1978 SMA LECTURE MAINTAINING STANDARDS IN MEDICAL EDUCATION

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" what we have loved,
Others will love, and we will teach them how;
Instruct them how the mind of man becomes
A thousand times more beautiful than the earth
On which he dwells, above this frame of things
.....
In beauty exalted, as it is itself
Of quality and fabric more divine."

Wordsworth, The Prelude, Bk. 14.

The President and Council of the SMA, distinguished guests, I would like first of all to express my deep appreciation of the great honour given me to-day, to deliver the SMA Lecture for 1978. This SMA Lecture has a history dating back to 1963 and my illustrious predecessors in this role have, over the past years, given us much food for thought. Their lectures have ranged over the whole field of Medicine, being concerned with the Philosophy, ethics, boundaries and content of Medicine in its theory and practice in Singapore. I am flattered by the invitation to continue in the Grand Tradition.

I make no apology for the topic of this lecture. It is one which is close to the heart of everyone in the profession. I believe that in the spirit of the Hippocratic tradition every practitioner is a teacher, being, among other things, a transmitter of the knowledge, skills and attitudes he possesses. It may be in the limited confines of a formal teaching — learning situation, as in the teaching of undergraduates or postgraduates. It may be in the wider context of instructing other members of society in the proper care of the body and the principles of health, when they come seeking medical attention.

However I shall restrict myself to the more formal of the 2, as it is usually in that setting that standards of medical education are spoken of. I must clarify, however, that though I gratefully acknowledge the advice and assistance of my

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friends and colleagues both within and outside the University in shaping my thoughts over the years, the views I am expressing are entirely my own. If you find some consonance with yours, I can only be grateful for the likeness in thinking. I ask for indulgence over the dissonances and take full responsibility if they are unpalatable.

It is universally recognised that where a process results in a product, that the quality of the product has to be ensured. Certain specifications are set which might be called standards. These standards state the degree of excellence required for that certain purpose.

The process of medical education, like all other kinds of education, is just such a process.

A medical school has therefore sometimes been likened to a factory, especially when emphasis has been laid on the fact that it produces doctors as end products of a process which, to some, may savour of the mechanical and the automatic. Perhaps the similarity is re-inforced by the fact that all medical students undergo the same kind of training process in the one faculty. In this they are unlike some other students, studying Science or Arts, for example, who may pursue different lines of learning though in the same faculty. Some have even refined (if that is the right word) this comparison, using a sausage factory as the analogy. I admit that the caricature of the products of a medical school as somewhat stuffed with knowledge, wrapped in glossy skins to tempt the palate of the consumer, has its humorous connotations. I wonder however if such word artists have ignored the existence of the Chinese sausages with their wrinkled skins and dark mysterious contents or whether the greater appeal to the public of this latter variety is indeed the whole point of the analogy. Perhaps it is not improper to extend the analogy of a sausage factory as there are sausages and sausages, and certainly it is the function of the training process called medical education to produce a great variety of people with disparate talents to serve in an equally great variety of capacities. It is accepted that the graduate of a medical school should be multipotential, capable of developing further in any one of many different ways.

It is in this respect that the analogy to a factory breaks down, for that analogy takes no account of the fact that the educational process is one of drawing out, a meaning implied in the Latin derivation of the word education, a drawing out, I say, in preparation for further drawing out after the first phase lasting 5 or 6 years is over. In the medical profession this aspect has been emphasised in the phrase "continuing education". I understand from colleagues in other faculties in the University that of all the professions our profession is the most dedicated to this philosophy and is universally envied for this development.

But in order to develop this philosphy in the new initiates into the profession, it has been suggested that students should be chosen who already have glimmerings of the Truth and who should already subscribe to certain tenets, including the belief that learning is a life long process. They should be humble and compassionate as befits those who would deal with fellow humans in distress and should have a spirit of service and dedication.

The complaint that has been raised against those graduates who have not endeavoured to keep up-to-date their knowledge and who have not kept in touch with developments and advances, has been that their personal standards of dedication and service must be deficient, otherwise it would inevitably follow that they would be motivated towards continuing their education. No one it is argued, with sufficient desire to serve well would fail to ensure that he did so.

This is how the syllogism goes:-

All doctors should want to serve.
Adequate knowledge enables good service.
Therefore all doctors should want to acquire adequate knowledge.

But it is in the definition of adequate knowledge that one may encounter the circular argument. What is adequate knowledge? Is it that which is accepted as enabling one to deliver good service? What is good service? Is it that which results from adequate knowledge?

SELECTION OF STUDENTS

It is but a small step to a variant of this syllogism:

All doctors should have certain desirable attributes.
All medical students are doctors-in-embryo.
Therefore all medical students should have similar desirable attributes.

The argument therefore goes on to criticize the mode of selection of students. Students clamour to enter medical school but they choose medicine as a career for a variety of motives and parental pressures, though most *want* to be doctors and have a sincere desire to help their fellow men. Not all are aware of the intellectual requirements of a medical training. To some extent this inflates the numbers of applicants as many are intellectually unsuitable.

Now many systems have been investigated and

none have been shown to be better than chance at selecting the type of student who will make a good doctor. There is general agreement only that the applicant must have adequate intellectual ability to complete the course. Unfortunately the other qualities desirable in doctors cannot, at present, be measured.

Some schools have attempted a personal interview before the final selection. This method is as fallacious as any. In some a great variety of candidates are interviewed, some having a liberal education with a wide breath of vision, others having specialized at an early age and acquired knowledge in depth only. None of the candidates have been found to have any real idea of the non-intellectual characteristics of doctors, but the selectors have also been shown to have no better idea than the candidates.

Many other factors than a high intelligence quotient determine the ultimate ability of any student, but if a measure of the candidate's motivation to become a doctor was available, it would be invaluable. However at the standard interview it was found that the candidate was so well aware of the acceptable responses that he rarely revealed himself.

Some attempts have also been made to select candidates who appear free from emotional disorder and whose mental health seems reasonable from headmasters' reports. These have led to facetious suggestions that if this had been consistently practised, many of the illustrious contributors to medical advances would have been eliminated and indeed the medical profession would not only have become dull but would also have been decimated.

What then can be done to ensure adequate standards of entrants to medical schools? In the final analysis, it would appear that scholastic merit, with all its fallacies, remains the only quantifiable basis for judgment of suitability.

ROLE OF TEACHERS

Given these limitations to the selection of students, what can be done to ensure that most, if not all, of those completing the course possess not only intellectual competence but also other desirable qualities?

I interpret the standards I have mentioned in the title as applying not only to scholastic ability but also to the realm of affect, of moral and ethical values.

This is where the impact of the teacher is greatest. I believe it is universally recognised that the role of the teacher is not just to pass on knowledge to his students. Such a procedure makes a teacher the donor and the student the recipient, as though information were being transfused like blood. The recipient is expected to be grateful and later to demonstrate the benefit of the transfusion at the demand of the teacher. The teacher's satisfaction arises from the notion that getting knowledge into the student is teaching. It is accepted that the teacher's motives are of the highest; the difficulty lies in his translating them into action. There is unfortunately still the tendency in medical education to give the teacher the central place, assuming that he is the fount of all knowledge.

To conteract this there have been attempts to widen the horizons of medical teachers, who, like their counterparts in other branches of tertiary institutions of learning, have relied on trial and error methods to enlarge their students' experience. Medical teachers have, perhaps more than their colleagues in other branches of learning, become increasingly exposed to the concept that part of their training should be towards understanding learning and teaching processes even whilst they pursue training that leads to professional advancement.

It has been found that when medical teachers accept the concept that learning is "changing one's potential for seeing, thinking, feeling and doing through experiences partly perceptual, partly intellectual, partly emotional and partly motor", that it is an active response on the part of the learner, and that when they direct their teaching to that end, there is a marked improvement in the drive and enthusiasm among the students.

What Whitehead has called the first of three stages of learning - the stage of romance, (the others being the stage of precision and the stage of generalisation) has been the commonest casualty in the curriculum of medical schools. Most students enter the medical school with a serious desire to become a good doctor, associated with a definite interest in people. Although the goal of a doctor may be conceived in a rather romantic way, their personal experience has given them some general concept of a doctor's activities. A course which plunges the eager learner into a mass of facts with little attempt to show how these relate to medicine or the learner's image of the practising doctor soon brings disillusionment and the loss of the student's original goals.

What should be the incentives during the long and arduous medical course? Praise, co-operation and reward rather than reproof, competition and punishment. But the best incentive I think, is the

relating of the task of learning to the goal of becoming a doctor. The best reward for the student is the recognition of his own achievements towards that goal. The teachers only provide the opportunity, the encouragement and the guidance.

OUR OWN EXPERIENCE

In our own school we have tried to provide such orientation for our teachers. Over the past 3 years workshops in medical education have been held with the intention of encouraging our medical teachers to develop an approach which will draw the best out of our students (in the full sense of the word "education") so that learning is facilitated and the potentialities of students are developed.

ROLE OF ASSESSMENTS

It is dangerous for teachers to work without any clear idea of the effect they have on their students. The student, in turn, needs to measure his progress, so as not to be surprised eventually in an examination, when he might suddenly discover that there are areas where he has not reached the required standard. Continual assessments have therefore to be made, preferably at short intervals, so that both teacher and learner may be aware if there is lack of progress.

Examinations are often seen as a means of ensuring standards, by which emphasis is laid on the determination of a person's knowledge, skills and attitudes at a particular time. While it is true that this procedure is a measure of achievement, it is also true that not enough cognisance is taken of the post examination void after pre examination cramming. We all know the disconcerting phenomenon of the slow disappearance of acquired learning. The question that has arisen therefore is whether such "snapshots" of performance are enough to ensure adequate standards of the knowledge and skill required of good doctors.

One of the most important developments in medical education therefore has been the incorporation of the knowledge, acquired through psychological experiments and applied in other educational circles, that testing can be used as part of the learning process. If the test is properly designed, it relates to the aims of that part of the course. It also assesses the student's ability to make use of his ideas and learning in a constructive flexible way and avoids reproduction of material by rote. In this way it is possible to encourage the student to understand and use a certain body of knowledge and to demonstrate this competence to himself as much as to his teachers, the very demonstration re-inforcing the lessions he has had and adding value to the knowledge in his own eyes.

Such a method of frequent testing to facilitate and re-inforce learning ensures high standards of knowledge and skill but demands several things. First, there must be sufficient teachers to implement the method. Then it must be ensured that teachers are conversant with the theory and practice of these testing procedures. Lastly, the teachers must be prepared to get to know their students in a fairly extensive way, though that is time-consuming.

WHY MAINTAIN STANDARDS?

Standards of medical education must be maintained in order that the degree of excellence of health care that this Republic is known for does not fall. Visitors have been known to come from the surrounding regions to make use of our sophisticated facilities. I will not go into what this brings in economic benefit to the nation as that should not be the primary reason for maintaining these high standards.

I would rather that we remind ourselves that in the rapidly changing world of medical knowledge and expertise the same is true as in other areas of growth - to falter is to be left behind.

HAVE WE MAINTAINED STANDARDS?

The answer is a resounding "Yes". What is the evidence? There is both internal and external evidence to support this belief.

The internal evidence lies in the ability of our graduates to meet the demands of the times. What they have learnt has enabled them to provide the trained manpower needed for the increasing sophistication of our health services, both within and outside the institutions. In other words there has been evidence that the flexibility of approach of the multipotential graduate has been preserved and the willingness to continue learning has been translated into action.

The external evidence lies in the acceptance of our training for various purposes by other countries, particularly those of the Commonwealth and the extension of such recognition from our undergraduate to the postgraduate degrees as well.

"COMMUNITY" RESPONSIBILITY

I would like to end with a plea. The excellence of the

product depends on the processors, to use the factory analogy. The teachers must necessarily be of a sufficient standard to ensure that the end-products are of acceptable quality.

Maintaining standards in medical education depends no less on the calibre and dedication of the teachers as on the quality of the students admitted to the course. Maintaining standards requires that the work of the teachers be recognised and that their morale is maintained. This is crucial to the success of attempts to maintain standards for how does one do it without sufficient motivated staff? Fortunately in our school the burden of teaching is shared to some extent by doctors in the government service and in private practice. There is no doubt that all those engaged in teaching our medical undergraduates expect much from them. These high expectations pose a challenge to the students who by and large appear to have little difficulty in responding appropriately.

What is unfortunate is that there may be insufficient recognition by the community of the importance of the teachers' role in the maintaining of a high standard of health care.

Excellence must be nurtured. And from as early as possible in the formative years. Alas, such efforts are not cheap. A community that demands from some of its members excellence of effort gets a response proportionate to the encouragement that it gives.

This encouragement does not have to be financial but it has nevertheless to be concrete. In this way the maintenance of standards in medical education is as much a responsibility of the community as it is of those directly involved.