

### Brief #3: Mapping Outcomes Through Courses

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The following document, based on the *Ontario Universities Council on Quality Assurance. Mapping Outcomes Through Courses: Program Review Processes 2* webinar (Holmes, 2010b), provides a brief overview of strategies for mapping program-level learning outcomes.

#### What is a Curriculum?

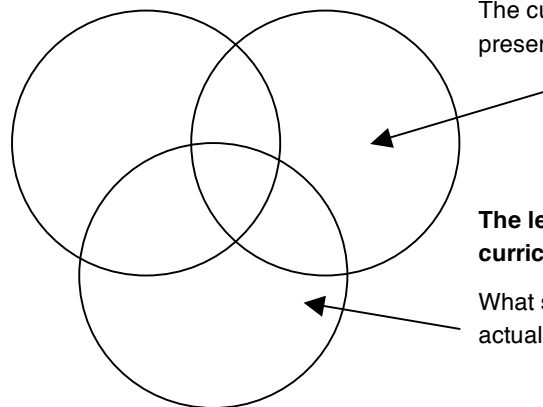
The curriculum can be described as “a programme of study where the whole is greater than the sum of the individual parts” (Harden, 2001, p. 123). More than just content, the curriculum includes student learning outcomes, teaching and learning activities, and assessment of student learning outcomes (Abate, Stamatakis, & Haggett, 2003, p. 5). The curriculum can be represented as shown in Figure 1. *The Declared Curriculum, the Taught Curriculum and the Learned Curriculum* : the “declared curriculum” represents what students are assumed to be learning; the “real” or “taught curriculum” depicts what is being delivered to the student; and the “tested curriculum” represents what is assessed (Harden, 2001).

#### The declared curriculum

What is assumed the students are learning

#### The taught curriculum

The curriculum that is presented



#### The learned curriculum

What students actually learn

Figure 1. The Declared Curriculum, the Taught Curriculum and the Learned Curriculum (Harden, 2001, p. 124)

Bath, Smith, Stein and Swann (2004) label these three dimensions the “intended curriculum”, the “enacted curriculum”, and the “validated curriculum”.

### **Curriculum Mapping**

A *curriculum map* is a visual representation, or “snapshot” of the curriculum that identifies the relationships and links between key curricular components.

Curriculum mapping is concerned with what is taught (the content, the areas of expertise addressed, and the learning outcomes), how it is taught (the learning resources, the learning opportunities), when it is taught (the timetable, the curriculum sequence) and the measures used to determine whether the student has achieved the expected learning outcomes (assessment). (Harden, 2001, p. 123)

Figure 2. *Four Key Areas of a Curriculum Map*, identifies the areas represented by a curriculum map.

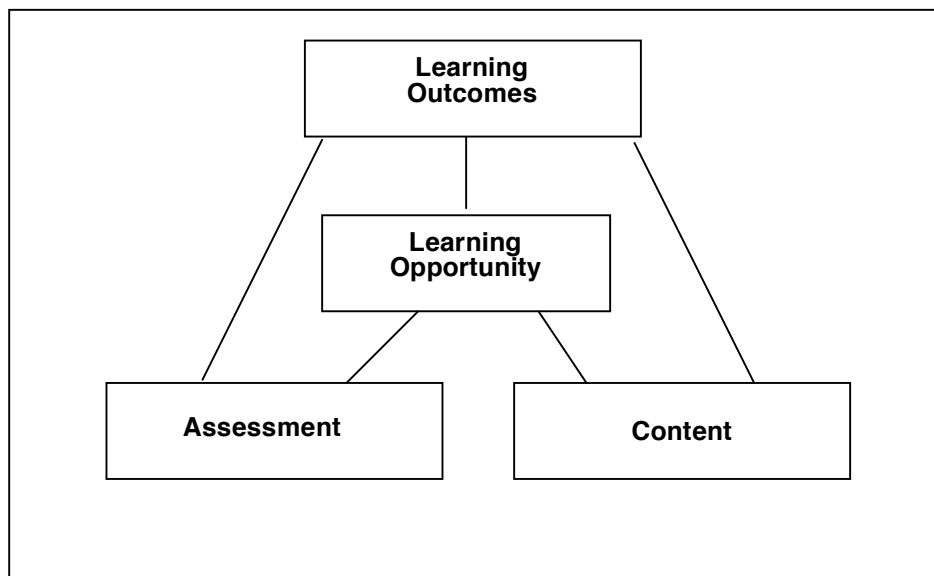


Figure 2. Four Key Areas of a Curriculum Map (Harden, 2001)

A process for identifying and mapping graduate attributes is described in detail in the *From Attributes to Outcomes: Program Review Processes 1* webinar in this series (Holmes, 2010a). Figure 3. *A Process for Mapping and Embedding Graduate Attributes Within Programs and Courses* provides a visual overview of a curriculum mapping process employed at the University of Queensland.

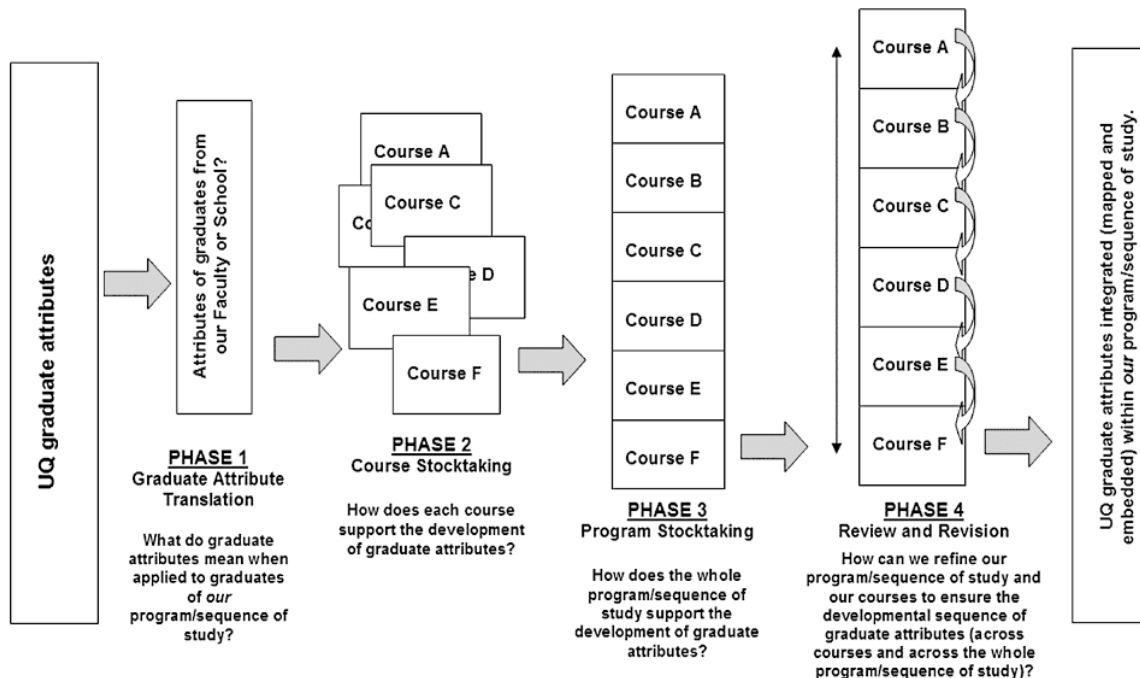


Figure 3. A Process for Mapping and Embedding Graduate Attributes Within Programs and Courses (Stein, Smith, Bath & Swann, 2004)

### Curriculum Mapping and Assessment

Curriculum maps help to identify issues with the sequence in which content is introduced, highlight gaps and redundancies, and identify levels of learning and levels of assessment. "Curriculum mapping can ensure that there are no gaps or unnecessary redundancies in content, promote and integrated curriculum by showing the relationship between different content areas, and identify the types and range of assessment methods being used" (Abate, Stamatakis, & Haggett, 2003, p. 9). Curriculum maps also enable one to see where knowledge, skills and values are *introduced*, *taught* and *assessed*, or *introduced*, *reinforced* and *mastered*. This notion of a "spiral" curriculum, introduced by Bruner (1960), suggests that a curriculum should revisit basic ideas repeatedly, building upon them until the student has grasped them fully and in all their complexity, and provide multiple opportunities to practice skills. "Outcomes should complement or build upon those in related or previous courses, [and] be appropriate for the level of the student..." (Abate, Stamatakis, & Haggett, 2003, p. 6). Curriculum mapping also helps to ensure alignment of learning outcomes, learning opportunities and assessments. By engaging in curriculum mapping, "most often participants...find a shared commitment to connecting courses with the program objectives in an increasingly intentional and systematic way, with increasing levels of complexity as students move

through the program” (Wolf, 2007, p. 18). A curriculum map that uses the Degree Level Expectations can be found as an appendix to this document.

### **Benefits of Curriculum Mapping**

Curriculum maps not only identify the links between the different elements of the curriculum, they also serve to make the curriculum more transparent to stakeholders, including instructors, students, educational developers, administrators, and members of the profession and the public. Faculty at Macquarie University found that engaging in a collaborative curriculum mapping exercise:

- enabled them to identify general patterns within the program in relation to the promotion of generic skills;
- helped identify future directions to pursue in their teaching and changes they might make to their unit outlines;
- raised issues about teaching and evaluating generic skills that they wanted to discuss as a whole staff; and
- offered key strategic advantages, including providing an opportunity to respond proactively to the broader accountability agenda pervasive in higher education. (Sumison & Goodfellow, 2004)

The benefits of a collegial, collaborative approach to curriculum mapping at the department or program level are also stated by Holmes (2010b).

### **Curriculum Development and Curriculum Renewal**

Curriculum mapping is a powerful tool for *curriculum development* and *curriculum renewal*, both of which play a role in the process of continuous curriculum improvement. This process is represented in Figure 4. *Action Learning Cycle: Planning, Enacting, Reviewing and Reflecting on the Mapped Curriculum.*

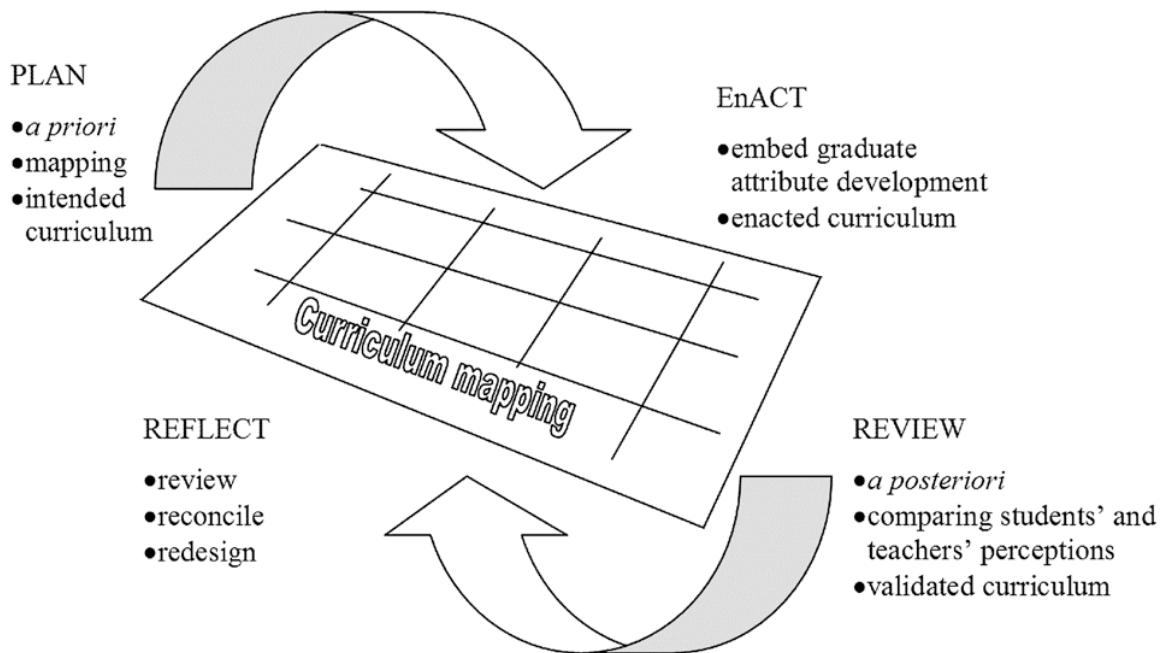


Figure 4. Action Learning Cycle: Planning, Enacting, Reviewing and Reflecting on the Mapped Curriculum (Bath, Smith, Stein & Swann, 2004)

## Conclusion

In this document and the accompanying webinar, *Ontario Universities Council on Quality Assurance. Mapping outcomes through courses: Program review processes* (Holmes, 2010b), we have presented one method for mapping program-level learning outcomes. A number of additional resources developed by Ontario universities to assist with the curriculum mapping process, including spreadsheet templates, are available from <http://ccl.mcmaster.ca/COU/resources/index.html>.

## References

- Abate, M. A., Stamatakis, M. K., & Haggett, R. R. (2003). Excellence in curriculum development and assessment. *American Journal of Pharmaceutical Education*, 67(3), 1-22.
- Bath, D., Smith, C., Stein, S., & Swann, R. (2004). Beyond mapping and embedding graduate attributes: Bringing together quality assurance and action learning to create a validated and living curriculum. *Higher Education Research & Development*, 23(3), 313-328.

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- Harden, R. M. (2001). AMEE guide no. 21: Curriculum mapping: A tool for transparent and authentic teaching and learning. *Medical Teacher*, 23(2), 123-137.
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- Wolf, P. (2007). A model for facilitating curriculum development in higher education: A faculty - driven, data - informed, and educational developer–supported approach. *New Directions for Teaching and Learning*, 2007(112), 15-20. doi:10.1002/tl.294

Appendix 1. Sample Curriculum Map Using the Degree Level Expectations (Holmes, 2010)

<b>Legend</b>	
Not covered in the course	
Introduce	
Reinforce	
Competence/Mastery	

Skill/Knowledge/Value	Course Code							
	113	154	243	256	314	318	431a	431b
a) the ability to review, present and critically evaluate qualitative and quantitative information to:								
i) develop lines of argument;								
ii) make sound judgments in accordance with the major theories, concepts and methods of the subject of study;								
iii) apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline;								
iv) where appropriate use this knowledge in the creative process; and								
b) the ability to use a range of established techniques to:								
i) initiate and undertake critical evaluation								

Skill/Knowledge/Value	Course Code							
	113	154	243	256	314	318	431a	431b
of arguments, assumptions, abstract concepts and information;								
ii) propose solutions;								
iii) frame appropriate questions for the purpose of solving a problem;								
iv) solve a problem or create a new work.								