Medical education
The MB BS Curriculum Management
A Paradigm of basic educational concerns

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Introduction:

This is the first of a trilogy aimed at documenting concerns about the problems of curriculum management. A comment is often heard that a certain curriculum looks good on paper; but its implementation is another matter. It is probably best to start by explaining what is meant by curriculum management. In many situations there is a curriculum committee vested with responsibility of curriculum planning, development, overseeing its implementation and students' assessment among other things. In discipline-based curricula the departments are responsible for their part of the curriculum from A to Z. In integrated curricula there are courses or module committees who plan & supervise the courses & in some there is only a course coordinator. This is where matters become complicated.

In all cases problems arise. These can be categorized into several categories. This discourse will be limited to ten such issues:

- Clarity of objectives & alignment of learning experiences.

- Content representation

- Planning of schedules of activities

- Coordination of sessions (theory, practical, clinical, field).

- Finding the right teachers, who are willing & committed to study the course outline & abide by its objectives & contents.

- Regular feedback on monitoring of implementation

- Feedback to the academic administration on resource deployment and development.

- Setting of examinations

- Standard-setting for students' assessment.

- Evaluation feedback to the curriculum committee for curriculum development.

Having enumerated major areas of curriculum management, let us elaborate on them & try to illustrate with examples from not uncommon practices. The presentation of the ten domains will follow as far as possible the components of the education planning cycle (fig. 1) The main purpose of these articles is to share some of the experiences accumulated through work with academic boards and committees concerned with curriculum managements & development, examinations, recruitment and promotion of academic staff and the overarching academic councils of several universities.

Hopefully, from within these areas of curriculum management, suitable parameters can be gleaned for the formulation of policies and procedures aimed at quality enhancement.

- **Clarity of objectives and alignment of learning experiences.**

Essential to curriculum management is the module or course document. This is the agreed segment of the curriculum dealing with the plan for one course. Together the module documents represent the building blocks of the whole curriculum. All pertinent information should go into this document; i.e. the title, the code & no of the course, total credits, the level or semester, the objectives, the contents, methods of instruction, time schedules, learning resources including resource persons, texts and references. The more the information, the better are the chances for its faithful implementation. It should be emphasized that no change should be made in this document without proper consultation and

through the channels of curriculum development & for a good reason.

As the module is a unit of instruction it should have strict alignment between its objectives, contents & the methods used for its delivery. Without this alignment, the whole exercise will be vague and subject to individual teachers interpretation, and unpredictable results. Over time, such changes result in a curriculum that has lost its integrity and focus.

A bird's eye view of related modules should reveal repetitions and redundancies. Such modules usually target a major educational outcome (final competency) stated at the outset and worked at in the various stages of the curriculum.

• **Content representation:**

Most teachers have heard of the spiral model of curriculum design. It represents building blocks (courses or modules) which revisit content areas in a stepwise fashion and culminate over time in a major learning outcome. At each stage of the curriculum, we need to select the appropriate content students are prepared for, and select content which prepares them for the following stage.

The concept of preparing learners for the next stage may not be totally clear in the minds of curriculum planners. The dominance of thinking in terms of discipline compartments has led classical curriculum models to classify subject-based courses into premedical, basic medical sciences, preclinical, clinical sciences and the clinical disciplines. As these models have become outdated & discredited by modern learning theories, the curriculum planner has faced the challenge of selection of learning material suitable for each stage of the continuum.

Guiding principles have come into practice such as motivation by early exposure to applied aspects of end outcomes at awareness level. Introductory courses at a superficial level aiming at major concept and vocabulary building have also been used in integrated curricula such as case-based, community-based & problem-based learning. For these practices, the spiral curriculum has been invoked as a model for stepwise design of learning experiences leading to an end outcome.

Sometimes it is difficult to harness enthusiastic teachers who tend to deliver the whole of their knowledge at a stage when students have not been prepared for it. If they become familiar with the spiral model, then the selection of content is guided by an appropriate and logical sequence. Awareness of the fact that a series of courses or modules lead to the final educational outcome will make it easy to formulate the sequence. This is sometimes formalized by identifying prerequisite course(s) for each subsequent module.

• **Planning of schedules of activities:**

Teaching and learning methods vary with the objectives of the course. Cognitive objectives are predominant in the early stages of the curriculum. This is not to say that some affective and professional skills are not important. On the contrary, professional attitudes should be tackled throughout the curriculum.

The selected methods will require time schedules and specified teachers and venues. Information should be made known to all teachers concerned and the students at an early date before the start of the course.

Those responsible for venues should make sure that the lecture rooms, labs, seminar rooms etc. are suitably prepared for the purpose & can conveniently accommodate the number of students in the class.

If there is a change in the schedule, every effort should be made that all concerned know about it, to avoid unnecessary confusion.

Schedules & time tables have a lot to do with the methods of instruction; the venues used for them and time of day more suitable for different learning experiences. Time-tables are sometimes dictated by hospital schedules, convenience to patients and clinicians who usually have service duties as well as teaching.

• **Coordination of sessions:**

It goes without saying that practical sessions should come after theoretical studies. Similarly working on real patients should follow upon training on simulations. It is sometimes useful to expose

students to real life situations or videos illustrating application of skills or procedures. Such experiences play an important role in students' motivation. The schedules of activities should therefore be coordinated to align the different methods both in content and timing. It is not justifiable that sessions become organized to suit the convenience of teachers or any other logistic considerations. Compromises of this kind can disturb the learning process and reduce the efficiency of the program.

The course coordinators must at all times see to it that schedules are not disturbed; and if unpredictable events interfere with implementation, remedial action should consider minimum disturbance of sequence.

Sequence within each module is no small matter. We can call it a "*mini spiral*" to bring out the need to follow from one topic to another in a logical sequence. In integrated courses the structure & function of a system go hand-in-hand in a progressive manner that makes the material easy to follow, using terminology and explanation of complex topics reinforced. When clinical content is being discussed, the structure & function concepts & terminology will be understood in their applied context.
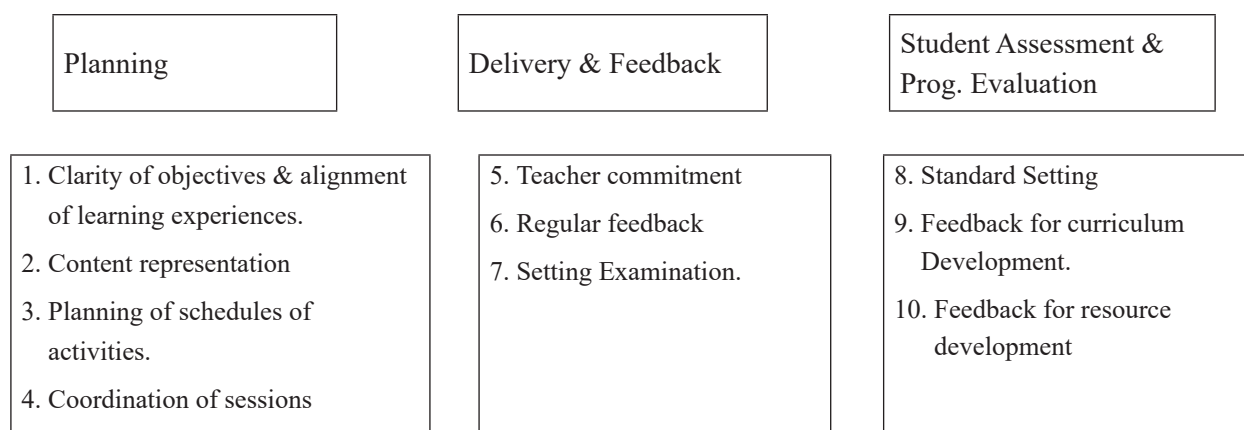
Planning	Delivery & Feedback	Student Assessment & Prog. Evaluation
1. Clarity of objectives & alignment of learning experiences. 2. Content representation 3. Planning of schedules of activities. 4. Coordination of sessions	5. Teacher commitment 6. Regular feedback 7. Setting Examination.	8. Standard Setting 9. Feedback for curriculum Development. 10. Feedback for resource development

Fig. 1 Curriculum management conceived as a sequence of actives in an outcome-based model.

Conclusion:

In this paper the first four of the "ten pillars" of curriculum management were discussed. As a group, these constitute the planning phase of curriculum management. In the next paper we will discuss the next three areas dealing with the implementation stage. In the third of this trilogy the areas of students' assessment and program evaluation will be discussed.

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