

## Review Article

# REVIEW OF MD (ANATOMY) EXAM PAPERS: IS THE PRESENT SYSTEM OF POSTGRADUATE EVALUATION ADEQUATE?

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## ABSTRACT

An ideal education system is in-separable from the evaluation system. There has always been a need for an evaluation system which can determine whether predetermined educational objectives have been achieved. As an exercise last 10 years annual MD question papers (anatomy) of university of Delhi were given to the residents and the Post graduate students of anatomy department, Lady Hardinge Medical College, New Delhi. The analysis of question papers reflected that the emphasis on different parts of the syllabi was not uniform. All the questions were of long and short essay type. Multiple choice questions that are based on recall and problem solving attitude of the students were not at all included. There is need to revise the pattern in which question are being asked that will develop cognitive skills and problem solving attitude among the students. An ideal question paper should give equal weight-age to different content areas/topics and it should include all analytical, objective, long and short answer type questions with an uniform marking scheme for all students. When it comes to medical education, evaluation becomes very important because here lays the responsibility of bringing out the best doctor amongst the best.

**KEYWORDS:** Medical Education, Evaluation Pattern, Attributes of a Question Paper.

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## INTRODUCTION

*'students work to pass, not to know...  
They do pass and they don't know.'*

An old saying by Thomas Huxley falls very apt on students. The outlook of the students towards education has always been restricted on passing the examinations rather than excelling in knowledge. The education system brings about changes in different aspects of an individual and society by large. It enhances the knowledge, skills and judgement making capability of the student. With time the medical

education has made an enormous stride in the country yet there lies a need to change and modify it for good [1]. Even with sound medical knowledge, the medical graduates are found deficient in the performance of clinical skills and problem solving attitude [2]. Evaluation determines the quality of curriculum and enhances the performance of students. A well aligned curriculum puts an emphasis not only on the curricular goals, teaching, learning activities but also on the assessment [3].

Absence of a good evaluation system dramatically reduces teacher's efficiency, student's intelligence and adequacy of resources [4]. Linking assessment to the learning process is a new route that ensures quality of medical education [5]. The learning approach of a student is influenced by a variety of factors.

The educational environment and assessment pattern of the institute are the only factors which influence students to adopt surface, deep or strategic learning [6]. Students driven by fear of failure use 'surface' learning, they learn by rote with a simple aim of reproducing the material in exam. In contrast students driven by gaining excellence use 'deep' learning to understand the meaning of material being studied and relate it to previous knowledge and personal experiences. Students with 'strategic' learning focuses on achieving higher grades and might switch between surface and deep learning methods [7,8]. A good evaluation system checks the deep understanding of the subject rather than just cramming up of the facts. It also determines the extent of achievement of predetermined educational objectives.

Within the last two decades there has been a tremendous rise in the number of private institutes which are motivated more by economic factors with high capitation fees rather than educational considerations [9]. The admission of candidates under reserved category and shortage of good experienced teachers further deteriorates the quality of medical graduates. Correct evaluation methodology bridges between performance and learning. It defines desired performance and can compare it to the actual performance leading to the development of psychomotor and performance skills. Thus, the changes in evaluation system per se can bring about the changes in education system such that the learning extends much beyond cramming up of facts [10].

### **ANALYSIS OF PREVIOUS PAPERS**

With the virtue to identify required changes in the current evaluation system meant for post graduate students, the question paper of past 10 years were analysed in the department of Anatomy, Lady Hardinge Medical College, New -

Delhi. Annual MD question papers (Anatomy) of Delhi University were given to the residents and the Post graduate students. The MD theory exam consists of 4 papers that includes anatomy as applied to various clinical disciplines including radiological and forensic anatomy in paper-1, Gross human anatomy including elements of comparative anatomy In paper-2, Developmental and Microanatomy including Genetics in paper-3 and Neuro-anatomy and recent advances in paper-4. An equal emphasis to various portions of syllabi was absent. In paper I (anatomy as applied to various clinical disciplines plus radiological and forensic anatomy), the questions were not asked from forensic anatomy. From radiological anatomy either there were two short questions in the same paper or no question at all. The demarcation of syllabus between paper I and II was not uniform. Similar pattern was seen in paper III (Developmental and microanatomy). In paper IV (Neuro-anatomy with recent advances) the recent advances were not at all asked in 60% of papers which again reflects that the importance of covering the whole syllabus had not been considered while setting the paper. Types and content of questions asked in each exam paper were analysed. The questions were either long or short essay type. Multiple choice questions and problem based questions were not part of the assessment.

### **ATTRIBUTES OF A GOOD QUESTION PAPER**

Medical curriculum is vast and syllabus tends to get vague at times. The question paper should cover the whole of the prescribed syllabus as long as possible [11]. Prioritization of different portions of the syllabus as per their clinical relevance and importance should be made with an emphasis on upcoming health issues; ideally it should be a reflection of health needs of the geographic India.

Theory examination is one of the major tools in the gambit of evaluation. It cannot be replaced totally by any other method of evaluation. Unfortunately a little attention is paid to the attributes of a good question paper by most of the paper setters. The language used in the question paper should be unambiguous e.g. a question from radiological anatomy was asked as- Give an account of radiographic anatomy of

human kidney and ureter with special reference to their congenital anomalies. Describe the techniques in detail. The pattern of this sort doesn't clearly specify what is actually expected from the students, the same question could have been made very clear by asking: Enumerate the congenital anomalies of the kidney. What are the radiological procedures used to detect them. Discuss the advantage and disadvantages of each procedure.

The standard of the question paper should be maintained as per the average difficulty and discrimination index to segregate the best students from the average students. A good question paper should ensure objectivity, validity and feasibility in order to organise the evaluation system. Objectivity means the scores obtained by students will be the same if evaluated by two or more independent expert examiners. Validity refers to the extent to which a test fulfils the purpose for which it is designed. Written tests are valid for measuring knowledge but not for measuring attitudes and psychomotor skills. Feasibility refers to the process which can be implemented in the practice [12]. These characteristics of the test add to the psychometric properties of the test [13].

### **TYPES OF QUESTIONS**

In order to predict the overall development of student it's important to assess the different aspects of learning i.e. cognitive which is based on recall/interpretation/ analysis and psychomotor skills –based on application / problem solving /diagrams and affective skills (neatness and presentation skills). Holistic approach of assessment involves varied form of questions. The questions can be essay types (Long answer types), short answer types, modified essay types, problem based and multiple choice questions. Essay questions like 'describe the surgical anatomy of thyroid gland' are relatively easy to frame, allows a free and effective expression, tests knowledge and generates the ability to organise the ideas but often limits the range of objectivity and application of mind. The manner in which the candidate has answered the first question subconsciously influences the examiner in the evaluation of the subsequent ones.

Marking scheme should be constructed by prior discussion with all examiners with a check list of specific points against which marks can be allotted. Objectivity of the essay type questions can be improved by framing several small questions (structured) within a long answer type question. Like the same question can be – 'describe the thyroid gland under following headings: capsule, relations, blood supply and applied aspects'. Addition of short answer type questions allows coverage of wider range of topics and it ensures more objective scoring. Modified essay questions (MEQ) consists of series of short questions. The students are provided with limited amount of data followed by a series of questions based on clinical skills, investigations and appropriate management required by the patient. Similarly questions based on clinical problems and multiple choice types can be added in a question paper to judge the cognitive ability and understanding of the subject by the students. Though multiple choice questions cannot identify the power of expression or logical thought process yet it measures higher levels of cognition, covers wider portion of the syllabus and can easily discriminate between good and poor students. It provides ease of correction and is good for the students who have found it difficult to express themselves. A considerable weight-age to different types of questions in a question paper will have a comprehensive approach of assessment [12, 14].

### **CONTENT SPECIFICITY**

Judging of a student cannot be complete if the importance is not given to the content knowledge of students. Clinical based questions would encourage development of problem solving attitude and prevent students from cramming up. The questions should be based to elicit the understanding of the subject rather than just memorized facts.

### **REPETITIONS**

The previous year's question paper reflect the gross nature of the questions expected from the students, so any drastic change in the question paper is not preferable. At the same time, direct repeats from the previous year's paper facilitate the surface learning pattern by the students

instead of deep learning. Therefore, modified repeat questions should be encouraged to enhance the understanding of the subject. Questions from the same context in a single paper should be avoided to its maximum. The questions should be designed so as to cover various aspects of the syllabus as far as possible.

## CONCLUSION

*“Education is not learning of facts, but the training of mind to think”* as aptly said by Albert Einstein. Evaluation is inextricable from an ideal curriculum which can stream line the learning process. Correct evaluation methodology develops deep learning approach, encourages problem solving attitude and cognitive skills amongst the students. Only a good evaluation system can determine the extent of achievement of predetermined educational objectives. When it comes to medical education, evaluation is of magnanimous significance because here lays the responsibility of bringing out the best doctor amongst the best.

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