

## Experiences in introducing curricular development in the Gulf Region

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In this article Prof. Raja C. Bandaranayake, a medical educationist of international repute, who has had extensive experience in curriculum design, curriculum evaluation and faculty development in health professions training institutions in many countries around the world, shares his experiences with the readers of *Gulf Medical Journal*. His views and suggestions will constitute dependable guidance to curriculum planners and teachers in medical, dental, pharmacy and nursing schools and in other health professions training programs who are contemplating curriculum revision in their own institutions. Prof. Bandaranayake offers valuable hints that would help the uninitiated as well as the experienced teacher to avoid the pitfalls that the path to curriculum change is often strewn with.

- Editor-in-Chief, GMJ

### *Citation*

Bandaranayake RC. Experiences in introducing curricular development in the Gulf Region. *Gulf Medical Journal*. 2012;1(1):3-9.

### INTRODUCTION

In 1989 I published a paper, on the issues facing medical schools in developing countries in bringing about educational change, in which I developed some general guidelines for successful change based on established principles of curriculum planning<sup>1</sup>. Since that paper was written I have had the privilege, over the last fifteen years, to have been associated with curriculum development in several medical schools in the Gulf Region. While medical schools here are, in general, no different from their counterparts elsewhere, they have some special characteristics which need to be taken into account when attempting curriculum development therein.

This paper aims to examine some specific issues facing medical schools in this Region, in relation to eight principles and the ensuing guidelines laid down for successful change. They apply both to new schools which are being established on a fairly frequent basis in this Region, as well as to established schools which are desirous of improving their educational programs. The lessons learned, which are summarized at the end of this paper, should help avoid some of the barriers to successful curriculum development in this Region.

### PRINCIPLE 1

*“Effective implementation of a plan requires that implementers develop a sense of ownership and commitment to the plan.”*

Many new medical schools are being established in this Region in collaboration with existing, and often eminent, medical schools in developed countries. In doing so, very often the latter adopt a ‘big brother’ attitude to the new school, usually for the better, but sometimes to the latter’s detriment.

One such school in this Region had instituted a curriculum based entirely on that practiced in the older school, even to the extent of the latter transmitting learning packages on a weekly basis, specifying unequivocally the nature of teaching methods, content and learning aids to be used in the former. A general malaise among the faculty, who were acting merely as automatons, carrying out the actions dictated to them, had compelled the administration to do away with the system. Instead, steps were taken to involve the faculty in developing courses and curriculum material of their own, while maintaining the basic structure of the inherited curriculum. As faculty were able to start developing courses of their own the sense of ownership of, and thereby commitment to, the curriculum increased, and the curriculum now continues to develop according to the societal needs and norms of the Region.

In another proposed school assistance was sought for curriculum development from an established school in the same Region. Faculty

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members of the latter were employed to develop problem packages for use in the former, without involvement of potential teachers in the proposed school.

A third new school which was established in the Region blatantly copied curricular documents, often verbatim, from an established school in the same Region, without tailoring them to the specific needs of the former.

In all three instances cited above, a lack of ownership of the curriculum would undoubtedly have resulted in a lack of commitment in curriculum implementation.

Participation of teachers in curriculum planning is essential because:

- it is the teacher in the classroom who is most aware of pitfalls in implementation;
- it is human nature to develop a sense of ownership of something which one has helped to create;
- most teachers resent being treated like automatons who are told what to do, and how and when to do it.

Such participation of teachers in planning a curriculum change from a conventional subject-centered curriculum to an organ systems-based integrated curriculum was successful in a fourth school where from the commencement of planning all faculty members were involved and encouraged to contribute in some way to the plan.

## PRINCIPLE 2

*“Effective implementation of a plan requires that those who implement it agree on the nature of its final outcome.”*

One of the reasons why successful implementation is more likely to occur in a new school than in an established one is that it is possible, initially, to recruit teachers who agree with the philosophy of the school. A case in point is the Faculty of Medicine in the University of Newcastle in Australia, where teachers who were recruited first were oriented to, and agreed with, the identified philosophy of the school<sup>2</sup>. Such agreement is less likely to occur in older schools, where it is not uncommon to find teachers, recruited across the years to individual departments, who have differing viewpoints on the goals of medical education. For example, while some teachers insist that each of the basic medical

sciences should be taught as a subject in its own right, others believe that each should be taught only to the extent that it is applicable to the practice of medicine. Such conflicting views lead to confusion in students and discord among teachers.

In the last school in the Region mentioned above (see under Principle 1) where curriculum change was successfully implemented, one of the first steps taken by those who were spearheading the development was to arrive at consensus on the type of graduate which the school wished to produce. The question was asked: “What is the nature of the graduate at the point of graduation from the school, and whose health needs is that graduate being trained to serve?” Faculty members who attempted to answer that question came from many countries, as did the students in the school. The first response was, naturally: “A basic doctor who had the abilities to specialize in any branch of medicine and who could serve anywhere in the world”. Much discussion ensued, and when it was pointed out that the first goal could be met but not the second, consensus was reached that the focus should rightly be the health needs of the Region. Curriculum planning could then progress with this goal in mind.

It is of paramount importance that those faculty members with conflicting views be given the opportunity to express their concerns and consensus reached on the goals of the curriculum, even if compromises have to be made to the original intentions.

Another general characteristic in this Region is the dearth of postgraduate examinations in medicine. As a result many graduates aspire to take postgraduate examinations in Western countries. This creates two demands on the curriculum: its recognition through accreditation by these postgraduate bodies, and the ability of students to succeed in qualifying examinations for undergoing residency training and practice in these countries. The former will be dealt with under Principle 7; the latter results in schools placing some emphasis on the health needs of those countries, which may sometimes run counter to the health needs of the Region. I have even come across schools which focus on preparing students to pass examinations such as the ECFMG because of this situation. Such a focus certainly hampers

the development of curricula which prepare graduates able to meet the health needs of the Gulf Region.

### **PRINCIPLE 3**

*“Achievement of the goals envisaged in a plan requires that individuals responsible for implementation are generally aware of each other’s contributions”.*

The departmental structure of medical schools encourages teachers to confine themselves to their respective departments. In some schools there is a lack of awareness of each other’s contributions even within the same department, particularly when departments are large. This often results, at best, in duplication of efforts; at worst, in contradictory efforts leading to confusion in the students’ minds.

I am reminded of an experience as a consultant to a medical school in a South East Asian country during the early years of planning and implementing a partially problem-based curriculum. A major part of faculty time seemed to be spent in informal discussions about the curriculum, often in interdisciplinary groups. These meetings were in addition to the formal meetings which were conducted regularly to ensure adequate communication between departments.

In one medical school in the Gulf Region, where an integrated curriculum has been introduced, communication between departments is confined to scheduled meetings between committees which do not necessarily include representatives from the relevant disciplines. As a result a majority of the faculty members in a given department may not be aware of the contributions made by the other departments. In such a situation, while the “curriculum on paper” is integrated, the “curriculum in practice” is in serious danger of not being so.

Curriculum developers must ensure that there is adequate and genuine representation of each department (or division) of the medical school in the bodies responsible for curriculum planning. Genuine representation is provided by individuals who present the points of view of those departments (or divisions) they represent, rather than their personal views, even if the latter conflict with the former.

### **PRINCIPLE 4**

*“Those who are subjected to the plan have as much, if not a greater, stake in the plan as those who implement it.”*

Students are rarely consulted when medical school curricula are planned. The reason commonly given is that they are not in a position to judge what is best for them. University students are mature enough to contribute to certain aspects of curriculum planning. For example, they can each indicate what methods are most effective for their learning, what their interests are, and what difficulties they experience in the process of being subjected to a curriculum plan. Student representatives on curriculum committees are now commonplace. One drawback is that often they may not be truly representative of the general student body which they represent, and are often selected for qualities other than their ability to represent peers. A reprehensible practice is the use of student representatives by faculty members to get their point of view across, even when the general student body may disagree with it. In one medical school in a developed country the dean was able to push through a motion ostensibly proposed by a student representative, even though the majority of students were opposed to the motion.

Medical students in the Gulf Region are often reluctant to express their point of view unless asked to do so. If curriculum development is to be truly effective for the benefit of the students, it is imperative that faculty members seek the opinion of student representatives at curriculum committee meetings, and confirm these opinions through surveys of perceptions among the general student body. In one medical school in the Region, which had an innovative curriculum, a survey of faculty and student perceptions revealed many strengths and deficiencies, which were then used for further evaluation (see under Principle 7).

### **PRINCIPLE 5**

*“Teaching and learning styles vary.”*

While it is imperative that there be agreement on the goals of medical education, and hence on what to teach, the determination of how to teach should be the prerogative of each teacher. Curriculum committees have the responsibility of obtaining agreement on the philosophy and goals of a

curriculum, the general objectives directed towards those goals, the delineation of the content of the curriculum and its sequential arrangement, the identification of teaching strategies directed towards the goals and objectives and the stages of the curriculum at which summative assessments should be carried out. The determination of how to teach a given topic should be left to the individual teachers. Plans which are so specific as to carefully program all the teacher's activities, such as in the first example of a medical school from the Region cited in this paper (see under Principle 1 above), often fail, because they assume the teachers to be uniform and incapable of adapting to situations that arise in the classroom. Curriculum planners must distinguish between 'strategies' and 'tactics': the former is the overall plan for the curriculum, the latter is adaptation to circumstances prevailing at the time of execution. When plans are too inflexible teachers soon lose interest and may even resent them.

In one medical school in the Region faculty members were inexplicably barred from producing their own resource material for student learning as the curriculum planners were apprehensive that students may confine their learning to that material. Instead, teachers had to faithfully follow guides drawn up for them by the planners and direct students to the resource material so identified. Teachers should be given much more freedom to determine how best to help their students, since what matters most is the product of learning rather than its process, unless one of the objectives is the process itself, for example self-directed learning.

Students vary in the method by which they learn a given topic best. For example, learning of macroscopic anatomy may best occur for different students through:

- dissection
- prosected specimens
- projected images
- two-dimensional pictures, or
- printed text.

While cadaver dissection is becoming increasingly rare in many medical schools, it is particularly so in this Region for two reasons: the societal norms of the Region and the difficulty in obtaining cadavers. Nevertheless prosected specimens are increasingly used for teaching and

learning gross anatomy. I was pleasantly surprised when some Arab students once requested me, as Chairman of the Anatomy Department, to be allowed to dissect the cadaver. I readily agreed to provide them with a cadaver for dissection. As time for dissection had not been scheduled in the teaching program, arrangements were made for them to dissect after the scheduled timetable hours, to which they gladly agreed. If students wish to be given the opportunity to learn by a particular method they should be allowed to do so if it is practical, as that may be the method by which they learn best. They should at least be given the opportunity to experience the method and then decide for themselves if they wish to continue.

## PRINCIPLE 6

### *"Assessment drives learning."*

This is a well known principle, yet one which cannot be over-emphasized. There are many instances where the intent of curriculum development has been negated by inappropriate assessment procedures. For example, in one medical school in this Region a problem-based course which was expected to enhance integrated learning by students did not achieve the desired outcome because examinations were largely discipline-based. The intent of the innovative curriculum was only achieved when deliberate attempts were made to test students' ability to link their learning from different disciplines and across different organ systems. In the same school the introduction of an integrated clinical examination, where students were unable to identify the clinical specialty to which the patient belonged, but had to determine it through the patient's signs and symptoms, resulted in testing whether one of the curriculum goals, which was to produce an undifferentiated basic doctor, was being achieved.

The use of external examiners is a common practice in many medical schools in this Region. In some schools they are used in summative examinations throughout the curriculum; in others, only in the final certification examination. The reason often given is that the school wishes to ensure that its graduates meet 'international standards'. Often, however, such examiners use as their yardstick of assessment the standards of assessment to which they are accustomed, even

when their own curriculum may be very different from that in the school in which they are examining. Adverse comments arising from such comparison by external examiners who are respected in their own fields often discourage faculty members who are striving to maintain a curriculum development. The opposite is also not uncommon, where external examiners are pleasantly surprised at the caliber of students who are the products of an innovation, and the positive comments of the former encourage faculty members to persist with, or even spread, the innovation.

## PRINCIPLE 7

*“The focus of evaluation of a new or improved curriculum is the objective(s) of the development.”*

Medical schools often forget this simple and obvious principle. Some schools have reverted to a previous curriculum because of inappropriate evaluation resulting in unacceptable results. Often perceptions of faculty and students are used as the sole methods of evaluation. Commonly examination data are used to judge the effects of the curriculum and the performance of faculty. The deliberate setting of easy examinations, or leniency in scoring student performance, are reprehensible ways of manipulating evaluation results. Performance in examinations is based on many factors. To judge the curriculum development merely by examination performance, without adequate safeguards to control extraneous variables, could only lead to misleading conclusions about the effectiveness of the curriculum.

Another criterion of effectiveness used in evaluation is performance of graduates on national examinations, such as the Arab Board examinations. It must be realized that such examinations are not set with the intention of evaluating a curriculum, and should not be used for this purpose.

In one medical school in the Region the international standards developed by the World Federation for Medical Education (WFME, 2003) were used as a starting point by a course evaluation committee to identify strengths and deficiencies in the curriculum in relation to the

institutional objectives of the school. Once they were identified the possible reasons for the existence of these deficiencies were hypothesized at a workshop involving all faculty members. Faculty subcommittees were then set up to determine ways of correcting or reducing these deficiencies, in the belief that curriculum development could result more from correcting them than through capitalizing on strengths. The curriculum committee then took steps to correct or reduce them in order to bring about curriculum development.

Both short-term evaluation, in the form of ongoing monitoring against the aims of the development, and long-term evaluation, by such means as career tracking of graduates and supervisor opinion, are essential components to determine the effectiveness of curriculum development. The former is necessary for mid-course corrections while implementation is in progress, the latter for overall evaluation to make decisions pertaining to the continuance, change or abolition of the development. A period of at least five years since implementation should precede such decisions resulting from long-term evaluation.

Accreditation is relatively new to medical schools in this Region, but there has been a spurt of activity towards this end over the last decade. The Gulf Cooperation Council Medical College Deans Committee (2001) developed a set of minimum requirements for medical education, based on the recommendations of the WFME<sup>3</sup>. Its intention was to assist medical schools in the Region develop their own program evaluation systems, and to prepare appropriate accreditation submissions. The document has been used in a few instances. Some countries are developing accrediting protocols as part of a national system of accreditation for all segments of higher education. Still others use external accreditation teams from developed countries to determine the standard of their curricula.

Accreditation plays an important role in curriculum development<sup>4</sup>. If accreditation teams insist on a rigid set of standards which are not flexible enough to permit change, attempts at change would be thwarted<sup>5</sup>. Fortunately these teams have promoted change in most instances and have indeed been a stimulus for curriculum development.

**PRINCIPLE 8**

*“The presence of a critical mass of committed, able and influential individuals over a period of time while the innovation is firmly entrenched is vital if the change is to be maintained.”*

Ownership and commitment to the change was emphasized in Principle 1. However, one of the special characteristics of the medical schools in this Region is the relatively high rate of faculty turnover. This is mainly due to the fact that a large proportion of faculty consist of expatriate members who serve the school on a contractual basis. This results in the existence, within a relatively short period after institution of the change, of a significant number of faculty members who were not involved in the original planning of the change and hence may not have a sense of commitment to it. The problem is confounded by the fact that many of these new faculty members may be recruited after a long experience in schools with conventional curricula, and display the usual signs of resistance to the change. Regular faculty development thus becomes essential if the change is to be maintained. Such development should include not only the development of awareness of the nature of the change and the skills required to effectively implement the activities involved, but also a change in attitudes towards the innovation. In the absence of regular faculty development activities continuation of the change is bound to fail, however carefully it has been planned.

**LESSONS LEARNED**

The lessons learned from the experiences outlined above lead to some guidelines which would help curriculum developers not only in this Region but in the world of medical education in general.

1. Participation of potential implementers in planning is prerequisite to ownership of the curriculum plan, thereby enhancing its successful implementation. Often all teachers cannot be involved in all stages of planning. If so, they must be kept informed as the plan develops, and a forum should be provided for them to voice their opinions.
2. Consensus must be reached among potential implementers on the philosophy and goals of

the curriculum, even if compromises must be made in the absence of total agreement, if the plan is to be successfully implemented. Those with conflicting views on the goals should be represented on the bodies responsible for curriculum planning.

3. Adequate and genuine representation of each department, division or unit of the medical school must be ensured in the bodies responsible for curriculum planning, so that all academic segments of the school are kept constantly informed of each other's contributions.
4. Student perceptions and opinions on matters which students are able to judge must be surveyed and taken into consideration through genuine representation in the bodies responsible for curriculum planning.
5. Once the objectives of a particular course have been agreed upon, each teacher should be given the freedom to decide how best to help the students achieve those objectives. In the same vein, students should, as far as practical, be given a variety of options as to how to learn a particular topic when undertaking independent learning.
6. Assessment of student learning should be carried out in congruence with the philosophy of the curriculum and the objectives of the course, so as to encourage students to prepare for such assessments in a manner which would enhance their achievement of those objectives.
7. Formative evaluation of the curriculum should be undertaken while it is being implemented in order to make minor adjustments when necessary; long-term evaluation should be undertaken after a period of at least five years and should focus on the objectives of the change or development to ascertain whether they are met.
8. Intermittent faculty development activities should be conducted while the curriculum is being implemented, and should focus on raising awareness of the nature of the development, improving skills in implementing the activities inherent in it and fostering positive attitudes towards it. Such activities, while necessary for all faculty members, should in particular be conducted for new members who were not present at the planning stage.

**SUMMARY**

New medical schools are being frequently set up in the countries of the Gulf Region, often in collaboration with established schools in developed countries. Existing schools in the Region are keenly conscious of the fact that curriculum development must take place in order to keep abreast of trends in medical education the world over. While medical schools in this part of the world are no different from schools elsewhere, certain societal norms and characteristics must be taken into consideration in setting up new medical curricula or developing existing ones. The suggested set of guidelines, based on experiences in the Region, would assist curriculum developers to undertake their responsibilities in a manner which would enable medical schools meet their mission to effectively serve the health needs of the peoples of this Region.

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