

Speaking for Ourselves

Flexnerian divide or Oslerian holism?

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On 28 October 2020, the National Medical Commission (NMC) took an important decision to reduce the proportion of non-MBBS teachers in medical colleges in India.¹ This raised a debate among faculty in medical colleges and some have commended the decision.² We are indeed at a critical juncture in medical education in India. Indian medical education has a history of more than 60 years of a relatively 'static' curriculum. It is essential to learn lessons from the past and to know what should (and what should not) be taken into the future. Leaving the past behind, the Indian medical fraternity rightly made a bold move implementing a highly futuristic and promising competency-based medical education (CBME) curriculum. A peep into the history of medical education will certainly impress upon the readers why this momentous decision of the NMC should be welcomed.

One of the most revolutionary steps in the history of medical education in the USA and Canada, and eventually the world, was taken in 1910. Abraham Flexner, an American expert of educational practices and a former school teacher (not a clinician), surveyed extensively the then medical schooling systems and made practical recommendations to standardize them.³ Due to various factors, including the history of a colonial past, the Indian medical education was also strongly influenced by the western education system.⁴ Flexner industriously and meticulously evaluated all the medical institutions across the USA and Canada essentially from an educator's point of view and not from a medical practitioner's point of view.⁵ Earlier, training of medical professionals was not university-based (as was in Germany), had inadequate curricula and lacked the scientific basis and formal analytical reasoning needed while learning natural sciences.³ Flexner's vision was to create a scientific basis for medical practice. His recommendation made it compulsory that medical education should be based in universities and that the basic science departments (anatomy, physiology, biochemistry, microbiology, pharmacology and pathology) should be introduced in medical schools. It was expected that the students would be able to apply this scientific basis later in their 'clinical years'. This created a boom in medical education with every medical school/university creating basic science departments with 'pure scientists' who would teach basic sciences in the 'preclinical years'. This idea attempted to ensure that a competent clinical practitioner would base his or her clinical learning and practice on these basic science subjects.

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Although Flexner's recommendation provided the highly desirable organization and scientific bases for medical education, it also inadvertently created what is called the preclinical versus clinical divide, often wittily referred to as the 'Flexnerian divide'.⁴ Sadly, the focus of basic scientists was more on academic content than on integrating their knowledge to clinical scenarios. The basic scientists taught the subject with an in-depth knowledge, based on their own research interests, but unfortunately, detached from what would actually be needed by a clinical practitioner.⁴ This lack of integration created a never-ending dissatisfaction among students as well as their clinical teachers.⁶ Sir William Osler, Flexner's contemporary, one of the greatest medical teachers of all times, vehemently opposed this change and noted, 'I cannot imagine anything more subversive to the highest ideal of the clinical school than to hand over our young men who are to be our best practitioners to a group of teachers who are ex-officio out of touch with the conditions under which these young men will live'.⁷

We have written this article from the perspective of a clinical anatomist. Anatomy is a fascinating subject and a clinical anatomist with his/her clinical experience, and an insight into what is important for an MBBS graduate, can ignite the students' imagination and interest in the subject and the profession. Clinical experience is something that is absorbed by interacting with patients; taking part actively in the history taking, clinical examination, investigation of the disease and its management—medical, surgical, conservative or operative. It is clearly not hearing a few lectures, or reading a few books, or listing eponymous 'syndromes'. As Osler remarked: 'To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all'.⁸ The aim of anatomy teaching in the medical curriculum is and should be to make the person a *better clinician* and *not a better anatomist!* Teaching anatomy should be based on dissection and modern teaching methods and educational principles, along with integrating bedside anatomy, living anatomy, radiological anatomy, surgical and endoscopic anatomy, anatomy of clinical examination and integration with pathology (experience which a non-MBBS teacher cannot gain). This holistic role can be played effectively only by a clinical anatomist, and entrusting this responsibility to the basic scientist, was an error that was adopted previously, and the NMC is moving in the right path by reducing the non-MBBS basic scientists' role in equipping the Indian medical graduate.

A doctor of modern medicine who has completed a postgraduation in Anatomy (MD/MS Anatomy) will have a holistic view of the entire human body in health and disease, with a vision as to what needs to be emphasized from a practitioner's point of view, while teaching. When doctors teach facial nerve anatomy, they know the importance of

diagnosing a facial nerve paralysis and of knowing whether the paralysis is an upper motor neuron or lower motor neuron type. The main clue for differentiation is the pattern of muscle involvement in the face. This differentiation is extremely important in neuroanatomical localization of the lesion causing the paralysis and has enormous implication on the management of the conditions causing them—a Bell's palsy, a tumour in pons or a cerebrovascular accident (CVA) in the pons or in the deep white matter of the cerebrum. The ability of a basic scientist who has no clinical exposure (who has not diagnosed, managed or even seen any cases of Bell's palsy, brain tumour or CVA) to highlight the importance of this differentiation when he/she teaches the facial nerve is grossly inadequate. It cannot be compared to the same being taught by a MBBS graduate with additional training in anatomy during his/her MD/MS, and an added medical education training and research experience, by submitting a thesis. How can a person who has not resuscitated a patient, teach about the anatomical basis of cardiopulmonary resuscitation (CPR) or someone who has not palpated a thyroid gland swelling teach the student about the anatomical basis of differential diagnoses of a neck swelling? Can someone who has not managed a case of head trauma effectively teach the importance of interpreting features of a normal head computed tomography scan?

Hence, is it Flexner or Osler? Should MBBS students be subjugated to a divisive, deeply academic, segmentalized way that is detached from actual clinical reality or should they be enlightened with a holistic, goal-oriented approach that is closely integrated with clinical experiences? Contemplating the advancements in medical education, these are questions that crop up in our minds. Basic scientists do have their role in advancing science and bringing out great scientific discoveries through research along with their medical and clinical colleagues. The authors appreciate and recognize the knowledge of the basic scientists in their subjects. But the importance of the irreplaceable role of an MBBS graduate with a specialist degree (MD/MS), as an educator who teaches wisely and masters the topic that needs to be taught, from a clinical/surgical and radiological perspective cannot and must not be ignored as the new CBME curriculum is being rolled out. There is no dearth of qualified, MD/MS specialists in our country. The medical

universities of India bring out more than 950 MD/MS anatomists who are qualified, proficient, clinical basic science experts every year.⁹ The clinical/pre-paraclinical divide was exaggerated when medical graduates were not willing to take up careers in basic sciences with most of the postgraduate seats in these disciplines remaining vacant,¹⁰ and clinicians were not willing to spend time teaching basic sciences to the graduates. However, with the current level of medical postgraduate seats in basic sciences, it is unlikely that the shortage of teachers in the pre-paraclinical phases is likely to catch up with the increasing number of medical colleges.¹⁰

The choice is ours and it would be foolish to ignore the fact and not make the most of our academic teaching resources. In this competitive world, we must with courage expand our skills and knowledge and teach to bring out the best in every Indian medical graduate. We are sure that every doctor in India will agree with the decision of NMC that Indian medical graduates will be better taught by medical graduates/postgraduates. Why should we settle for anything less when we can give our students the best?

Conflicts of interest. None declared.

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