

Perception of Students on Various Formats of Written Assessments in Education

Sonali B Kankhare¹, Anjali D Patil², Bhiku H Bahetee³

Abstract

Introduction: Assessment is crucial to the educational process, and is useful that in assessing the knowledge. At under graduate level there are three domains of skill to be evaluated, a cognitive, affective, and psychomotor. The written assessment are to be done with the help of **MCQ, SAQ, LAQ** (open ended) essay writing. *Aims:* To assess the preferences of undergraduate medical student among the three formats of written assessment: LAQ, SAQ and MCQ. *Settings and Designs:* A cross sectional study was conducted on 100 students of first MBBS for the duration of four month from December 2016 to March 2017 at BJGMC. Pune. After the completion of lecture series exam was conducted and performance was assessed. Statistical analysis done and percentage was calculated. *Results:* 90% students would like to have MCQs in their regular exam. Student with strong factual and recalling ability, they opted for the MCQs. But the students with strong analytical or interpretative skill and those can apply knowledge they opt out for SAQ and LAQ. *Conclusion:* It should be combination of various methods and techniques assessment is based upon purpose of evaluation at various levels in the form of skill, knowledge and understanding.

Keywords: Assessment; Learning; Medical education.

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Introduction

Assessment is a need of educational system and is useful in gaining and judging the knowledge. It provides feedback to teachers and learners.¹ At undergraduate level there are three domains of skill to be evaluated, a cognitive, affective and psychomotor. As medical education mainly consists of diagnosis and treatment of diseases so, it should be based on developing and evaluating the level 3 or problem solving skill. Learning progress

and assessment of progress are the major events in the curriculum which go hand in hand. Assessment of student can be carried out by means of theory, practical and clinical and case studies.

Assessment of student carry wonderful role in students curriculum. *E.g.,* To test the knowledge of student, to give feedback to the students as well as teachers and to evaluate the effectiveness of learning and teaching. As the assessment of student has direct influence on teaching methodologies, teacher can modify the technique to improve the medical education. Assessment of student is important to check the competency of student hence it is consider as valid tool. The written assessment are to be done with the help of MCQ, SAQ, LAQ (open ended) essay writing. Open ended questions are descriptive, structured and these questions are helpful in testing the higher order thought process and interpretation of skill. Descriptive questions are in the form of LAQ, SAQ and modified essay questions or MEQ.

Author's Affiliation: ¹Assistant Professor, ²Associate Professor, ³Professor & Head, Department of Anatomy, Byramjee Jeejeebhoy Government Medical College, Pune, Maharashtra 411001, India.

Corresponding Author: Anjali D Patil, Associate Professor, Department of Anatomy, Byramjee Jeejeebhoy Government Medical College, Pune, Maharashtra 411001, India.

E-mail: sonalikankhare28@gmail.com

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Learning is a continuous process in which knowledge is gain.^{2,3} Assessment of knowledge is made by written and practical examination. The test and questions for written examination is based on the application of knowledge. The assessment of knowledge is necessary to improve the performance.⁴

MCQs

The multiple choice question tests is an assessment which can be used to measure knowledge, abilities, thinking skills, etc. There are various forms of MCQs. *e.g.* Single or one best option' type, 'True or False', 'Multiple true or False', Matching' and the 'Extended matching' type questions. Setting of problem based MCQs is very difficult but it is more effective to assess the levels of knowledge.^{5,6} The main advantages are that they can be written easily and cover a wide range of topic. Diagnosis of complicated clinical cases can be assessing with newer formats of MCQ. The multiple-choice format has had many distracters. MCQs are closed-ended questions which do not stimulate cognitive thought processes.^{7,8}

LAQ

Long answer questions are unstructured, used for assessment of complex teaching. Main reason behind LAQ is to assess deeper knowledge of topic, understanding of subject as well as we can assess their writing skills. There is scope for creativity.

SAQ

SAQ or structured questions are directed towards the specific answer. These questions are used to test the knowledge as well as analysing, reasoning, integration and interpretation ability of student.⁹

Modified essay questions assesses the approach of student to solve the problem, their understanding and interpretation of concepts. Modified essay question broadly measure higher cognitive skill of students, as well as absolute knowledge retained by students and application of that knowledge while evaluating clinical problem.¹⁰

Aims and Objectives

To assess the preferences of undergraduate medical student among the three formats of written assessment: **LAQ, SAQ and MCQ.**

Materials and Methods

A cross sectional study was conducted among first year undergraduates students of medicine for the duration of four month from December 2016 to March 2017. The purpose of study was explained in detail to students and informed consent was taken. As lecture series were over, we had conducted the test for duration of two hours. Questions were asked in three different formats (LAQ, SAQ, and MCQ). The main purpose of conducting test was not only to assess their performance but also to expose them to all the three modalities of questions which help them to answer the questionnaire. After the data collection, it was entered in excel sheet and analysed by using appropriate method.

Results

In our study, 200 first year undergraduate students were allowed to participate. After evaluation of feedback form we got following information:

90% students liked pattern of MCQ and SAQ.

60% prefer MCQ over SAQ.

76% student said that pattern of studies were different for MCQ and SAQ.

90% students would like to have MCQs in their regular exam.

Student with strong factual and recalling ability, they opted for the MCQs.

But the students with strong analytical or interpretative skill and those can apply knowledge they opt out for SAQ and LAQ.

Feedback from students

SAQ

Here, students have to think and then decide about answer, in this pattern they can write point to point on particular topic and they can obtain good marks within short period of time. No need to read entire topics or if they write something they will get minimum marks.

MCQ

They have to read the entire chapter and no need to mug up understands the concept is most important while solving MCQ. MCQ are easier and faster to answer. It is easy to choose the correct answer, instead of remembering each and every thing

about the topic. And if someone does not know the answer; he/she can tick anywhere, so it is luck dependent. Handwriting and grammatical errors does not matter.

LAQ

They have to mug up entire chapter. Handwriting, drawing and presentation matter. Teachers can be biased while examining the papers so scoring is very difficult. The data obtained from feedback filled by the students

was analysed and tabulated.

Suggestions given by students

As in our exam pattern we did not include the modified essay question or the questions in the form of case studies, Student demanded questions which are focussed on problem based learning/ case studies to develop their clinical knowledge and ability to solve the case and to judge the diagnosis and treatment which will be helpful for them while doing clinical practice in future. Some students

Table 1: Analysis of data

Sl. no.	Questions	MCQ	SAQ	LAQ
1	Which type of question do you prefer to write answer?	60	30	10
2	Which type of question cover more spectrum of content?	10	40	50
3	Which type of question can test your knowledge of topic?	20	40	40
4	Which type of question can test your presentation skill in your exam?	5	45	55
5	Which type of question test can test your clinical knowledge and skill?	10	25	65
6	Which type of question removes teacher bias during assessing your paper?	80	18	22
7	Which type of question save your time while writing paper?	70	25	5
8	Which type of question give you more mark?	55	25	20

gave opinion that since they are facing the post graduate entrance test; college/examiner should keep only MCQ as a pattern. (Shown in **Table 1**)

Discussion

After an analysing the feedback forms, it was observed that students give more preference to MCQ based tests. It is easier to score MCQ than written exams of long and short essay type questions. In written exam it is difficult to express their answers in words. They do not realise which points to be have stressed more while writing essay type questions. Some students have bad hand writing while some students find it difficult to express their answers in English as it is not first language for them during their school period. There are certain disadvantage for the theoretical written assessment test have like cramming for examinations and acquiring superficial knowledge rather than understanding the concept in depth.¹¹ There will be the chances of subjective bias while assessing theory papers.¹² A short answer question (SAQ) is similar to a well-stated MCQ without the alternatives. These open-ended questions are more flexible in testing creativity and spontaneity. To write an answer of open-ended SAQs is much more time-consuming than answering MCQs. However, these have lower reliability. Essays are ideal to assessing ability of

students to summarize, to hypothesize, to find relations and apply knowledge on new situations.⁶ A good open-ended question should include a detailed answer key for the person marking the paper.⁹

When constructing essay questions, it is essential to define the criteria on which students can write answer. Essay-type questions are time-consuming and take a long-time for evaluation. The other methods of written assessment that have been used in the past include modified essay questions (MEQs) and patient management problems (PMPs) to test problem-solving and decision-making skill. The use of both MEQs and PMPs encourage more complex thinking skill and help to develop problem solving skills.¹⁰ Lukhele *et al.* studied a number of examinations which included both multiple choice items and essay questions. They found that multiple-choice items provided the same amount of information as a single essay. Multiple-choice format has a clear advantage over open-ended formats in terms of reproducibility, ability to test higher-order cognitive skills.¹³ To construct multiple-choice assessment is more difficult and labour-intensive, but once the question bank has been developed from which questions can be drawn for re-use. Essay-type questions, SAQ and their variants test higher-order cognitive thinking. MCQ format is not able to test deep learning, and is suitable for assessing superficial facts, whereas

open ended questions assess dynamic cognitive processes.⁷ Palmer and Devitt analysed a large number of multiple-choice and MEQ questions used for summative assessment in a clinical undergraduate exam students are not only recalling but also he using his higher cognitive skill.⁹ Norcini *et al.* found that written patient management problems and multiple choice items appeared to be measuring essentially the same aspects of clinical competence.¹ Moquattash *et al.* concluded long easy type is sensitive where students are not only recalling but also he using his higher cognitive skill.¹⁴

Conclusion

Each domain can be assessed by various methods. So Assessment of learner cannot be done by single method, it should be based upon purpose of evaluation at various level in the form of skill, knowledge and understanding. Combination of various forms in the same assessment, it improves the strength of the assessment.

Conflict of Interest: None

Abbreviations:

LAQ: Long answer question

SAQ: Short answer question

MCQ: Multiple choice question

MEQ: Modified essay question

References

1. Norcini JJ, Swanson DB, Grosso LJ, *et al.* Reliability, validity and efficiency of multiple choice question and patient management problem item formats in assessment of clinical competence. *Med Educ.* 1985 May;19(3):238-47.
2. Siemens G. Connectivism: Learning as Network—Creation [<http://www.elearnspace.org/Articles/network.htm>]
3. Siemens G. Connectivism: A learning theory for the digital age. *Int J Instr Technol and Distance Learn.* 2005;2:3-10.
4. Norcini JJ. Work based assessment *BMJ.* 2003 April 5;326(7392):753-55.
5. Schuwirth LW, Van der Vleuten CP. Different written assessment methods: What can be said about their strength and weakness? *Med Edu.* 2004 Sept;38(9):974-79.
6. Schuwirth LW, Van der Vleuten CP. ABC of learning and teaching in medicine Written assessment. *BMJ.* 2003 Mar 22;326(7390):643-45.
7. Haladyna TM, Downing SM, Rodriguez MC. A review of multiple choice item writing guidelines for classroom assessment *Applied Meas Edu.* 2002;15(3): 309-34.
8. Stratford P, Pierce-Fenn H. Modified essay question. *Phys Ther.* 1985;65:1075-79.
9. Palmer EJ, Devitt PG. Assessment of higher order cognitive skills in undergraduate education; modified essay or multiple choice questions. Research paper *BMC Med edu.* 2007 Nov 28;7:49.
10. Rotfield H. Are we teachers or job trainers? *Acad Mark Sci Q.* 1998;2(2).
11. Kaufman DM. Applying educational theory in practice. *BMJ.* 2003 Jan 25;326(7382):213-16.
12. Albanese M. Rating educational quality: factors in the erosion of professional standards. *Acad Med.* 1999 Jun;74(6):652-58.
13. Lukhele R, Thissen D, Wainer H. On the relative value of multiple-choice, constructed responses, and examinee-selected items on two achievement tests. *J Edu Meas.* 1994;31(3):234-50.
14. Monqattash S, Harris PF, Gumna KA, *et al.* Assesment of basic medical science in an integrated system based curriculum, *Clin Anat.* 1995;8(2):139-47.

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