

Conventional Viva in Anatomy: What Do the Indian Students and Faculty Say?

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Abstract

Background: Conventional Viva, so far is the commonest assessment tool used in practical examinations in Anatomy in India since long times. However, elaborate studies looking for how the students and faculty perceive it are lacking. The present study was undertaken to determine the perception of first year undergraduate medical students and Anatomy faculty about various aspects of the Conventional Viva. **Methods:** The feedback was collected from 586 1st MBBS students, immediately after they finished their preliminary practical examination, during the academic years 2013-14, 2015-16, 2016-17, using pre-validated, pre-tested structured questionnaire. Responses were sought on 5-point Likert scale. Views of 40 Anatomy faculty were also invited and data was analysed statistically. **Results:** We observed that students were satisfied with regards to the coverage of syllabus. Both, the students and faculty, were satisfied with regards to time given to answer the questions. Students reported cognizable fear for the examiners, stress, anxiety and reduced comfort during viva. Mood of examiners and personal bias by them were important drawbacks perceived by students. Significant proportion of students and faculty felt that lack of equal opportunity to all the students, 'carry over effect' and the extraneous help to students in the form of hints prevailed in the viva. Less satisfaction was reported by faculty while assessing with conventional viva. **Conclusion:** Our findings indicate that there is an urgent need to appraise the current pattern of Viva-Voce. Best feasible option in a set up like ours can be 'Monitored Viva By Sensitized And Trained Examiners'.

Keywords: Medical Education; Conventional Viva; Viva Voce; Anatomy; Student's Feedback.

Background

Viva voce ('viva') or the oral examination is an ancient method of assessment [1]. It has held an important place in medical education for centuries. Tradition aside, it is used for its flexibility, apparent fidelity, and potential for testing all three domains namely cognitive domain, psychomotor domain and affective domain. It can test learner's attitude and professional competence. Likewise, it tests the students' ability to take quick decisions, discuss and defend and the presentation skills. It also assesses the learner's ability to perform under stress. It is a quick method of assessment where the learner expresses his ideas and views without any external help, thus the chances of unfair means are

meager. Thus, if properly conducted, it can be a good assessment tool for learners.

In most of the universities in India, the practical examination in anatomy is conducted in two parts:

- i. *Oral examination/ viva:* on prosected specimens, bones, histology, embryology, living anatomy & radiology; and
- ii. *Spots:* of histology and / or gross anatomy.

Thus, whole of the practical examination in anatomy, except spots, is conducted in the form of oral examination or viva. While working with many examiners, it is our experience that viva here are conducted by conventional way, without any prior planning (for areas to be tested, number and types of questions to be asked and their difficulty level, marking pattern etc). Hence, unfortunately, it is prone to have many drawbacks in terms of validity (non coverage of relevant domains qualitatively and quantitatively which are supposed to), reliability (inconsistency with evaluation of each student in context to time, question content and allotment of marks) and objectivity (intimidate examiners, bias on the part

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of topic, difficulty level of questions & previous encounter/ interaction with the student etc). Also, mood of examiner often affects the marks allotted to the students. However, studies depicting clear picture on these issues are lacking.

With this background, the present study was undertaken to study the perception of first year undergraduate medical students and anatomy faculty about various aspects of the conventional viva in anatomy.

Material and Methods

This was a prospective cross-sectional study. The institutional ethical committee approval was obtained. The study was conducted in three academic years, i. e. 2013-14, 2015-16 and 2016-17, in the department of Anatomy in a government medical college from India. Objective structured questionnaire were prepared for the students and faculty. They were tested and validated on a small group of students and examiners respectively to see whether the questions were clear and evoked appropriate response.

In the first half of April month of all the three academic years, the preliminary examination was conducted in anatomy as per the university guidelines, the practical part of which was conducted in batches of 25 students. The examiners and 1st MBBS students were explained the purpose of the study and any doubts raised were solved. They were appealed to participate in the study and give a frank and honest response. Furthermore, to evoke frank response, double blind method was adopted. Total 586 students participated in the study voluntarily. The number of students participated in the study each year and by gender are shown in Table 1. Immediately after the student finished the practical examination, he/she was given the questionnaire to answer. All the students returned the questionnaire, resulting in 100% response rate.

Table 1: Sample Size: Yearwise

A.Y.	Males	Females	Total
2013-2014	100	94	194
2015-2016	98	97	195
2016-2017	99	98	197
Total	297	289	586

The faculty who had minimum 5 years of teaching experience after post-graduation in Anatomy, were considered eligible to participate

in the study. Total 40 faculty participated in the study. These faculties were given the questionnaire at the end of the preliminary examinations. All of them returned it answered (response rate: 100%).

The questionnaire for students included total 13 statements (05 about their general perception of conventional viva, 05 about the viva they had just faced and 03 about their psychological status (e.g. stress, self reported anxiety and comfort) in the examination hall. The options provided were strongly disagree, disagree, neutral, agree, strongly agree. The number and percentage of students opting for each response were calculated. Gender specific analysis was also done. Fisher's Exact Test was applied.

The questionnaire for faculty included 8 statements to test different aspects of the viva they had conducted. In the end, opinion was sought about their comfort and satisfaction with current pattern of viva. For all these statements, responses were sought on 5-point Likert scale.

Results and Discussion

The traditional viva examination is widely used in Indian medical universities as a method for assessment of undergraduate as well as postgraduate medical students. However it is often criticized due to lack of standardization, objectivity and reliability [1]. The viva examination involves multiple examiners which may result in variation in the time allotted to each student, number of questions asked and difficulty level of the questions asked. The questions asked vary from examiner to examiner and from student to student. Some examiners may be stringent while others lenient while allotting marks. Thus subjectivity is a major cause of concern in traditional viva. Most of the questions are of recall type rather than testing the analytical and problem solving abilities of the students [2]. Besides these, the carry over effect (previous student's score affects the score of the next student) is a possibility. Many a times the atmosphere of the examination hall is threatening and the students are under a lot of stress while waiting for their turn to face the examiners. Many of them may have performance anxiety. Thus understanding the perception of students towards practical examination is imperative. However, no study from India brings out the realistic picture. The present study, to the best of our knowledge, for the first time addresses this issue and we reveal the perceptions of the examiners and students in one stance.

Table 2: Students' Perception About Conventional Viva (N= 586)

Variable	Strongly Agree 1	Agree 2	Neutral 3	Disagree 4	Strongly Disagree 5	Total Agree 1+2	Total Disagree 4+5
1. Examiners' mood affects scores	189	319	0	48	30	508 (86.7)	78(13.3)
2. Being scared of facing examiner	271	227	3	67	18	498 (85)	85 (14.5)
3. Face-to-face viva affects scores	296	181	0	97	12	477 (81.4)	109 (18.6)
4. Chances of bias may occur	103	161	27	145	150	264 (45)	295 (50.3)
5. Peer students' performance affects score	126	159	0	202	99	285 (48.6)	301 (51.4)
6. Syllabus appropriately covered	402	98	5	65	21	500 (85.3)	86 (14.7)
7. Hints given by examiner	306	93	3	169	15	399 (68.1)	184 (31.4)
8. Equal time to all students	189	222	3	109	60	411 (70.1)	169 (28.8)
9. Sufficient Time given to answer questions	468	70	0	33	12	538 (91.8)	45 (7.7)
10. Adequate Transparency during viva	444	72	6	40	12	516 (88.1)	52 (8.9)

Table 2 shows the perception of the first year undergraduate medical students towards various aspects of the conventional viva. In the table 2, statements 1 to 5 are related to the general perception of the students about the conventional viva. From the table, it is seen that 86.7% of the students felt that the mood of examiner can affect the scores allotted to them. For optimal performance of a student, it is essential that examination should be conducted in a stress free atmosphere. However, facing any examination (even theory examination), creates stress to the examinees. The stress levels of the students in the current pattern of viva is too high as observed in our study (Figure 2). Many students were scared of facing the examiners during the viva (85%), leading to additional stress. Further, more than three-fourth of the students in our study were of the opinion that the practical examination with face-to face viva have adverse effect on their performance. Personal bias by the examiner due to his prior encounter/interaction with the student or because of other external influence/s is a possibility commonly talked about in relation to traditional viva examinations. Our results concord with this possibility (45% of the students' agree with the statement). This may be due to undue secrecy associated with the questions asked and the way by which marks allotted to the students. Also, in traditional viva, there is no check on the examiners about quality of viva they conduct and appropriateness of the marks they allot to the students. Also, no record is maintained in this pattern. These factors might have led to this opinion by the students.

48.6% of the students felt that peer student's performance affects their scores in conventional viva. In a given batch of students, depending upon performance by first few students, examiner sets his mind to ask questions of a particular difficulty level and decide a particular pattern for allotment

of scores. Thus, in a batch of well performing students, if any student performs average, there are chances that he gets below average scores compared to a student having similar performance from a poorly performing batch.

Statements 5 to 10 of the questionnaire were about the perception of the students about the viva they had just faced. i.e. these were indicative of the quality of the viva. It was observed that 85.3% of the students opined that the syllabus was appropriately covered in the viva, while 91.8% felt that sufficient time was given by the examiners to answer the questions. Hopping 28.8% of the students revealed that equal time was not given to all the students in the viva they had faced. It is a our common experience that if an examinee is outperforming in the viva, the examiner has a tendency asks him more number of questions to test his depth of knowledge, thus taking his viva for a longer time. Also, towards the end of a viva session, may be due to examiner's fatigue or some other reasons, examiners are more inclined to finish the viva faster, thus they give less time to the students present in the last part of a batch. This might have reflected in this expression by the students.

Giving hints by the examiners to the students to elicit correct answer is an area of debate. Some feel it to be totally unethical, as the examiner, by giving hints, favours a student, which is not expected in an ideal viva. This also causes injustice to other students who do not require the examiners favour to reach the correct answer. However, others feel that, as students are under considerable stress during viva, though having adequate knowledge, they may not be able to recollect it and the examiner, by giving hints simply helps him to recollect the answer. In this study, 68.1% of the students told that examiners gave hints to them to elicit correct answer. 72.5% of the faculty agreed with it. Thus

the practice of giving hints is widely prevalent in conventional viva.

In the present study, 91.8% students opined that sufficient time was given to answer the questions. 8.9% of them felt that this method of assessment does not have adequate transparency. This may be due to the fact that the examiners ask the questions randomly, without keeping any records of the questions asked and answers received, marks allotted to each question, marking pattern of these questions. Even the questions asked to a student may not be the same to those asked to another student. These issues create unnecessary mystery about the traditional viva. This might have led to the students to have the impression of inadequate transparency during viva. Also, as no records are kept, there is no redressal mechanism for students.

Figure 1 shows the perception of students about the traditional viva by gender. From the figure, it is seen that for all 10 statements, the perception of male students was similar to that of female students, the difference was not statistically significant.

Figure 2 shows the psychological status of the students in the examination hall. From the graph, it is clear that 73.9% of students were under a high degree of stress while 69.7% of them reported a medium to high degree of anxiety during the conventional viva. Holloway et al. (1967) [3] have demonstrated an inverse relationship between anxiety and performance in oral examinations. In this situation, as expected, the comfort level of the students is bound to be low. Only 18.9% of the students were at a high level of comfort during the traditional viva. While conducting the

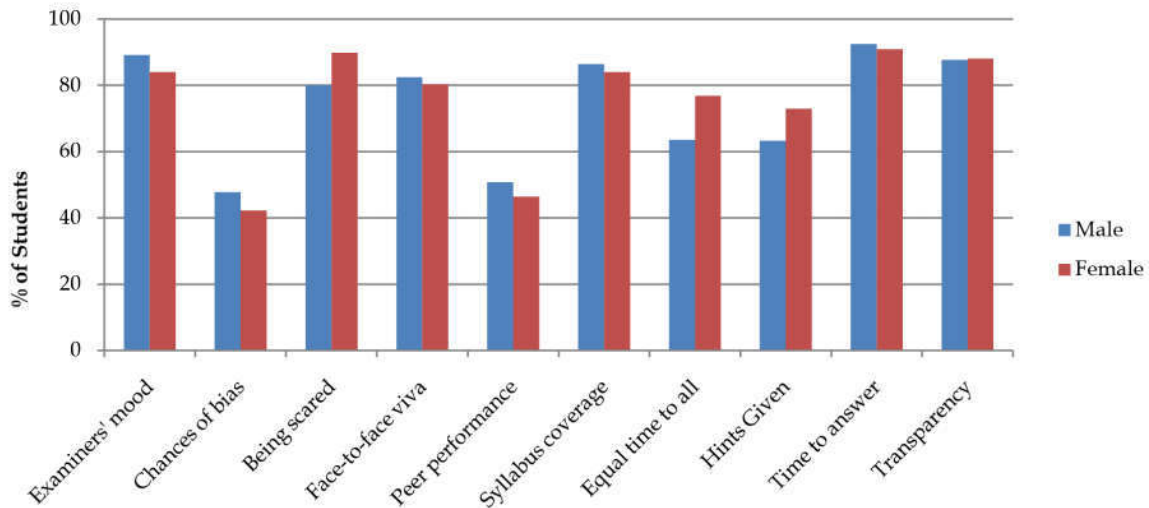


Fig. 1: Perception of Students About Conventional Viva: By Gender

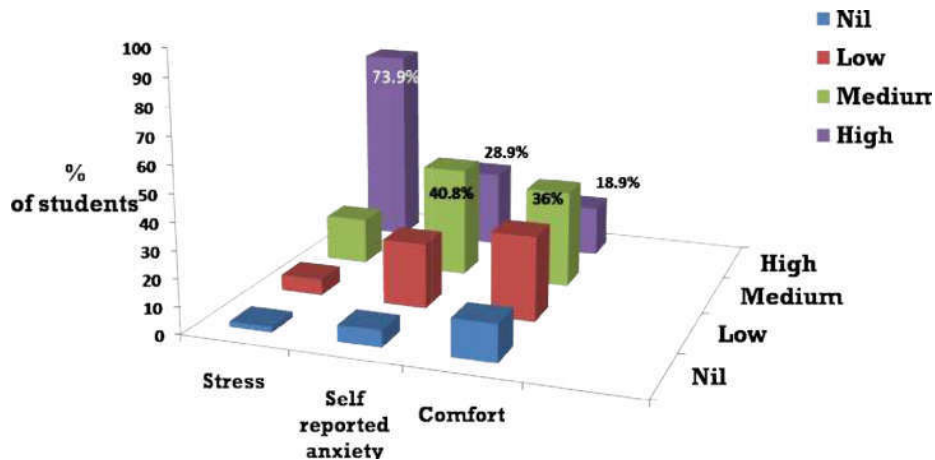


Fig. 2: Psychological Status of Students during Viva

study, many students, in person, requested us to take care of their comfort.

Table 3 shows the psychological status of the students in the examination hall by gender. From the table it is clear, that the female students were more prone to stress and anxiety than their male counterparts, however, the difference was not statistically significant. Also, the female students were less comfortable during the examination than their male counterpart, the difference was statistically significant. Thus, our observations warrant that examiners need to be made aware of students' mental condition and be motivated to improve it, which in turn may result in better performance by them.

Figure 3 shows the perception of faculties about the conventional viva in anatomy. From the figure, it is seen that about one third of the faculties agreed that the effect of mood affects the marks allotted to the students. About 7.5% of the faculty felt that

there are chances of personal bias in conventional viva. It appears that a remarkable impact of the peers' performance occur on the scores of students. 26% of the faculty agreed that there is carry over effect in this pattern of viva voce. Our study revealed that both students as well as examiners were satisfied with the time allotted to answer questions. In an ideal examination, examiners should give equal time to all the students. The present study revealed that, more than 50% of the examiners did not give equal time to all the students. About 3/4th of the examiners were in a practice of giving hints to the students to lead them to a correct answer. To minimize subjectivity, it is expected that all the students in a batch should be asked same set of questions. Of the 40 examiners, only 3 examiners asked same set of questions to all the students. The inherent drawback of this technique is the monotony it creates. To overcome this, different students may be asked different sets of questions having same difficulty level. Though

Table 3: Psychological Status of Students during Viva: By Gender

Variable	Gender	Nil 0	Low 1 - 25% 1	Medium 26-50% 2	High 51-75% 3	Highest 75-100% 4	High+ Highest 3+4	p
Stress	M	10 (3.4)	27 (9.1)	53 (17.9)	109 (36.7)	95 (32)	72.1	0.610
	F	3 (1.0)	9 (3.1)	48 (16.6)	119 (41.2)	110 (38.1)	79.2	
Self -reported anxiety	M	24 (8.1)	76 (25.6)	119 (40.1)	75 (25.3)	3 (1.0)	26.3	0.145
	F	12 (4.2)	65 (22.5)	120 (41.5)	80 (27.7)	12 (4.2)	32.2	
Comfort	M	33 (11.1)	87 (29.3)	111 (37.4)	51 (17.2)	15 (5.1)	22.2	0.045*
	F	48 (16.6)	96 (33.2)	100 (34.6)	36 (12.5)	9 (3.1)	15.7	

(M-males, F-females; figures in parenthesis indicate %, * statistically significant)

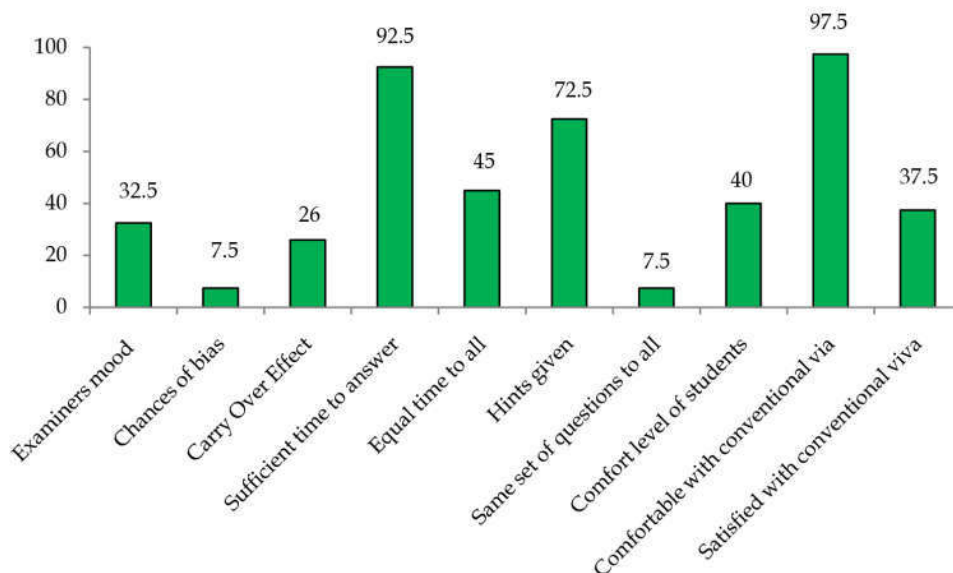


Fig. 3: Perception of Faculty About Conventional Viva

almost all the examiners were comfortable with the current pattern of viva voce, about 2/3rd of them were not optimally satisfied with it.

Due to unavailability of data with regards to the perception of viva examination among medical students, comparison among students from different disciplines, regions or from other countries was not possible. Thus, there is a need to conduct more studies of this nature to shed light on this important issue.

From our study, it is evident that conventional viva has inherent drawbacks. To overcome this, many authors have suggested OSPE [4-8]. However, we would like to suggest, 'Monitored viva by sensitized and trained examiners' as an efficient method for assessment in the Indian scenario. Currently, in India, once a teacher completes 5 years of teaching experience, he/she become eligible for examinership. This practice needs to be changed. The teachers should be sensitized about the drawbacks of conventional viva and effects on student's academic preparation, career, psychosocial status and in general on the health of the society when he passes/fails due to a badly conducted examination. Further, the teachers need be sensitized about their ethical and motivational role as examiners. The teachers can be trained by the universities for different facets of an ideal viva examination. It should also include training about how to develop a comfort zone between examiner and examinee. After training, there should be a qualifying examination, following which the teacher can be allotted examinership.

We also feel that conscious monitoring may improve the quality of viva. The viva can be monitored by external observer. Alternatively the viva can be conducted in-camera. In-camera viva, in addition, will be useful in giving valuable feedback not only to the students but also the examiners. It will also have an important role in the development of student redressal mechanism. The quality of examination also can be assessed by taking examinees' feedback. Monitored viva by sensitized and trained examiners, in addition to the advantages of Structured Viva, will have enough flexibility to assess in depth the knowledge of the examinee, their attitude, professional competence, understanding & way of understanding of the subject and the ability to discuss and defend.

Conclusion

The practical examination in anatomy in most of the medical colleges in India is conducted by

traditional viva method. This study brings out the inherent drawbacks of this assessment tool and underlines an urgent need to appraise the current pattern of viva voce. We are of the view that the best feasible option in a set up like ours is 'monitored viva by sensitized and trained examiners'.

Competing Interests: The authors declare that they have no competing interests.

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