Designing a meaningful Curriculum Map: Reflecting on the level of learning expected

Curriculum is designed, delivered and experienced. The curriculum map presents a visualization of the designed curriculum, and assessment milestones help to provide information on the results or effect of the delivered curriculum on the students' learning. Student surveys add to the assessment narrative by providing insight into the experienced curriculum, which can also be enhanced by incorporating faculty, student supervisor and employer surveys to provide data on the learning as demonstrated by the student. This mechanism promotes continuous program improvement by helping faculty:

- identify where outcomes are covered in a curriculum,
- identify potential gaps in the curriculum (where a course is not addressing any outcome, or an outcome is not supported within the curriculum),
- identify whether the outcomes need modification,
- identify best opportunities for assessment\(^1\), and/or
- start a discussion of potential changes to the curriculum

In the map matrix, courses and program requirements\(^2\) that comprise a curriculum are linked to program outcome(s) at different developmental levels depending on the emphasis of that outcome in the course. An outcome(s) can be:

**Introduced = I**
- The course or program requirement *introduces* a concept relevant to the program outcome, and learning activities focus on basic knowledge and skills which support the particular student learning outcome. It may be that only one (or a few) aspect(s) of the program outcome (especially if it is complex) is addressed in the given course.
- Students are exposed to at least one element of the outcome(s) in the course which serves as a *building block* for the full achievement of the program outcome later in the curriculum.
  - *Example*: In a required research course, students are introduced to the basics of research methods, and complete an assignment(s) based on their newly acquired foundational knowledge.

**Reinforced = R**
- The course or requirement strengthens, supports and *reinforces* the development of the knowledge and skills necessary for optimal achievement of the program outcome in latter courses. Foundational knowledge of the outcome was previously introduced through other course work.
- Students are afforded greater opportunities and practice to develop and achieve the program outcome, and instruction and learning activities concentrate on enhancing and strengthening the knowledge and skills associated with achievement of the outcome. Typically, several aspects of the outcome are addressed in the given course, and activities should continue to build upon previous competencies with increased complexity.

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\(^1\) It is important to consider what types of student work (e.g., papers, lab reports, comprehensive exam questions, thesis defenses) can be used for assessment at each of the intersections, and is already being used to evaluate student learning in the courses (the critical milestone assignments).

\(^2\) Not all program requirements are necessarily associated to a course number, especially at the graduate program level.
There is not necessarily a final integration of all the knowledge, skills, and attitudes necessary for full achievement of the program outcome.
  
  - Example: In a required course, students practice their knowledge of research methods by completing a research proposal assignment.

**Emphasized = E**

- The course or requirement *emphasizes* opportunities for the student to integrate all the knowledge and skills and attitudes necessary for mastery of the outcome at the end of the course. Instructional and learning activities in the course focus on using the skills tied to the outcome in multiple contexts and at multiple levels of complexity. The outcome was previously introduced and reinforced through various activities and opportunities in other courses in the curriculum.
- Students have had sufficient practice in achieving the outcome and are able to demonstrate mastery of the outcome.
- The course or requirement focuses on the complex integration of skills, knowledge, and attitudes necessary to fully achieve the program outcome.
  
  - Example: The student presents his or her own research methods as part a capstone project (undergraduate) or thesis proposal (graduate).

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