices). Builds towards consensus for future decision-making.	Qualitative Typically collected every four-five years.
Intended learning outcomes	Makes clear what students know, value and are able to do by the end of the program.	Qualitative On-going review in context with other curricular review data.
SWOT analysis	Participatory strategic planning framework identifying helpful and harmful factors that are of internal and external origin; used in curricular processes to aid in visioning.	Qualitative Typically collected every three-four years.

7

ASSESSING PROGRAM OUTCOMES

Curricular Review Evaluation Methods continued

Survey

Population	Description	Data collected; how often
Alumni	Measures the degree to which past students believe they achieved program-level learning outcomes; overall satisfaction with program; overall satisfaction with program delivery; information on current professional or academic status. Intended to be anonymous.	Likert-type rating scales; open-ended questions. Typically collected every three-four years; linked to cyclical review and used to inform continuous improvement.
Industry / employers	Provides general information on current industry trends; desirable graduate attributes; overall perceptions of program quality; strengths and expectations of graduates. Intended to be anonymous.	Likert-type rating scales; open-ended questions. Typically collected every three-four years; linked to cyclical review and used to inform continuous improvement.
In program students	Measures the degree to which current students believe they are achieving program-level learning outcomes; overall satisfaction with program; overall satisfaction with program delivery. Intended to be anonymous.	Likert-type rating scales; open-ended questions. Typically collected every two years.
Exiting students	Measures quality of the program and satisfaction with curriculum and overall program delivery. Intended to be anonymous.	Likert-type rating scales; open-ended questions. Collected annually.
Faculty & instructors	Provides general information on the quality of the program; strategic directions for program; satisfaction with curriculum. Intended to be anonymous.	Likert-type rating scales; open-ended questions. Collected annually.

Curricular Review Evaluation Methods continued

Focus group

Population	Description	Data collected; how often
Alumni	Measures experienced strengths of and gaps in curriculum, including overall satisfaction with program and overall satisfaction with program delivery in light of their current status. Can comment on perceptions of learning outcomes.	Qualitative Typically collected every three-four years; linked to cyclical review and used to inform continuous improvement.
Industry / employers	Describes perceived strengths and gaps in curriculum; identify emerging industry trends; strengths and expectations of graduates; fit of learning outcomes to industry expectations.	Qualitative Typically collected every three-four years; linked to cyclical review and used to inform continuous improvement.
In program students	Measures experienced strengths of and gaps in curriculum, including overall satisfaction with program and overall satisfaction with program delivery. Can comment on perceptions of learning outcomes.	Qualitative Typically collected every three-four years; linked to cyclical review and used to inform continuous improvement.
Exiting students	Measures experienced strengths of and gaps in curriculum, including overall satisfaction with program and overall satisfaction with program delivery. Can comment on perceptions of learning outcomes.	Qualitative Collected annually.
Faculty & instructors	Describes perceived strengths and gaps in curriculum, likely related to a specific area (e.g. high-impact educational practices). Help in identifying emerging disciplinary trends.	Qualitative Collected annually.
Multiple stakeholders	Describes perceived strengths and gaps in curriculum; identify emerging disciplinary trends; identify areas of improvement; fit of learning outcomes to expectations.	Qualitative Collected as required. Linked to cyclical review or major program change.

Curriculum mapping

Process	Description	Data collected; how often
eClass syllabus tool	A database-driven survey tool that supports the collection and analysis of a program's curriculum to determine where, when and how learning outcomes are taught and assessed. Internal tool	Nominal data and open-ended questions. Typically collected every 3-5 years.
Course progression maps	A visual representation of a program's curriculum.	Course descriptions and offerings; pre-requisites Revised annually.
Other mapping techniques	Any manual mapping method that systematically describes where, when and how learning outcomes are taught and assessed.	Nominal and qualitative data. Typically collected every 3-5 years.

Curricular Review Evaluation Methods continued

Student work

Types	Description	Data collected; how often
Student grades	Assessment and assignment scores; used to assess student performance, program consistency and learning outcomes alignment.	Numerical scores; written feedback Collected as needed.
ePortfolios	Demonstrates student achievement of learning outcomes using student-selected evidence. Also demonstrates student progression.	Written reflections; selective student work Collected as needed.
Example student work	Artifacts selected by students or instructors used to demonstrate achievement of learning outcomes.	Selected student work. Collected as needed.

Measures of student achievement over time

Process	Description	Data collected; how often
Student self-assessment of learning	Data collected to measure students' selfperceived abilities related to learning outcomes.	Likert-type rating scales. Collected every 1-2 years.
Concept and skill assessment	Pre-post testing designed to evidence: a) a specific cohort's understanding of key disciplinary concepts and skills or b) multiple cohort's understanding of a specific concept or skill. Demonstrates strengths and gaps in the curriculum.	Quantitative or qualitative. a) collected at beginning of year 1 and end of year 4 b) collected annually

Other data sources

Types	Description	Data collected; how often
Past curricular review data	A comparison between the findings of a method (e.g. student survey) against findings of the same method from an earlier curriculum review cycle.	Compared on an on-going basis Collected as needed.
Analogous program search	A search for similar programs that can inform how other programs are innovating or delivering a curriculum differently. Can provide program benchmarks.	Qualitative Conducted every 3-5 years.
Global assessment rubrics	Used to assess and evidence student progress and achievement of learning outcomes at the program level. Can help identify curricular strengths and weaknesses.	Qualitative and nominal data Conducted as needed.

TYING THINGS TOGETHER

Well-articulated and assessed learning outcomes at the course and program level are an important part of program assessment. As a result of their process, Augustana Campus is now able to demonstrate that their graduates are critical thinkers, skilled researchers, and effective communicators. Similarly the Faculty of Pharmacy and Pharmaceutical Sciences is able to ensure their program is well-designed to help students meet accreditation requirements. The assessment of learning outcomes in both programs can bring to light the possibilities for growth and improvement in educational delivery.

Also see:

SECTION 1. Definitions and Considerations

SECTION 2. Writing Learning Outcomes

SECTION 3. Making Learning Outcomes Matter: Designing and Revising Courses Using Learning Outcomes

FINAL THOUGHTS

Learning outcomes provide instructors and administrators with a means to create meaningful learning experiences:

- in which everyone has a clear understanding of the desired results they want to students to achieve and how they can be achieved;

- which build enduring understandings and impact learners long after the course has ended.

However, no matter the amount of thought, time, and planning that goes into writing effective learning outcomes, teaching and learning is a complex, creative, and messy process. Sometimes the most powerful learning is that which is unplanned or incidental. As an instructor, one must be aware that intentional and deliberate learning outcomes are likely not all that students are taking away from a course or program. This is particularly true of graduate programs where much learning happens as a result of being engaged in the research process and all that it entails. And unintended learning can have both positive and negative outcomes.

Unintended learning occurs through the hidden curriculum, role modeling, teachable moments, and informal peer-to-peer interactions.

THE HIDDEN CURRICULUM

The hidden curriculum conveys the norms, values and practices of a culture and educational institution. The hidden curriculum indirectly indicates to the learner what knowledge or information is valued, for example, by the selection of texts, authors. Other factors may also send conflicting messages about the type of learning expected to occur, for example the arrangement of desks in rows versus tables designed for collaboration.

ROLE MODELLING

Role modelling has both positive and negative impact on learners. Instructors who espouses one set of values only to role model the exact opposite may not have the intended impact on their students. However, instructors who embrace the values they wish to instill within their learners—in both the design and implemention of the instruction and in their own behaviour—will have a posistive impact on student learning.
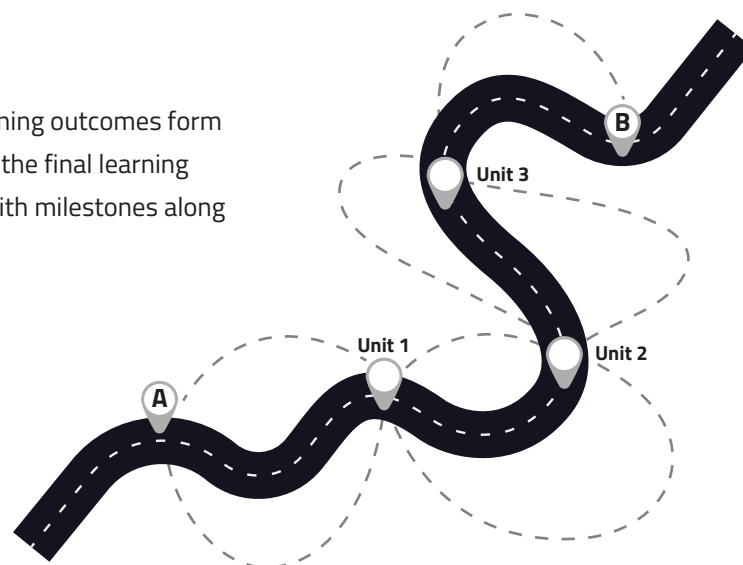
TEACHABLE MOMENTS

Instructors might seize upon a "teachable moment" to explore topics and concepts not delineated in the formal learning outcomes. A teachable moment may present itself when the time is right, in the right context, and when students are ready to engage with a particular topic or concept. These moments come unexpectedly and present powerful learning opportunities for students.

PEER TO PEER INTERACTIONS

Students also learn through significant, informal interactions with their peers, family and other role models. It is important to recognize these interactions can be (and often are) powerful learning experiences.

Of course, learning is also not limited to the classroom. Students take what they learn in the classroom, integrate it with their previous knowledge and experience, and use it to inform their view of the world around them. All of this has unintended consequences. And while there is little instructors can do to avoid unintended learning (nor would they always want to), instructors can harness the power of it by calling attention to the hidden curriculum, by being aware of the behaviour they role model, by taking advantage of teachable moments and making connections to the formal curriculum, and by encouraging peer to peer interactions which are well-informed and engaging. Formal learning outcomes, meanwhile, serve as anchors or guide posts, keeping students and instructors on track and headed towards a common destination.

Figure 2. Learning outcomes form a road map to the final learning destination, with milestones along the way.

ADDITIONAL SECTIONS

ACKNOWLEDGEMENTS

GLOSSARY OF TERMS

Authentic Assessment

Authentic assessment requires that learners apply the knowledge and skills they have acquired throughout the course to address complex, real-world problems. Authentic assessment requires that learners demonstrate the specific competencies and skills that are expected of graduates working in the field or discipline.

Competency

"Competencies represent a dynamic combination of attributes, abilities and attitudes. Fostering these competencies is the object of educational programmes. Competencies are formed in various course units and assessed at different stages. They may be divided in subject-area related competencies (specific to a field of study) and generic competencies (common to any degree course)" ECTS Users' Guide (2005).

Formative assessment

Formative assessment occurs throughout a course, may be informal or formal, is considered low-stakes, and provides learners with opportunities receive feedback in order to make improvements.

Summative assessment

Summative assessment occurs at the end of a period of instruction, may be cumulative, considered high-stakes (e.g. final exam) and is used to evaluate student learning and to assign a grade.

KSAs or Knowledge, Skills, and Attitudes

KSAs refer to the specific knowledge, skills and attitudes that an instructor would like students to learn and demonstrate. Knowledge refers to the types of thinking that an instructor wants their students to do or the knowledge that they want them to acquire. Skills refers to abilities instructors want students to be able to perform at a given level. Attitudes refer to the feelings, values, appreciations, motivations, or priorities an instructor wants to stimulate in their students.

Learning Objectives or Goals Learning objectives (sometimes referred to as goals) are broad statements indicating the overall purpose of the course or program and indicate the instructor's overall intention in teaching the course. They are statements that focus on the instructor's intention(s) for teaching. Learning objectives can be phrased "The purpose of this course is to....."

Example: Discipline: English; Goal/Objective: The purpose of this course to develop students' critical reasoning about satiric writing in eighteenth century literature.

Learning Outcomes
Learning outcomes are clear statements that indicate "what a learner is expected to know, understand and/or be able to demonstrate after the completion of a process of learning" (Kennedy, 2006, p. 5). They are statements that focus on the learners achievements. Because they are tied to assessment, they only describe the essential learning that students need to demonstrate at the end of a program, course, unit/module, or lesson. With each level, the learning outcomes that students are expected to meet becomes more and more specific. Learning outcomes support the overall goals or objectives of the course/program.

Example: Discipline: English; Learning outcome: By the end of the unit, students will be able to analyze the relationship between the language of satire to literary form by closely examining the eighteenth century texts in this course.

Unit
A unit (sometimes referred to as a module) of instruction focuses on a particular topic, theme, stage in a process. A unit or module can vary in length and depends entirely on the time required by learner to achieve the unit's learning outcomes. For example, a unit of learning can range in length from 1 - 4 weeks, etc. depending on depth and breadth of the learning.

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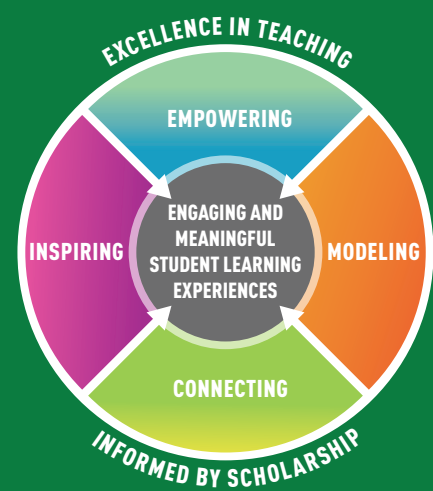
About the Centre for Teaching and Learning

VISION

CTL promotes excellent university teaching that leads to engaging and meaningful learning experiences for students.

MISSION

We pursue this goal through a combination of consultation, facilitation, technology integration, collaboration, and research to advocate for and support evidence-based, responsive, and positive change in teaching and learning. We provide important face-to-face and peer experiences for instructors and extend our reach through blended and online programming.

UNIVERSITY OF ALBERTA
CENTRE FOR TEACHING AND LEARNING

Centre for Teaching and Learning

5-02 Cameron Library

Edmonton, Alberta, Canada

University of Alberta T6G 2J8

Telephone: (780) 492-2826

Fax: (780) 492-2491

Email: ctl@ualberta.ca

ctl.ualberta.ca