Medical Student Assessment in the Basic Sciences in Nepal and the Caribbean: Personal Observations

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Abstract:
Medical student assessment has received a lot of attention recently. The issues of objectivity and subjectivity and extrapolating the results of assessment to actual conditions of practice are important. In both Nepal and the Caribbean the basic science subjects are taught during the first two years of the undergraduate medical course. In the present article the authors share their personal observations on basic science assessment in these two regions. In Nepal assessment uses a greater diversity of methods and is largely subjective. There is greater emphasis on community medicine and viva-voce continues to be an important assessment method. In the Caribbean the major focus is towards preparing students for the USMLE step 1 exam and multiple choice questions are the major assessment method. Other methods of assessment being introduced at the Xavier University School of Medicine are also described.

In recent years medical student assessment has received a lot of attention. The major challenge in medical student assessment is deciding whether performance of a student under standardized conditions can predict his/her future performance in medical practice.\(^1\) The principles of fairness and reliability may dictate that all students be tested on the same set of patients and be graded objectively by an observer or even better by a machine. The problem in extrapolating the results of this standardized assessment may be that in real life a doctor will be dealing with non-standardized patients who will nearly always present with a unique set of signs and symptoms; patients and others will most often judge the doctor’s performance using subjective personal criteria.

We have had a long association with medical schools in Nepal and the Caribbean. In this article we share our impressions of assessment in the basic sciences in these two regions. The regions are similar in that a good percentage of students from other countries come to this region to study. Also the basic science subjects are taught during the first two years (four semesters) with a fifth semester in Caribbean schools being devoted to preparing for the United States Licensing Exam (USMLE) Step 1. In Nepal most medical schools are in the private sector and are affiliated to two universities, Kathmandu University and Tribhuvan University.\(^2\)

The major difference we have noted in assessment is that in Nepal short answer questions (SAQs) and modified essay questions (MEQs) are the major assessment methods used while in the Caribbean multiple choice questions (MCQs) predominate. In the Caribbean with majority of students originating from the United States (US) the USMLE step 1 casts a long shadow over assessment methods and teaching-learning. The majority of questions follow the USMLE format with a clinical vignette for a stem and five choices for answers.

The assessment in basic sciences in Nepal uses a greater variety of methods ranging from SAQs to practical assessment to viva-voce. The methods used are more subjective with the examiners making a judgment about the students. MCQs are not frequently used though recently Kathmandu University has introduced MCQs. The drawback is that assessment can be subjective and vary from student to student. There is a lack of guidelines to assess the answers and hence marking can vary according to the examiner. Community medicine occupies an important part in the curriculum and there are marks provided for community health exercises and community diagnosis though the emphasis on and implementation of community-based learning may vary between schools.

A problem affecting assessment could be an ‘unholy’ understanding between the internal examiners from the institution and the external examiner nominated by the university with an intention to pass the maximum number of students. Also examiners being human beings differ from each other with some being lenient and others being stricter affecting the exam marks and the results. Another problem is the long duration of the examination with a separate day being allotted for ‘practical’ examinations in each subject and the need to stagger examinations in different institutions with regard to the availability of examiners.

The major benefit we feel of the Nepalese exam system is that it encourages students to write and put down their thoughts on paper. In today’s modern digital age we rarely ‘write’ in the traditional sense of the term. Overemphasis on MCQs throughout the
education system in some countries has resulted in students who are unable to put their words together in a logical and proper sequence to construct sentences and paragraphs. Also students face a ‘viva voce’ (again a much criticized and non-standardized assessment system) with examiners, developing the skills of accurately analyzing and responding to questions and conveying information within a limited time frame. We feel the viva-voce if properly used is a powerful assessment tool where a skilled examiner makes a judgment about the candidate. However, a recent article states that viva-voce examinations show a general tendency towards leniency with examiners indulging in giving high marks to enable an otherwise undeserving candidate to pass.3,4 This may also be true in Nepal where there is a general tendency towards leniency in undergraduate medical examinations due to various reasons. Integrity of examiners and a willingness to take ‘tough’ decisions may be needed.

In Nepal the quality of practical teaching-learning and the exercises carried out during the practical examination vary widely between medical schools and external examiners give a very high weightage to student performance in the viva-voce conducted by them with regard to making pass fail decisions. This is especially true if they have doubts about the standard of the questions and activities set for the practical examination.

In the Caribbean, students mostly from the US or Canada complete four or five semesters of study in an ‘offshore’ medical school and then appear for their USMLE step 1 examination.5 After passing this examination students do their clinical training in a set of affiliated hospitals in the US. The teaching-learning at the schools mainly focuses towards coaching students to obtain a good score in the step 1 exam. More than half the graduates from Caribbean medical schools are practicing in primary care specialties and are making a big contribution to the primary care workforce of the United States.6 Compared to Nepal class sizes in the Caribbean are smaller. There is also more emphasis on student presentations and assessment is mainly through quizzes and performance in periodic exams which use exclusively MCQs framed following the USMLE pattern. The test is conducted using a computer program and students obtain their scores immediately on completion. The system is objective, transparent and not influenced by examiner ‘biases’. Also it tests the ability of students to assimilate information and concepts learned and apply it to a clinical scenario.

The drawback is MCQs are often the only or the predominant method of assessment. There is very little emphasis on ‘writing’ in the traditional sense of the term so students often find it difficult to put down their thoughts in a logical sequence and find answering SAQs very difficult. Also the emphasis on public health and community medicine in the curriculum is less compared to Nepal and there are no community diagnosis programs or community visits. We feel the involvement with the local community is lesser compared to Nepalese schools. At the Xavier University School of Medicine (XUSOM) we conduct a health fair every semester where students interact with the local community. The emphasis on rational use of medicines and on essential medicines is low following the US pattern.

At present we are in the process of introducing other assessment methods also. We have introduced audience response technology (ARS) in two semesters (third and fourth) to improve student participation in the classroom and are also using the clickers for quizzes and assessments. ARS has been shown to be a valuable technology which increases student engagement and stimulates discussion but teachers may need to be technically and pedagogically well prepared to use the tool.7 A recent review examines the benefits of ARS on learning.8 ARS will be introduced in other semesters in XUSOM in a phased manner. Formative assessment using objective criteria has been introduced during the small group activity-based sessions in pharmacology and medical humanities. We are also planning to introduce other methods of assessment like grading participation in student seminars, PBL sessions and even use short answer questions for assessment. Students undergo a period of observership in the hospital where they are assessed by doctors, nurses and other health personnel.

**Conclusion**

Both assessment systems have their strengths and weaknesses and indicate the importance of having a mixed system of assessment using a variety of methods as has been advocated in the literature. We feel both systems could learn from each other to reduce their weaknesses and improve their strengths.

**References**

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