

Curriculum Mapping – Analysis Overview

Mapping is the process of articulating where, when, and how students are arriving at the learning outcomes for the program. When undertaking curriculum review or renewal efforts, mapping can help answer the following questions: What does the program currently include? What does the curriculum need? And how will we make it happen? This brief overview will provide you with some key things to look for as you look to address these questions.¹

What is the scope of the mapping activity?

Before you embark on your mapping, it may help to consider what you are interested in looking at within your curriculum. Mapping is not reserved only for full program review - it is also a useful exercise for evaluating a single course or a subset or stream of courses. In all cases, it can reveal vital information as you work to improve the learning experience for your students. Maps can also contain a significant amount of data, so breaking it up into manageable areas of investigation may help. Some options include:

- a. Take a broad program-level view to examine how the courses come together to meet the program outcomes. You may be interested in finding out whether students have enough opportunities throughout the program to meet the intended outcomes, whether they finish the program with an appropriate *level* of understanding, whether courses are well-balanced in terms of the number of outcomes they are meeting, and/or which program-level outcomes are being most/least supported by courses.
- b. Examine a single outcome to determine how student learning progresses throughout the program including: what types of assessments students complete related to that outcome, what kind and how much instruction they are given related to the outcome, whether there is alignment between the instruction and assessments, whether expectations of accessibility and EDI are being met, and whether learning is appropriately scaffolded. Note: When investigating a single program-level outcome, you may also consider breaking it up into a series of components that make up that outcome to better understand the ways it is being met.
- c. Examine a *series or subset* of courses (e.g. courses within a specialization area or a stream of courses) to see how courses build upon each other and integrate knowledge and skills
- d. Examine different sections of the same course for alignment or to identify strengths or effective approaches for meeting learning outcomes
- e. Examine coverage of a specific skill or content within the courses of the program – this is a more granular approach but may be necessary for accreditation or if you are looking to address a particular skill that students struggle with
- f. Examine where and how specific types of learning opportunities exist or can exist, e.g. experiential learning, research skill development

Analyse your map: What does the program have and what does it need?

Review your map to determine what your program currently looks like. The following guiding questions and tips may inform your analysis; however, questions may vary depending on the scope of your mapping.

1. Do the indicated depths (e.g. Introduced (I), Developing (D), Advanced (A)) align with the instructional activities and assessments?
2. What is currently being emphasized in the program/collection of courses?
 - a. Does this reflect what we want it to look like? If so, in which ways? If not, in which ways?
 - b. Are courses well-balanced in terms of the number of outcomes they are meeting (Note: individual courses don't need to meet all program outcomes)
 - c. Which program-level learning outcomes are being most/least emphasized (identify strengths, gaps, redundancies)? Note: program outcomes do not need to be equally emphasized in a program
 - d. Are the connections between program components as we expected? As we want them?
 - e. Are there any outlier courses, courses that are under-/over-utilized, or missing or unnecessary prerequisite requirements?
 - f. How would you like it to be different?
3. Are there any gaps in the *progression* of skills? In other words, are students being asked to demonstrate abilities at an advanced level without sufficient instruction and practice? Are there gaps that reduce the ability of an instructor to design their courses/assessments at a suitable level of difficulty?

¹ Adapted from [1] Dyjur, P., Grant, K., & Kalu, F. (2019). Curriculum review: Curriculum mapping. Taylor Institute for Teaching and Learning. Calgary: University of Calgary, CC BY-NC 4.0, and [2] P.J. Rayner, What is curriculum mapping and why do it?, Centre for Teaching, Learning and Technology, University of British Columbia, 2017.

4. How could student learning be enhanced through changes to:
 - a. course sequence?
 - b. scaffolding of student learning?
 - c. expectations of student learning?
 - d. emphasis of specific learning outcomes?
 - e. Changes to student workload?
5. Are there any small changes that could produce the desired results outlined in question 4?
6. Are there teaching activities and/or assessments that are especially significant to students meeting the outcome? e.g. activities or assessments that are essential to meeting a specific skill, that are novel, efficient toward meeting program outcomes, program strengths, etc.
7. Do the methods of instruction that are used support student learning? Is there a better way? Do the teaching and learning activities align with the program/department/Faculty goals around teaching and learning?
8. Are the assessment strategies suitable for determining whether students are meeting the outcome? Is there a better way? Are students provided sufficient feedback? Does the assessment strategy align with the program/department/Faculty goals around assessment?
9. Are outcomes overlapping in courses with no strong rationale?
10. Does the information in the map match up with student feedback? Faculty experience? Internal/external reviews?

Next Steps: How will you make changes happen?

Things to keep in mind as you move toward making changes to your program:

1. Identify areas for further discussion for curriculum committees or departments
2. Consider how to present your data so it can foster meaningful, collaborative discussion between faculty about changes to the program. Depending on the scope and level of detail in your map, you may find one form of presentation easier to manage. Ask yourself, what chart will be most information to the review and to summarize our findings. Some examples include:
 - a. bar chart summarizing the number and depth of course outcomes per program-level objective (all courses and/or required courses only)
 - b. Tables summarizing how courses in program (all and/or required) are meeting outcomes including depth
 - c. Teaching and learning activities per program-level outcome
 - d. Bar charts showing how specific PLOs are taught and assessed
3. Prioritize changes that are going to be made – what comes first? Do we want to focus on one outcome, select a couple or courses to work on that can have a big impact, or something else?
4. Consider all of your data sources – not just the mapping. For example, student feedback provides powerful insight into what students experience as they progress through a program. Note: Using student work as evidence as part of your mapping may be more practical when examining a specific area of interest rather than a more comprehensive program review.
5. Consider the scale and scope of change – balance the needs identified in mapping with availability of resources and time to support changes