

Students Perception Regarding Conventional Pattern of Assessment Versus Multiple Choice Questions Based Assessment Pattern

Dr.G.S.Thiriveni Balajji¹ Dr.C.Lalitha² Dr.P.Kalidas³ Dr.S.Usha⁴
Dr.K.B.Lavanya⁵

¹(Associate Professor, Pathology Department, Coimbatore Medical College[†]Tamilnadu, India)

²(Professor & HOD of Pathology, Pathology Department, Coimbatore Medical College[†]Tamilnadu, India)

³(Professor & HOD of Community Medicine, Community Medicine Department, Coimbatore Medical College[†]Tamilnadu, India)

⁴(Professor of Medicine, General Medicine Department, Coimbatore Medical College[†] Tamilnadu,India)

⁵(Senior Assistant Professor, Pathology Department, Coimbatore Medical College[†], Tamilnadu, India)

[†] The Tamilnadu Dr.MGR Medical University, Tamilnadu, India

*Corresponding author: Dr.G.S.Thiriveni Balajji

Abstract: Assessment is an important component in educational spiral. The students feedback regarding assessment is needed as a quality indicator. Conventional written assessment methods carry an element of subjective bias. To overcome this, objectivising the assessment methods by adopting multiple choice questions (MCQ) are needed. Present study intends to analyze the perception of MBBS students on assessment tests. After obtaining Institutional Ethical Committee Clearance, we commenced our study with 145 Pre-final MBBS students. Feedback questionnaire were distributed and collected back from them. In conclusion, 96 students (64%) preferred MCQs better than descriptive writing and 92 students(63.4%) preferred a combination of both descriptive and MCQ test. Applying MCQs can be used along with conventional pattern of test as an adjunct to assessment of MBBS students.

Keywords : Multiple Choice Question, MCQ, Conventional assessment, MCQ based assessment, perception

Date of Submission: 30-08-2018

Date of acceptance: 14-09-2018

I. Introduction

Assessment is an important component in educational spiral.^[1] Multiple Choice Questions (MCQs) are composed of a stem as a question line, along with options. One of the options is correct which is known as the key and the others are labelled as distracters.^[2] Perception of the student towards the present conventional assessment system varies from individual to individual. Regarding admission of undergraduate and post-graduate students, multiple choice question(MCQ) based competitive entrance exams are currently being practised in our country. Hence, our school students are trained to tackle MCQ's and our MBBS students are required to gain expertise and prove themselves in MCQ based exams. Present study intends to analyze the perception of pre-final MBBS students on Conventional and MCQ based assessment tests.

II. Aim and Objective of the study

To analyze the perception of pre-final MBBS students on conventional assessment pattern and multiple choice question based pattern.

III. Methodology

After obtaining Institutional Human Ethical Committee Clearance, we commenced our study with written, understandable informed consent from the participants.

3.1 Study design: Prospective comparative study

3.2 Study population: Pre-final year MBBS students were included in this study. This was done to eliminate the bias associated with Second MBBS students, since we are handling them presently. Hence, the students who have passed out Second MBBS were selected.

3.3 Sample size: 145 students, 5 students were absent during the conduct of study.

3.4 Inclusion criteria:

1. All pre-final MBBS students who are willing to participate in the study.

3.5 Exclusion criteria:

1. Students of first, second and final MBBS students.
2. Students who are not willing to participate in the study.
3. Students not attending the feedback session

At the end of formative assessment based on conventional pattern test, a questionnaire with a Likert Scale is given to each student regarding their perspective towards the existing assessment pattern. After 10 minutes, the forms are collected back from them, categorised and analysed.

IV. Observation and Results

Table 1 : Feedback Questions based on Likert Scale

Likert Scale: 1- Strongly agree ; 2 – Agree ; 3 – Neutral ; 4 – Disagree ; 5 – Strongly disagree

S.No.	Feedback Question	1	2	3	4	5
1.	MCQ's can be used as a comprehensive & supportive tool in formative assessment.	44	62	22	2	1
2.	MCQ's can be used in summative test	36	53	26	13	3
3.	Regular exposure to MCQ's gives better preparation for P.G. exams.	107	24	6	0	0
4.	Formative tests helps to study and complete the syllabus within time.	45	60	18	18	2
5.	Studying for formative assessment helps to correlate clinical features.	34	61	23	12	3
6.	Studying for formative assessment helps concept building & motivates self-directed learning	30	63	28	5	1

Based on Table 1, 62(42.8%) students have opined that MCQ's can be used as a comprehensive and supportive tool in formative assessment. 53(36.5%) students felt that MCQ's can be used in summative test conducted at the end of the course as a high stake examination. Also, regular exposure to MCQ's gives better preparation for Post-graduate examinations was opined as strongly agree by 107(73.8%) students. Frequent formative tests helps to study and complete the syllabus within time was opined by 60(41.4%) students. 61(42%) students opined with agree on Likert scale for conducting frequent formative tests. This was helping them to correlate with clinical features. Also, studying for formative assessment helps concept building and motivates self-directed learning was opined as Agree by 63(43.4%) students.

Table 2 : Feedback Questions – Yes/No based

S.No.	Feedback Question	Yes	No
1.	I prefer MCQ's better than essay questions	96	32
2.	I prefer descriptive writing better than MCQ's	37	96
3.	I prefer a combination of descriptive writing and MCQ's	92	40
4.	MCQ's are difficult to attempt because minute details are to be learnt	79	51
5.	Essay questions depend on writing skills that affects scoring and passing.	87	44
6.	Pattern of studies is different for MCQ's and descriptive writing	61	19

Based on Table 2, 96(66.2%) students preferred MCQ's better than essay questions. This could be because of the objectivity associated with MCQ's. Also, the same number of 96(66.2%) students did not prefer descriptive writing. However, 92(63.5%) students preferred a combination of descriptive writing and MCQ's. MCQ's are difficult to attempt because minute details are to be learnt was agreed as Yes by 79(54.5%) students. Also, 87(60%) students opined that Essay questions depend on writing skills that affects scoring and passing. 61(42%) students felt that the pattern of studies is different for MCQ's and descriptive writing.

Table 3 : Feedback Questions – Choice based

S.No.	Questions	N= number of students
1.	Frequency of formative assessment-conventional type	Once a week=6; Monthly once= 51 Bi-monthly once = 27 Once after each chapter= 51
2.	Frequency of assessment test-mcq type	Once a week=22; Monthly once =34 Bi-monthly once=27 Once after each chapter= 48

3.	Type of MCQ	Problem based=10; Factual questions=10 Reason-assertion type=17 ; All of the above= 92
4.	Duration of time given for summative test	Optimal period= 89 ; Too long time period = 8 ; Too short time period = 10 ; No opinion = 25
5.	Regarding marks displayed in notice board	Not necessary = 61 ; Essential = 32 ; No opinion = 40
6.	Content of formative test	One chapter = 44 ; Few chapters = 28 ; Important topics = 38 ; Variable = 24
7.	Which day is better to conduct summative test	Monday = 19 ; Tuesday = 4; Wednesday = 15; Thursday = 14 ; Friday = 22 ; Saturday = 59
8.	Preferred time of the day for summative test	Forenoon = 41 Afternoon = 89

Based on Table 3, 51(35.2%) students opined that frequency of formative assessment – conventional type could be held monthly once and the same number of 51(35.2%) students felt that it could be held once after the end of each chapter. 48(33.1%) students preferred the frequency of assessment test of the MCQ type could be once after each chapter. 92(63.4%) students preferred a combination of problem-based, factual questions, reason-assertion type of MCQ in the assessment tests. Also, the duration of time given for summative test was felt as optimum by 89(61.4%) students. Regarding the marks displayed in notice board, it was felt as not necessary by 61(42%) students. 44(30.3%) students preferred one chapter for each formative test. Also, 59(40.7%) students preferred Saturday and 89(61.4%) students preferred Afternoon for the conduction of tests.

V. Discussion

Assessment is an integral part of Curriculum. In the recent days, Programmatic assessment has gained importance. Cees Van der Leuten describes “Programmatic assessment” as an assessment system which comprises of low, mid and high stakes assessment conducted throughout the academic year. All these assessments have a weightage and are made of several data points. Hence student pass/fail decision does not rely on a single data point but on sum of multiple data points.^[3]

Programmatic assessment includes objective for assessment, planning it, aligning it with the specific learning objective and teaching – learning methods, just as in educational spiral, conducting the assessment and finally the most important, to give a feedback based on the performance of the candidate. Programmatic assessment is a summation of various types of assessment methods – like for example – the student’s performance in multiple choice type exam, mini-CEX, OSCE, e-portfolio, etc., are tabulated together. The mentor then interacts with the student based on the performance in each of these types of assessment methods. The advantage of such assessment is that, it checks the psychomotor, cognitive and affective domain if structured adequately. Thus, the wholesome knowledge, skill and attitude are assessed. Feedback based on these data would improve the student’s performance in the subsequent assessments and thus improvises the student towards Competency Based Medical Education.

Feedback of educational experiences are valuable in assessing the effectiveness of courses and teaching methods.^[4] Feedback enhances learning and helps in the repair and reform of the present situation. Questionnaires offer an objective means of collecting information about student’s view on the existing system of assessment.^{[5] [6]}

Present study has obtained feedback from pre-final MBBS students regarding the Conventional and MCQ based assessment pattern. The conventional pattern includes long essay, short answer and very short answer questions. Formative assessment test also follows similar pattern. According to Merriam Webster Dictionary, “An essay question is an examination question that requires an answer in a sentence, paragraph or short composition”. Hence even, short answer questions fall under an essay type of question. MCQ has a stem leading to 4 to 5 options. The stem of an MCQ can be a simple fact question, narration of a clinical scenario, pictures or illustrations. If appropriately framed all domains of learning can be assessed using MCQ.

According to Shoaib et al, the best form of assessment was Multiple Choice Questions with true/false type.^[7] In a study by Rashmi Jaiswal et al, 55.03% of students preferred a combination of descriptive and short essay questions along with Multiple choice questions as a pattern of examination. Only 21.7% of students agreed for multiple choice questions with true/false type questions.^[8] In our present study, MCQ’s can be used as a comprehensive & supportive tool in formative assessment was agreed by 62(42.8%) students and strongly agreed by 44(30.3%) students based on Likert scale.

In a study by S.K.Nagar et al, 70.80% of students preferred weekly test.^[9] According to Rashmi Jaiswal et al, part completion test was favoured by 47.28% and weekly test was preferred by 38.75% of students.^[8] In present study, frequency of formative test in conventional pattern was preferred monthly once or once after each chapter by 51(35.2%) students. It was preferred as bi-monthly once by 27(18.6%) students and once a week by 6(4.1%) students. MCQ pattern of test was preferred once after each chapter by 48(33.1%) students, monthly once by 34(23.4%) students, bi-monthly once by 27(18.6%) students and once a week by 22(15.2%) students.

According to Pai et al, in the essay type of answers, handwriting skill plays an important factor. Also, this depends on examiner's perceptions and presumptions.^[10] In the present study, 87(60%) students opined that Essay questions depend on writing skills that affects scoring and passing.

VI. Conclusion

Assessment is an important component in educational spiral. It is the crux of the educational paradigm. In fact, assessment drives learning. In the era of "Competency based medical education" - Programmatic assessment plays a significant role. Low stake, medium stake and high stake examinations are an integral part of Programmatic assessment. Given the wide array of assessment tools, choosing the right tool plays a vital part. We are indeed, "designers of assessment pattern". The choice of assessment tool is multi factorial. Among the many tools of evaluation, Multiple Choice Questions(MCQ) is a prototypic one. An appropriately designed MCQ can evaluate a students capability with much accuracy. When applying MCQ's in a large scale, it eliminates the subjective bias associated with conventional written tests and converts assessment into being more objective. At present, the high stake examinations have only essay, short notes and short answer type of questions. A carefully structured, validated MCQ paper can be a component of high stake examination. Application of MCQs in summative assessment is preferred by the students n=96 (64%). Applying MCQs can be used along with conventional pattern of test as an adjunct to assessment of MBBS students.

Acknowledgement

I sincerely thank our colleagues, students and administration of Coimbatore Medical College and Medical Education Department of Christian Medical College, Vellore for support and guidance towards the present study.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

- [1]. Tim.S.Roberts. The Use of Multiple Choice Tests for Formative and Summative Assessment. Vol52, Denise Tolhursand Samuel MannsEds. ACE 2006,January, Queensland, Australia.
- [2]. PoulamiMukherjee, SaibenduKumar Lahiri-Analysis of Multiple Choice Questions (MCQs) : Item and Test Statistics from an assessment in a medical college of Kolkata, West Bengal. IOSR-JDMS, Vol14, Issue 12, VerVI(Dec 2015) PP 47 -52
- [3]. C.P.M. van der Vleuten, PhD, Professor of Education a,*, L.W.T. Schuwirth, MD, PhD, Professor for Innovative Assessment a,d , F. Scheele, MD, PhD, Gynaecologist and Professor of Medical Education b,e , E.W. Driessen, PhD, Senior Lecturer in Education a,d , B. Hodges, PhD, Psychiatrist, Richard and Elizabeth Currie Chair in Health Professions Education Research The assessment of professional competence: building blocks for theory development. Best Practice & Research Clinical Obstetrics and Gynaecology 24 (2010) 703-719
- [4]. Dagenais ME, Hawley D, Lund JP. Assessing the effectiveness of a new curriculum: Part I. J Dent Educ. 2003;-;67:47_54
- [5]. Oppenheim AN. Questionnaire design, interviewing and attitude measurement. Pinter publications. ST Martins-press. First edition. 1992
- [6]. Petra MB, Trisha Greenhalgh. Selecting, designing and developing your questionnaire. BMJ. 2004; 328: 1312-1315. doi:10.1136/bmj.328.7451.1312
- [7]. Shoaib Rafique, Hasan Rafique, Students. Feedback on teaching and assessment Journal of Pakistan Medical Association. 2013;63:1205.
- [8]. Rashmi Jaiswal, Sameer Sathe, Vivekanand Gajbhiye, Rashmi Sathe. Students Perception On Methods Of Anatomy Teaching And Assessment International Journal of Anatomy and Research,Int J Anat Res 2015, Vol 3(2):1103-08. ISSN 2321- 4287 DOI: http://dx.doi.org/10.16965/ijar.2015.161
- [9]. S K Nagar, Ojaswini Malukar, Dharti Kubavat, Vipul Prajapati, Dimple Ganatra, Ajay Rathwa. Students perception on anatomy teaching methodologies. National journal of medical research.2012;2(1):111-112.
- [10]. Pai, M.R.S.M., Sanji, N., Pai, P.G., Kotian, S. 2010. Comparative assessment in Pharmacology multiple choice questions versus essay with focus on Gender differences. J. Clin. Diag. Res., 4: 2515-2520.

Dr.G.S.Thiriveni Balajji1 " Students Perception Regarding Conventional Pattern of Assessment Versus Multiple Choice Questions Based Assessment Pattern ."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 9, 2018, pp 23-26.