

Essentials of Curriculum Design and Implementation- An Overview

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Abstract -- The basic motive behind having a curriculum in an institution, whether a school or a university is to have a particular order and approach in teaching the students. Simply teaching a course without a head or a tail neither makes any sense nor helpful for students in their long run. Hence curriculum is the basic thing for any institution and its design may vary for different institutions. Implementation for the same is much bigger issue than the design!

In implementing the designed curriculum, we have to follow set standards as per PEOs, POs and COs. In writing PEOs, POs, and COs, we have to involve all stake holders of the society to get desired results.

Key words: PEO, PO, CO

I. INTRODUCTION

The basis of designing a curriculum is to see that when a student leave that institution in which he had studied and go out in to the outside world for his living or further studies. It is necessary that he/she does not face any difficulty in facing challenges ahead of their future. The design in curriculum varies due to various factors an institution faces as per its need and necessity, whether they are good or bad. Basically to design a curriculum, the three following factors [1] [2] are important:

- Intended Learning outcomes [3] [4]
- Training and teaching methodology[5]
- Proper Assessment

In elaborating these three factors, let me discuss about salient factors:

A. Intended Learning Outcomes (ILOs)

Any curriculum designed for any particular section of pupil in an institution has a motive of producing good outcome so that students are well settled and institution gets highlighted. It is also to be observed that curriculum designed for a particular

course need to be in such a way that it is according to the present activities taking place in outside world. This in brief means, the curriculum needs to be flexible, dynamic and has to be updated once or twice in two years. Hence for a good outcome, the design of curriculum is most important. Mapping of ILOs with POs are to be made mandatory to get desired out comes.

B. Training and teaching methodology

Training and teaching methods are completely depending on trainer or faculty, his/her qualification, his/her experience in that particular field. According to the available faculty, the course had to be designed. Another factor, which plays a crucial role is the quality of students who join the institute. For example the quality of student who joins IIT is completely different from a student who joins other private universities.

Hence this factor had to be considered when designing a curriculum for a particular course. So, teaching – learning methodologies are key factors to achieve set COs, POs and PEOs. Mapping with PEOs and POs are to be made mandatory in achieving the results.

C. Proper Assessment

Assessment is a term which refers to that feedback where either a student or a teacher is involved in revisiting the information which they have already known. Assessment is of three kinds:

- Self-assessment, through which a student learns to monitor and evaluate their own learning. This should be a significant element in the curriculum, because we aim to produce graduates who are appropriately reflective and self-critical.
- Peer assessment, in which students provide feedback on each other's learning. This can be viewed as an extension of self-assessment and

presupposes trust and mutual respect. Research suggests that students can learn to judge each other's work as reliably as staff.

- Tutor assessment, in which a member of staff or teaching assistant provides commentary and feedback on the student's work.

The above mentioned assessments are very important for development of a particular institute and this process also play a crucial role in finding out the flaws in the outer design as well as the inner design of a curriculum and helps to rectify it and produce a better outcome. In assessing the performance/method/gap/result/, we have to make use of effective tools to pin point the reason like Rubrics.

II. PROCESS OF CURRICULUM DEVELOPMENT

The Curriculum is to be designed in such a way that it is necessary that the curriculum needs to be developed and updated according to the latest changes taking place in outside world. Hence a particular procedure [6] is needed to be followed in order to develop a particular curriculum. This procedure involves the following:

- A. Planning
- B. Content and Methods
- C. Implementation
- D. Evaluation and reporting.

The need for curriculum development usually emerges from a concern about a major issue or problem.

A. Planning

- Identify Issue/Problem/Need

The need for curriculum development usually emerges from a concern about a major issue or problem of one or more target audience. This explores some of the questions that need to be addressed to define the issue and to develop a statement that will guide the selection of the members of a curriculum development team [7]. The issue statement also serves to broadly identify, the scope (what will be included) of the curriculum content.

- Form Curriculum Development Team

Once the nature and scope of the issue has been broadly defined, the members of the curriculum

development team can be selected. Topics covered in this section include: (i) the roles and functions of team members, (ii) a process for selecting members of the curriculum development team, and (iii) principles of collaboration and teamwork. The goal is to obtain expertise for the areas included in the scope of the curriculum content among the team members and develop an effective team.

B. Content and Methods

Once planning is completed and a curriculum development team is formed their main objective is to build the necessary content and methods of approach to the particular content to deliver.

So, the challenge in the curriculum development process is selecting the content that will make a real difference in the lives of the learner and ultimately society as a whole. The scope (breadth of knowledge, skills, attitudes, and behaviors) and the sequence (order) of the content are also to be discussed.

After the content is selected, the next step is to design activities (learning experiences) to help the learner to achieve appropriate intended outcomes.

C. Implementation

Once the content and experimental methods have been agreed upon, the actual production of curriculum materials shall begin. The following steps shall be useful to include in the implementation process:

- Suggestions for finding and evaluating existing materials
- Evaluation criteria
- Suggestions for producing curriculum materials.

In general, the toughest part of curriculum design includes the level of satisfaction of all stake holders [8]. To satisfy the stake holders of the society, real time experiences/challenges shall be anticipated in the process of implementing the best curriculum at mediocre institution!

So, the steps listed below shall be of some importance to consider.

Step1:

Identify Programme educational objectives [9], to be able to serve stake holders at least for 3-5 years after their graduation.

Step2:

Frame Programme outcomes, to suit the needs of stake holders of the society as per set PEOs [9].

Step3:

Write Course outcomes as per POs and PEOs.

Step4:

Design curriculum to suit the needs of stake holders as per COs, POs and PEOs.

If we select strategies for faculty, students, staff separately and plan for the implementation of curriculum, then we shall aim for results with the following process.

i. Test and Revise Curriculum

This includes suggestions to select test sites and conduct a formative evaluation of curriculum materials during the production phase. A sample evaluation form is provided.

ii. Recruit and Train Facilitators

It is a waste of resources to develop curriculum materials if adequate training is not provided for facilitators to implement it. Suggestions for recruiting appropriate facilitators are provided with a sample three-day training program.

iii. Implementation of Curriculum

Effective implementation of newly developed curriculum products is unlikely to occur without planning. Strategies to promote and use the curriculum are discussed here.

D. *Evaluation and Reporting*

Evaluation is a phase in the curriculum development model as well as a specific step. Two types of evaluation, a. formative and b. summative are used during curriculum development.

- a. Formative evaluations [8] are used during the needs assessment, product development, and testing steps.
- b. Summative evaluations [8] are undertaken to measure and report on the outcomes pay off (i.e., getting the results into the hands of people who can use them).

Once these two types of evaluations are done it is necessary that results are reported to the people and had to be assessed so that everyone gets a clear idea about the outcome and necessary steps can be taken to remove those flaws faced in the development of curriculum.

CONCLUSION:

Curriculum design shall be taken up by experts and shall be implemented meticulously by all stake holders through teaching-learning methodology, assessment, peer review and commitment.

REFERENCES:

- [1] Patrick Slattery, "Curriculum Development in the Postmodern Era: Teaching and Learning in an age of Accountability", Third edition, 2013.
- [2] Hassan, M.M.S, "Challenges of implementing outcome based engineering education in universities in Bangladesh", 7th International Conference on Electrical & Computer Engineering (ICECE), 2012.
- [3] Belland, B. R., French, B. F., & Ertmer, P. A., "Validity and Problem-Based Learning Research: A Review of Instruments Used to Assess Intended Learning Outcomes", Interdisciplinary Journal of Problem-based Learning, Volume 3(Issue 1), 2009.
- [4] Trevor Hussey & Patrick Smith, "The Uses of Learning Outcomes", Teaching in Higher Education, Volume 8, Issue 3, 2003.
- [5] Magnussen L, Ishida D, Itano J, "The impact of the use of inquiry-based learning as a teaching methodology on the development of critical thinking", The Journal of Nursing Education, Volume 39, Issue 8, pp 360-364, 2000
- [6] Daniel Tanner, Laurel Tanner, "Curriculum Development: Theory into Practice", 2nd ed., 1995.
- [7] Wendy Stubbs, Jan Schapper, "Two approaches to curriculum development for educating for sustainability and CSR", International Journal of Sustainability in Higher Education, Volume 12 Issue 3, pp.259 – 268, 2011.
- [8] Borin, P., P. Wolf, T. Dawson, and B. Wuetherick, "Trends in university curriculum development: An international and national perspective", 2013.
- [9] Shahrir Abdullah, et al, "Implementing Continual Review of Programme Educational Objectives and Outcomes for OBE Curriculum Based on Stakeholders' Input", Proceedings of the 7th WSEAS International Conference on Education and Educational Technology, 2008.