Curriculum Mapping For Programs And Courses: Vision NEP 2020

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Abstract

A curriculum map is a tool used to ensure consistency in teaching and assessment of learning outcomes. It can be used as a planning tool for curriculum design or developed into existing ones. Curriculum mapping involves aligning resources, activities, instruction, assessments, and educational reforms with a program, correcting redundancies and gaps. It also indicates the alignment of learning and teaching standards, indicating the success of a HEI or faculty in meeting academic expectations and established standards. In the present article a brief introduction about Curriculum mapping, its types and a methodology designed have been described.

Keywords: Curriculum mapping, NEP 2020, Assessment and Evaluation.

Introduction

The curriculum map shows which curriculum is used to teach and assess learning outcomes. It can be used to ensure the consistency of the expected learning outcomes and the subjects taught in the curriculum. The curriculum map can be used as a planning tool when the curriculum is initially designed to plan where learning outcomes will be taught and assessed within the proposed curriculum. It can also be developed into an existing curriculum to describe the curriculum within which student learning outcomes are currently taught and assessed. When a curriculum map is created for an existing curriculum, it describes what actually happens in the curriculum. The curriculum map created at the program level shows where the program's learning outcomes are taught and assessed in the program's courses and experiences. Curriculum mapping is the process of aligning resources, activities, instruction, assessments, and educational reforms with a program. This is called "diagramming" or "indexing" curriculum that corrects redundancies, gaps, and distortions in course content. It is further defined as the alignment of learning and teaching standards, which indicates how successfully and to what extent a HEI or a faculty has aligned the subject presented to students with academic expectations and established learning standards.

Importance of Curriculum Mapping

Curriculum mapping is essential because it allows teachers and administrators to focus primarily on the balance of curriculum content. This allows them to look into each classroom and see what students are learning, and it helps them gather information about gaps or redundancies in course content. This helps instructors assess the structure of the course and the timing of when certain concepts will be taught. It helps faculty to look into each classroom and see what children are learning and gather information about gaps in course content. Curriculum mapping is a continuous development work that focuses on improving the quality and content of student learning in schools. As teachers have new classes, new students, and new school years, content must be constantly evaluated and revised so that students can get the most out of their education and teachers can use the most effective strategies in the classroom. The development of curriculum mapping, which aims to improve the quality of student learning and content in all schools, continues. To ensure that students are getting the most out of their

education and that teachers are using the most effective teaching methods in the classroom, content should be continually evaluated and revised as teachers have new classes and new students.
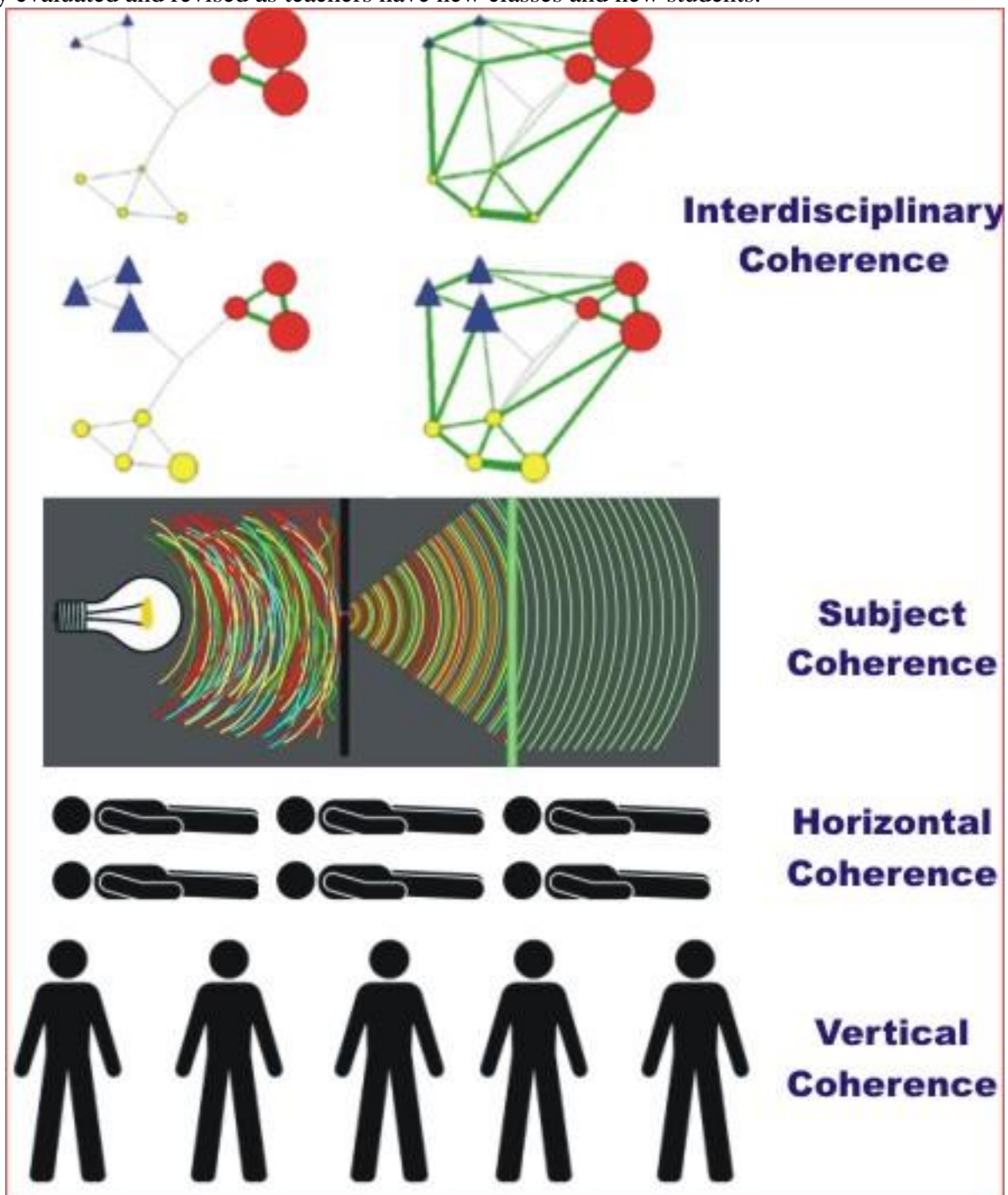
Systematic Curriculum Mapping

Although it is definitely possible for a single faculty to create a curriculum map for the subject and grade that they teach, curriculum mapping is most effective when it is a system-wide process. In other words, the curriculum of an HEI's should be mapped to ensure continuity of instruction. This systematic approach to curriculum mapping should involve collaboration among all of the educators who instruct students within the HEI.

The main benefit of systematic curriculum mapping is improved horizontal, vertical, subject area, and interdisciplinary coherence:

Horizontal coherence: Curriculum is horizontally coherent when it is comparable to the curriculum of an equal lesson, course, or grade level.

Vertical coherence: Curriculum is vertically coherent when it is logically sequenced. In other words, one lesson, course, or grade prepares students for what they will be learning in the next lesson, course, or grade.

Subject area coherence: Curriculum is coherent within a subject area when students receive equitable instruction and learn the same topics across subject area classes.

Interdisciplinary coherence: Curriculum is coherent in an interdisciplinary sense when teachers of multiple subject areas work together to improve the key cross-curricula skills (reading, writing, critical thinking etc.) that students need to succeed in all grades and subjects.

Methodology

In general fours steps can be involved for the mapping of curriculum

Step 1 : Prepare a map template and write program learning outcomes or course learning outcomes as per following design (a design can be prepared as per requirements) -

Table 1.0 General Map template

Program learning outcomes					
Required Courses	Student will be able to evaluate assets for efficient distribution	Student will be able to prepare a plan for efficient wealth creating and management through chemicals and reactions	Student will be able to evaluate the impact of principles and policies on the different stakeholders	Student will be able to design portfolios of securities and asset classes aimed at achieving personal goals	Student will able to design plants, process etc. independently
CO-1					
CO-2					
CO-3					
CO-4					
Lab-1					
Lab-2					

Place courses and experiences in the rows on the General map template (The template can be designed as per requirements)

Step 2 : Performing mapping with actual experiences

Here actually identify the key/core courses and experiences that all students in your program should take. Write each course and experience in a separate row in the table. Most student learning and assessment occurs in courses. There are non-course experiences in a program curriculum in which students are also taught and assessed. For example, student learning and assessment may occur when a student presents a project at a conference, participates in an internship, or gives a music recital. If there are critical student experiences in which student learning and assessment occur, then these experiences can also be added to matrix. It is recommended to create an initial curriculum map that only includes key/core courses and experiences because these are the main places in which the teaching and assessment of student learning outcomes will occur. If elective courses or support courses (e.g., general education courses) are critical to the program, then include these courses. If possible and available, collect the student learning outcomes for each course. The course-level learning outcomes can help determine when and to what extent the program-level learning outcomes are taught and assessed in individual courses.

Table 2.0 Mapping Stage 1

Program learning outcomes					
Required Courses	Student will be able to evaluate assets for efficient distribution	Student will be able to prepare a plan for efficient wealth	Student will be able to evaluate the impact of principles and policies on	Student will be able to design portfolios of securities and asset classes	Student will able to design plants, process etc. independently

		creating and management through chemicals and reactions	the different stakeholders	aimed at achieving personal goals	
CO-1	X		X		
CO-2		X		X	
CO-3	X	X	X	X	X
CO-4	X		X		
Lab-1		X		X	X
Lab-2		X		X	X

Place an I, R, or A in a cell to indicate different developmental levels the student will experience through the curriculum.

Introduced (I) – The skills associated with the program outcome are presented in the course. You may find this will happen in the lower level courses in your program. Theremay be formative assessment.

Reinforced (R) – The skills associated with the program outcome are being worked on ata level above the introductory stage and/or the skills are being developed at a deeper level. There may be formative assessment.

Assessed (A) – Students should have developed a sufficient level of competency in theskills associated with the program outcome to have mastered them. This is where the assessment of the program learning outcome is done (or the artifact for analysis is collected).

Table 3.0 Mapping Stage 2

Program learning outcomes					
Required Courses	Student will be able to evaluate assets for efficient distribution	Student will be able to prepare a plan for efficient wealth creating and management through chemicals and reactions	Student will be able to evaluate the impact of principles and policies on the different stakeholders	Student will be able to design portfolios of securities and asset classes aimed at achieving personal goals	Student will able to design plants, process etc. independently
CO-1	I		I		
CO-2		I		I	
CO-3	I	I	I	I	I
CO-4	R		R		
Lab-1		R		R	A
Lab-2		R		R	A

Discussions

Curriculum maps serve the following purposes:
1. Help ensure that all PLOs are adequately addressed by the curriculum.
2. Help identify potential structural concerns within the curriculum.
3. Help diagnose where and how to correct structural concerns
4. Help document what topics are addressed and where they are covered.

A curriculum map can be used to identify gaps between expected student learning outcomes and what is taught and assessed in a curriculum. A curriculum map can demonstrate if a course sequence effectively scaffolds and prepares students to achieve the learning outcomes. Identification of gaps and issues in a curriculum map can lead to curricular changes to improve student learning opportunities. Below are questions that can guide analyses of,

and discussionsrelated to, curriculum maps:

1. Curriculum sequence - Are all program learning objectives taught and delivered in the correct curriculum sequence?

2. Evaluation of learning outcomes - Are all program learning outcomes evaluated and evaluated when they should be?

3. Learning Objectives - Do all foundational courses aid in the creation of a minimum of one learning objective for the program?

4. Inappropriate course - Which fundamental courses don't contribute to the learning objectives of the program?

5. Supportive courses - Do the foundational courses adequately aid in the creation of the program's learning objectives?

6. Effective students support - Does the order in which the learning outcomes are taught in the courses promote students' growth of the learning outcomes in the most suitable and efficient way?

7. Phenomenal changes - What adjustments to the curriculum, courses, learning objectives, order in which students attend classes, and other factors could enhance the alignment of student learning outcomes with the curriculum?

It is a best practice to engage all faculty members in analyses and discussion of a program-levelcurriculum map. A curriculum map can serve as a catalyst for building a reflective practice related to teaching and learning in a program.

Future & Challenges

Authors proposes curriculum mapping in their HEI's in different subjects. Few typical challenges may be faced through the mapping process are as :-

Inclusion of courses

Generally, it's best to start out simple and only include the required courses in your program. Once these are set, you can branch first into the support courses, then into the program elective courses, and finally into LAC-type courses. In this expanded case, be aware that not all students take the same electives and the same set of LAC courses, so you cannot assume the same level of SLO coverage as youcan with required courses.

Single course with multiple instructors

This requires coordination among instructors who teach the course. It also requires some standardization as to what is covered and what assessments are used, especially if the course is used for program assessment data collection. Bring all instructors together for a conversation about which PLOs the course supports and how best to assess learning. Emphasize that the course is part of the program curriculum, so faculty need to come to consensus.

Curriculum drive assessment

The curriculum should drive the assessment; however, the PLO's should shape the curriculum. The overriding objectives need to considered first. This concept will be foreign to some programs that have allowed the curriculum to be shaped by short-lived trends and the interests of individual professors. A good curriculum should be planned and designed; not merely something that randomly evolves over time. When analyzing your curriculum with a map, be sure to keep the PLOs, not the courses, central to the conversation.

Group controls

This is typically the case with support courses and LAC. It is best to begin with required courses that the program controls. Once that assessment is in place, the program can conduct an audit of courses taught outside the program to determineif the courses map to the PLOs. If courses outside the program map to the PLOs, have a conversation with fellow faculty members about how the PLO might be introduced, reinforced, and assessed formally.

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