

# Study of Students' Perception Regarding Open Book Assessment and Closed Book Exams

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## Abstract

**Background** - An "open book examination" is one in which students are allowed to refer to their notes, textbooks, and other approved material while answering questions. This practice is mostly unheard of. It is ideally suited to professional courses like MBBS which especially aim at developing the skills of critical and creative thinking.

**Materials and Methods** – After a lecture on chapter Medical Law and ethics 100 students selected through simple random sampling after obtaining informed consent were given Pre test. Then they were divided into 2 groups. The topic Medical Law and Ethics was divided into 2 Parts. The students of Group 1 undertook open book exams for Part A and Self study exams for Part B and for students of Group 2 it was reversed. Post test was done with the validated pretest questions. To check the retention another open book exam was performed after a month. The students also answered a questionnaire on their perception of open book exams and the reason for their preferences and it was analyzed.

**Conclusion** – A total of 100 students participated in the study. In that 60 were medium achievers and 40 were high achievers. Both medium achievers and high achievers obtained high scores in open book exams. Most of the students felt that Open book exam is less time-consuming for preparation, less stressful and increased their Self-directed learning. Open book exams is better to the closed book exams and inculcates the habit of life-long learners.

## Introduction

The present time is accepted as the era of advancing knowledge, rapidly changing science and information technology. Consequently there have been many changes in the life styles of people. In yester years the student use to go to the place of Guru, reside there and learn. The test conducted by the "Guru Dronacharya" and the contemporary three hours written test of closed book type have wide difference.<sup>1</sup>

As per cognitive psychological research, examination or test enhances the retention of knowledge and known as testing effect.<sup>2-4</sup> A closed book examination is probably the most common method of student assessment used in all levels of the education system in India.

The continued use of closed book examinations may encourage our students to live in the past rather than the future. Closed book examinations emphasize heavily on low-level skills such as memorization, instead of testing high-level skills such as the abilities to reason, conceptualize and solve problems

The MCI has also changed its curriculum from knowledge based to Competency based curriculum. Students must now move away from passive reading

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of prescribed texts to the process of acquiring skills for lifelong learning. Hence medical educationalists are inspired for the innovation in assessment too. Here is one such attempt to compare the Open Book Exam with traditional Closed Book Exam.

### Materials and Methods

The present study was conducted at Mysore Medical College and Research Institute, Mysore after obtaining ethical clearance from the Institutional Ethics committee. 100 students were selected through convenient sampling. A written informed consent was obtained from the students.

Didactic lectures will be conducted on the topic "Medical Law and Ethics". After the lecture a validated Pre test of 200 multiple choice questions was administered to the students.

The second year students were divided into two groups by stratified randomization based on their previous internal assessment score. The students who had scored were divided into high achievers (Group 1) and medium achievers (Group 2) with 60 percentage of marks as the cut off. The topic Medical Law and Ethics was also divided into Part A and Part B.

The students were given a month time. The students undertook an exam in the form of short answers. Group 1 students were administered Open book exam for Part A and Closed book exam for Part B and the order was reversed for Group 2 students.

A post test was done with the same set of 200 Multiple choice questions containing 100 MCQs from Part A and Part B respectively. The gain in the score of open book exam was compared with that of the closed book exam. To assess the retention of the open book exams delayed post test was administered to the students after a month. Feedback was taken from the students on the open book exam through a validated questionnaire in the Likert scale Type (Type 1 – Type 5, Strongly agree to strongly disagree respectively)

### Results

A total of 100 students were included in the study among them 40 were medium achievers and 60 were high achievers. Perception of MBBS students about the open book exam is depicted in the Table 1. Majority of the students opined that the open book exam was less stressful, less time consuming because of less memorization hence not boring. The majority of students felt that the open book exam assessed their ability to apply knowledge and also inculcated the habit of self directed learning.

Table 2 depicts the comparison of gain in score between open book, closed book and repeat open book test. The high and medium achievers had higher score in open book exam as compared to the closed book exams. In the repeat test too both high and medium achievers showed higher gain scores.

**Table 1 - Perception of students about the open book test.**

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Open book exam is less time-consuming for preparation.	52	22	20	4	2
Open book exam is less stressful	59	27	2	4	8
Open book exam involves less memorization	36	37	13	11	3
Open book exam has more room for logical thinking	14	27	15	23	21
Open book exam is boring	21	11	42	19	7
Open book exam assessed the ability to apply knowledge	19	26	27	7	21
Open book exam increased my Self-directed learning	31	27	27	9	6

**Table 2 - Comparison of gain score between self study, open book test and repeat open book test.**

Students	Median Score achieved		
	Closed book test	Open book test	Repeat open book test
Medium achievers	44	53	62
High achievers	51	64	77
Total	47.5	58.5	69.5

## Discussion

Since assessment is not unique to any of the specific academic discipline. The closed-book exam is a well established approach to assessment in higher-education. It is both widely accepted by educators and frequently used, it basically tests how well a student uses the knowledge they can recall with no additional material available for use on the exam. On the other hand, open-book exams allow students to consult textbooks, notes, and other course-related material during the exam. Some educators may consider open-book tests less conventional, but they have gained popularity<sup>5</sup>.

Open book exam is believed to be able to enhance deeper learning among the learners.<sup>6</sup> There is also sufficient evidence to show that open book exam could have a significant contribution to learning at higher taxonomical level. Specifically, students liked the idea of open-book exams, but not necessarily for the reasons educators might think. Anecdotally, students indicated they learned more through the open-book testing approach than they do through the conventional closed-book approach regardless of their grades in the assessments, because they were able to focus on mastering concepts rather than memorizing aspects they could look up in the textbook. Further, they also indicated they did not have a false sense of security going into the open-book exams, as they knew they would have to be able to apply concepts rather than simply report facts from the textbook.

In the present study gain in scores was higher and the retention of the learning was more in both medium and higher achievers. Most of our findings are in agreement with the study done by Pragnesh Parmar except in their

study retention for repeat exams was lesser in medium achievers.<sup>2</sup>

In the present study it was observed that the students had appeared for open book exams with all the relevant material necessary. They were even aware as to which topic is better described in which book, they could identify the topic in those books within a few minutes, which was similar to the study conducted by Pragnesh Parmar<sup>2</sup> and Chen et al<sup>8</sup>.

## Conclusion

In our study we found a partial support that open-book exams would significantly increase students' learning, we believe our study was successful in demonstrating usefulness of this type of assessment and further research in this regard.

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