

Students' Perspective of an Innovative Assessment Strategy of Anatomy

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ABSTRACT

Objective: The purpose of this study was to reflect the responses of medical education from the perspective of undergraduate medical students through feed back of an innovative formative assessment strategy.

Study Design: Retrospective, observational study.

Place and Duration of Study: This study was conducted at the Department of Anatomy, Al Nafees Medical College, Islamabad during May 2012.

Materials and Methods: A feedback questionnaire was filled by the first year MBBS student in the musculoskeletal module of a PM&DC recognized medical college. A comparison of traditional viva voce and an electronic stage (e stage) examination in Anatomy was made. Majority of the students rated e stage a better option of assessment regarding uniformity, structured evaluation, and self assessment, through and in depth preparation, time economy and non biased approach. However 23 % still opted for the traditional viva voce examination as the future preference of assessment.

Results: Majority of the students thought that the e stage was a more structured, uniform, time economical, through assessment tool, which had less examination fear and examiner bias. It not only provides a better opportunity to satisfy the examiner but also is a better self assessment tool requiring elaborate preparation before taking the exam. The preferred choice of 77% of the students was e stage in comparison to 23 % opting for traditional viva voce.

Conclusion: Extensive research work and new innovations are required, in the field of medical education in the way of curricula evolvement. In the same time the students' feedback of new adopted strategies should also be given due weightage instead of just imposing the change.

Key Words: Medical education, curricula, Anatomy.

INTRODUCTION

Keeping in view the fast evolving medical education, major changes has been suggested and adopted in the curricula. New strategies of teaching and assessment have been introduced. Although the change has already been introduced, things have not yet been standardized. Experts are still striving to develop the most appropriate teaching and assessment methods to produce the best outcomes in the field of medical education. Some organizations are paying much importance to the students' feedback regarding the new changes.

Medical education is expensive. Ignorance about how best to deliver medical education may not only cost money in lost efficiency in training, but may produce physicians who are not able to provide optimal medical care for their patients. The best hope for reducing such ignorance is high-quality research in medical education. As per the very recent updates in medical curriculum, tremendous changes have taken place in the delivery of anatomy curriculum especially to the undergraduate students. Curriculum delivery is gradually changing from the traditional (Regional) to the modular basis (Integrated). There is no agreement on a common standard core curriculum and as a result, numerous new curricula have been introduced².

During the last three decades medical schools have been faced with a variety of challenges from society,

patients, doctors and students. They have responded in several ways including the development of new curricula, the introduction of new learning situations, the introduction of the new methods of assessment and a realization of the importance of staff development. Many effective and interesting innovations have been forthcoming^{3,4}.

Assessment is the single most powerful influence on learning in formal courses^{5,6}.

With the evolving curriculums the time allocation to the subject of Anatomy is compromised⁷. The assessment tools have been modified. The traditional, substage and stage viva system have been replaced by the MCQs in the modular system. In many schools the boundaries of subject have also been dissolved. The student directed learning system apparently leaves the student in the open sea of knowledge, without any landmarks of discipline.

The examiners ask question only from certain topics and as such the assessment is not comprehensive. On the other side scenario based multiple choice questions if systematically prepared can cover all the topics.

MATERIALS AND METHODS

In the musculoskeletal module, a stage examination was conducted as formative assessment of first year MBBS students of PM&DC recognized private Medical College.

The format of examination was not traditional viva voce or MCQs. A standard set of questions was prepared on power point presentation covering multiple assessment strategies relating microscopic, developmental and clinical anatomy. To compensate for the near visibility and appropriate seating arrangements the same power point assessment (estage) was simultaneously arranged at 02 different halls. There were 20 questions in all, and time allocation for each of them was 90 seconds. On the lapse of this preset time the projected slide changed presenting a new question. The questions included in this estage varied from simple SAQ, animated development process, microscopic picture of an organ or tissue to photographically presented clinical scenario questions. On completing the assessment, opinion regarding assessment technique in anatomy was taken from the students through specially designed questionnaire comparing computer based assessment and viva voce. Out of a 100 students class 71 students volunteered to participate in the drill.

The students were briefed about the questionnaire & were asked to respond freely. They were informed that their opinion was meant for the research and evaluation purpose only and would remain confidential. The faculty indulgence while filling up the questionnaire was avoided to get a fair and fearless opinion of the students. The questions in the questionnaire were explained and students responded to all or any question they wanted without any pressures. The questionnaire was collected back from the students and analysis was done for percentage calculation and comparison between this format and the traditional viva stage.

RESULTS

Majority of the students thought that the e stage was a more structured, uniform, time economical, through assessment tool, which had less examination fear and examiner bias. It not only provides a better opportunity to satisfy the examiner but also is a better self assessment tool requiring elaborate exam preparation before taking the exam. The preferred choice of 77 % of the students was e stage in comparison to 23 % opting for traditional viva voce (Table 1& Fig. 1).

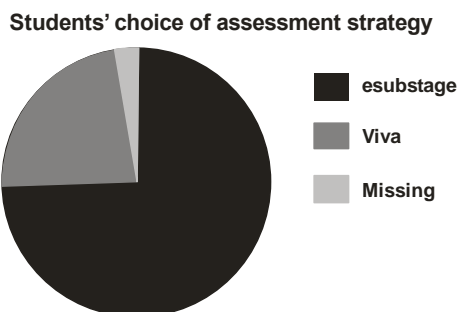


Figure No.1: Pie chart representing the students' choice for future Anatomy assessment strategy comparing viva voce and e stage.

Table No. 1: Students' feedback questionnaire comparing traditional viva voce and an innovative e-stage assessment.

Sr #	Questions	Viva	e-Stage
1	Which system is more structured?	13 %	87 %
2	Which system gives a better chance to satisfy the examiner?	33%	67%
3	Which system is a more uniform assessment criterion?	14.5 %	85.5%
4	Which system has more fear of examiner or examination stress?	69 %	31%
5	Which system has more examiner bias?	32 %	68%
6	Which system assesses thoroughly?	10%	90%
7	Which system is a better self assessment tool?	31%	69%
8	Which system requires more extensive preparation for taking the exam?	25 %	75 %
9	Conduction of which system is more time economical?	14.5 %	85.5 %
10	What would be your preferred assessment choice in future?	23 %	77 %

DISCUSSION

With the evolving medical curricula many publications in diverse journals have highlighted the problem of decreased anatomical knowledge of today's medical students. In addition to other factors pointed out for this decline, assessment methods are also blamed for it⁷. The traditional method focused on periodic assessments mainly based on viva voce, spotting, and written theoretic papers in substages, stages and final exams. These drills helped the students to revise and retain knowledge and apply it in clinical wards. However these modalities consumed more time and resources where exams would last for days exhausting the students. In the modern integrated modular system the course is squeezed in the limited modules where subject exams have lost their validity. Generally in this system, the assessment methods are OSCE/OSPE and MCQs. This focuses on evaluating the students in less time with more of clinical application.

Both the systems had their own pro and cons. 'Viva voce' exam (a much criticized and non-standardized assessment system), develops the skills of accurately analyzing and responding to questions and conveying

information within a limited time frame. Viva-voce if properly used is a powerful assessment tool where a skilled examiner makes a judgment about the candidate⁸. However, many experts argue that viva-voce examinations show a general tendency towards leniency with examiners indulging in giving high marks to enable an otherwise undeserving candidate to pass⁹.

On the other hand Anatomists all over the world have their concerns that in the integrated system teaching strategies and the consequential adopted assessment tools in Anatomy will eventually deteriorate the quality of education^{10, 11, 12}.

Therefore in an attempt to balance out the two opinions departments of medical education are innovating new assessment tools for anatomy^{13, 14}. Alternative resources and strategies are discussed in an attempt to tackle these genuine concerns. The expectation is to bridge up the gap between knowledge and application.

While efforts are undertaken by academicians to best evolve in the field of Medical education, it is necessary to know the views of the students to adopt the best teaching methodology which will facilitate their learning process. It is also important to know the opinion of the students regarding the best assessment techniques to measure their knowledge and skills^{15, 16, 17}.

The current report is a feedback report analysis after conducting an innovative formative assessment of Anatomy (e stage) in musculoskeletal module of first year MBBS students. The students were already introduced to such format of electronic exercises in supervised self directed learning sessions and small group discussions. In these practices small picture scenarios, e.g. a man injuring the radial nerve or a case of phocomelia (Fig 2) were used to be projected in a power point slide (computer based learning) with related questions.

The anatomical assessment utilized in this e stage was an amalgamate of traditional spotting, and modern concepts of clinical correlation aspects too, covering all the branches of Anatomy in a multi prong variation of questions/scenarios/microscopic pictures/embryological animations.

According to the feedback report (table 1), majority of the students rated this system, a better assessment tool which not only gave them better opportunity to satisfy the examiner but also had a uniform assessment criterion.

The organizing faculty also conveyed satisfaction regarding the in depth evaluation of the subject with clinical co relation at First year level in a reasonable time.

However despite the vast majority of the students rated the e stage better assessment method than the viva voce examination, still 23 % have shown their desire to be assessed by viva voce. It was also very interesting that some of the students, although giving 100% credit to the estage, yet opting for viva voce for future

assessment choice. Therefore, although it was not a part of the designed questionnaire a post feedback free and informal discussion was held with the students. The advantages and disadvantages of the two systems were discussed. The students were of the view that although theoretic analysis may up rate new innovations, yet the credibility of the traditional system of teaching and assessment had its own credibility and cannot be overlooked.

In the last decade, in a very enthusiastic article, Reidenberg et al wrote “the old anatomy is dead. Long live the new anatomy¹².” Looks like even after ten years, the burial of old anatomy is yet to be finalized. Even today the learners (students) are reluctant to replace the traditional anatomy lab with an “interactive DVD-Rom Drive” as was proposed earlier by Boone¹⁸.

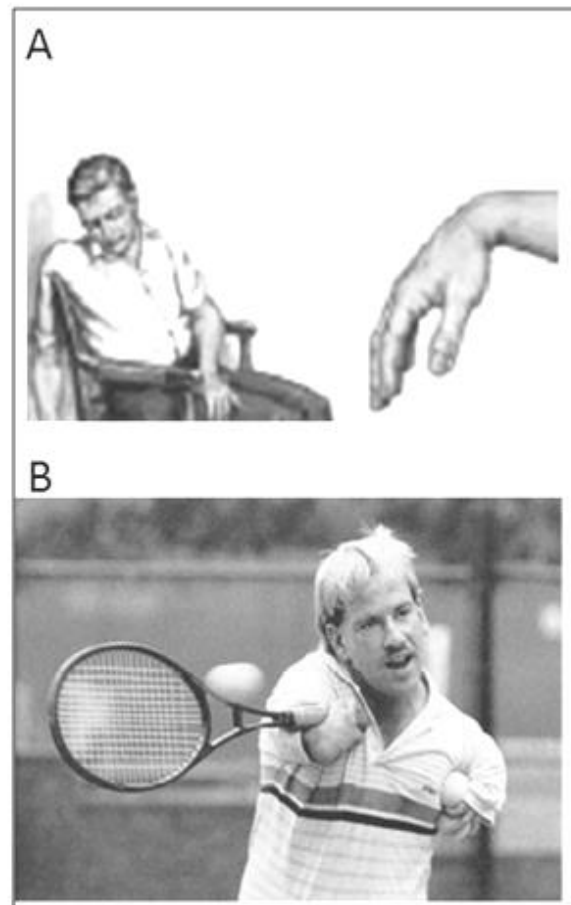


Figure 2:

Slide 1-A: After having drunk on Saturday night, Mr. A fell asleep on a chair in an uncomfortable posture. Next morning he could not hold his wrist. What is wrong with Mr A? What is the cause of this condition?

Slide 1-B: Mr. B is a 24 years old athlete who was born with a congenital anomaly. What is this anomaly?

Hence, with the changing medical curricula anatomy content, teaching strategies and assessment methods should be discussed thoroughly among the medical

faculties, discussing all the pros and cons¹⁹, not ignoring the students' perspective.

CONCLUSION

Extensive research work and new innovations are required, in the field of medical education in the way of curricula evolution. In the same time the students' feedback of new adopted strategies should also be given due weightage instead of just imposing the change.

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