



STUDENTS' PERCEPTION ON 'OBJECTIVE STRUCTURED PRACTICAL EXAMINATION (OSPE)' IN INTERNAL ASSESSMENT EXAMINATION OF ANATOMY

Anatomy

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ABSTRACT

Rationale: The new 2019 entrants of the UG medical education in India, are the first batch to face the Competency based education module as published by India. Nation-wise Medical Council of India (MCI) has made paradigm shift from the traditional ways of teaching-learning-assessment system to the Competency based teaching-learning-assessment system. Anatomy, being the subject of the Phase 1 MBBS, is one of the major discipline, is maintain the competency module from the very first day of this session. As guided as aligned to the competency module, Objective Structured Practical examination (OSPE) comes out as the tool to be implemented in the Assessment programme. So for the very first time in West Bengal, the total Anatomy practical examination of 100 marks has been carried on in OSPE in the Department of Anatomy in IPGME & R, Kolkata very recently. Students' perceptions have been collected after they appeared in the Examination system.

Objective: To assess the students' perception on participating in the OSPE in the Internal assessment Examination in Anatomy.

Methodology: OSPE have been conducted with 10 tables incorporating histology, embryology, Osteology, cadaver ID, window dissection, surface marking, and radiology & cross sectional anatomy. Amongst 10 stations, six stations were observed station. Students have been assessed with pre-formed check list as fits to the Learning objectives. Students' perceptions have been collected with a prevalidated prestructured questionnaire and their responses were analyzed using descriptive statistics.

Result: majority of the students perceived that the tasks were uniform, assessment were biasfree, aligned to their learning objectives, and the examination system has not imparted any stress on them to face.

Conclusion: the traditional Practical examination majorly never been directed to be in any structured fashion. As a result the questions asked to the students get often differed from candidate to candidate. These modalities of assessment more often targets to the "knows" or "knows how" level of Miller's pyramid (competency level) and seldom achieves to the "shows how" or "does" level. So as per the guidelines laid by MCI, as well as aligned in the present CBME based module in Anatomy, OSPE can be successfully implemented with a proper structured fashion.

KEYWORDS

[OSPE], [Anatomy], [Internal Assessment], [CBA]

INTRODUCTION

Human Anatomy, a preclinical basic subject about the human body structure in gross and in microscopic level; taught to the medical undergraduates in their Phase 1 MBBS course. In recent day's Medical council of India has postulated the Competency based curriculum for the new entrants of 2019 admission batch¹, which is based upon the competencies. Not only that, but also nation-wide revised basic course workshops and curriculum implementation support programmes (CISP) are carried on to guide us to implement the new curriculum as well². Medical council of India also published the guideline of Competency based assessment pertaining to the present curriculum, in which the Objective Structured Clinical/Practical Examination (OSCE/OSPE) has been stressed upon for the assessment tool for the Practical examination alongwith other tools; especially focusing to the Shows/Shows-how level³.

Traditionally till the last 2018 entrant's batch Anatomy Practical examinations used to be included with a Practical part including the Cadaver Identification, cadaver Window dissection, surface marking; and Viva voce tables were conducted on Osteology and Viscera parts. The marks of those Viva voce tables were used to be included with the Theory parts. In present Competency based Assessment Module (CBA), MCI has abolished the concept of Table-viva as a part of Theory evaluation; rather incorporated the Practical-Viva; where reasoning skill is to be assessed in the Practical table.

Regarding the Practical examination of Preclinical department MCI has mentioned vividly that "Pre- and para-clinical departments should make practical exercises application oriented. Objective Structured Practical Examination (OSPE), One Minute Preceptor (OMP),

Directly Observed Procedural Skills (DOPS) etc. can be suitably modified for this purpose. Practical tests should not become simply tests of knowledge. Multiple teachers should be involved in assessment. This will help in not only taking care of subjectivity but also provide much needed training in assessment to senior residents and assistant professors."⁴

Utility of assessment is traditionally expressed as a notional concept represented as using a product of validity, reliability, acceptability, feasibility and educational impact.⁵ For CBA, validity and educational impact are the major determinants of its utility. Despite subjective judgments being involved, their reliability can be improved by increasing the number of assessors, assessments, tasks and by involving all teachers of the department in CBA process.⁶

Keeping all these in thought, with all the motivated faculties in the department, so far, the first time in West Bengal, the Internal assessment Examination in Anatomy, has been fully structured in OSPE without any oral viva/table viva system.

Objective:

To assess the students' feedback in the OSPE in Internal assessment Examination in Anatomy, in Phase 1 MBBS students of Institute of postgraduate Medical Education & Research

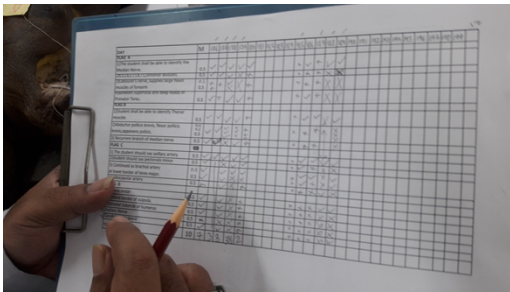
Methodology:

With prior sensitization with CISP programme and the recent updates of Medical Education Technology, a departmental coherence has been framed for conducting OSPE in the Internal Assessment examination for the Phase 1 MBBS students. OSPE was framed with 10 stations with time for 05 minutes in each station.

Station	Topic	Observed/ unobserved station	How instructions were given
1	Histology spotting	Unobserved	Students were asked to read the card and to identify the slides mount in the microscope and to mention the two important identifying features. Necessary directions were given in the card

2	Histology special slide	Unobserved	On a card, instructions were mentioned. Students were needed to identify the slide on microscope, draw the labeled diagram of the field visible
3	Embryology model/photograph	Unobserved	One coloured photograph of a particular stage of embryo development was given with blank labeling. On the task-card, it was asked to label/identify the structures. One question was given for rational thinking.
4	Cross section	Unobserved	Cross section of a body part was provided on the table. Few structured was flagged. On the task-card, instructions were mentioned to identify those structures.
5	Radiology	Observed	For a single plate of skiagram, instructions were mentioned on the task-card for mounting, identifying as well as regarding relevant anatomy of the zone. Each student was needed to perform the task accordingly. One faculty have attended the station with check-list and marked against each performance.
6 & 7	Osteology	Observed	There were two tables of Osteology. In each station, one particular bone (different in other station) was provided to the students. Related instructions of performance were mentioned in the task-card. In both the stations one faculty has observed the activities and marked the students' performance on the check-list.
8	Surface marking	Observed	One faculty was at the station with one laboratory attendant. The tasks were mentioned in the card. Each student was needed to follow the instruction and perform accordingly. Faculty assessed the student with the checklist.
9	Cadaver Identification	Observed	In the dissected body, at multiple places different flags were inserted. In the task card, instructions were written to identify those structures and allied questions. Each student was needed to perform accordingly. One faculty was observed the activities and scored the students following the checklist.
10	Cadaver Window dissection	Observed	One particular region, so called "window" was made dissected out. On the task card questions were mentioned related to demonstrate the incision, identifying the structures and allied. Each student was needed to follow that task-card and do accordingly. One faculty observed the activities and marked the performance upon the checklist.

Photograph

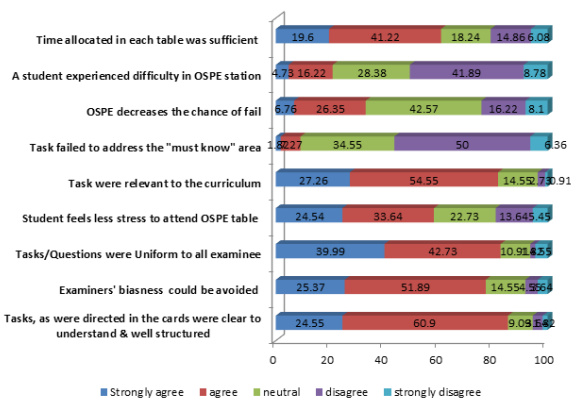


Photograph showing the evaluation in check-list in one of the observed station

After the examination got over students were approached for the feedback form for their perception in OSPE method and their responses were extrapolated in excel sheet for descriptive analysis.

Out of 200 students, 196 students have submitted the fully filled up form and their responses were as follows-

Table no. 1: Students' perception on OSPE in IA Exam in Anatomy



Majority of the students perceived

1. Time allocated was sufficient (60.84%)
2. Tasks addressed the must to know area or the core-competencies (56.36%)
3. Tasks were relevant to the curriculum (81.81%)
4. Tasks were uniform for assessment (82.72%)
5. Examiners' biasness could be avoided (77.26%)

6. Tasks were clear to understand (85.45%)
7. Feeling of less stress in OSPE system (58.18%)
8. No difficulty in performing the tasks in OSPE stations (50.67%)
9. But majority was uncertain for the reply whether the OSPE decreases the chance of fail or not. (42.57%)

DISCUSSION

First of all, this study well proved the doability/feasibility to conduct OSPE-in-full at the Assessment programme in Anatomy for the 200 students with 50 students per day. The analyzed students' feedback high lightened in parallel, that this system with least biasness, mostly structured, and less stressful to the students.

In 2016, Ranjan R, Jain A, Bhujade R in their study at Madhyapradesh, India, have well illustrated the feasibility of making OSPE in assessment tool in Anatomy. Not only that, they also established the fact of reliability to implement OSPE in Anatomy in compared to the traditional oral-practical examination.⁷

Earlier to that Yaqinuddin A in 2013, at Saudi Arabia has implemented OSPE in the Assessment in Anatomy for the undergraduate students and described how the concept of the OSPE has evolved and is currently being used to assess the practical domain of anatomical knowledge in a problem-based curriculum at Alfaisal University College of Medicine. In addition, it described the main differences from the spot examination, which is normally used in traditional medical curricula.⁸

In 2015, Gaikwad AP & Patil AD in their study at BJ Medical College Pune, implemented OSPE to assess the knowledge on Embryology for the first time in India; among the Phase 1 MBBS students, for Anatomy. Their study revealed the feasibility for inclusion of Embryology in OSPE stations.⁹

So, as a whole, to be concluded, the traditional Practical examination lies upon the identification of structures on cadavers, window dissection, surface markings etc. and the oral viva is based upon the system of "tables" of osteology (two tables- appendicular and axial skeleton) as well as viscera (abdomen thorax and Head-neck-brain). In this traditional system of assessment the examiner, usually the senior faculties of the department, as appointed by the university, asks question to the student appearing in that table and the student needs to answer those questions. Such the assessment so far systemized by the universities has never been directed to be in any structured fashion. As a result the questions asked to the students get often differed from candidate to candidate. These modalities of assessment more often targets to the "knows" or "knows how" level of Miller's pyramid (competency level) and seldom achieves to the "shows how" or "does" level. So as per the guidelines laid by MCI, as well as aligned in the present CBME based module in Anatomy, OSPE can be successfully implemented with a proper structured fashion.

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REFERENCES

1. Medical Council of India. Competency based curriculum for the Indian Medical Graduate. Volume 1. Available in webpage as <https://www.mciindia.org/CMS/wp-content/uploads/2019/01/UG-Curriculum-Vol-1.pdf> [accessed on 27 Nov 2019]
2. Roll out plan for Competency based UG Curriculum. Available in website as <https://www.mciindia.org/CMS/wp-content/uploads/2019/01/rollout-plan-ug-1.pdf> [accessed on 27 Nov 2019]
3. Components of IA. Competency based assessment module for the Undergraduate curriculum 2019. Available in webpage as https://www.mciindia.org/CMS/wp-content/uploads/2019/11/Module_Competence_based_02.09.2019.pdf (PAGE NO. 10) [accessed on 27 Nov 2019]
4. Practical/Clinical examination. Competency based assessment module for the Undergraduate curriculum 2019. Available in webpage as https://www.mciindia.org/CMS/wp-content/uploads/2019/11/Module_Competence_based_02.09.2019.pdf (PAGE NO. 17) [accessed on 27 Nov 2019]
5. Van der Vleuten CPM. The assessment of professional competence: developments, research and practical implications. *Adv Health Sci Educ.* 1996; 1: 41-67.; as mentioned in; Competency based assessment module for the Undergraduate curriculum 2019. Available in web page as https://www.mciindia.org/CMS/wp-content/uploads/2019/11/Module_Competence_based_02.09.2019.pdf (PAGE NO. 3) [accessed on 27 Nov 2019]
6. Sood R, Singh T. Assessment in medical education: evolving perspectives, contemporary trends. *National Med J India.* 2012; 6: 357-60. as mentioned in; Competency based assessment module for the Undergraduate curriculum 2019. Available in webpage as https://www.mciindia.org/CMS/wp-content/uploads/2019/11/Module_Competence_based_02.09.2019.pdf (PAGE NO. 3) [accessed on 27 Nov 2019]
7. Ranjan R, Jain A, Bhujade R. OSPE In Anatomy: New Dimensions In Assessment. *Int J Anat Res* 2016, 4(1):1789-94. ISSN 2321-4287 1790
8. Yaqinuddin A, Zafar M, Ikram MF, Ganguly P. What is an Objective structured practical examination in Anatomy? *Anat Sci Educ* 2013 Mar-Apr; 6(2): 125-33
9. Gaikwad AP, Patil AD. An Introduction of OSPE for Embryology to First MBBS Students in Anatomy Department. *Sch. J. App. Med. Sci.*, 2015; 3(6B):2306-2308