

Effectiveness of an Online Viva Voce Workshop in Improving the Knowledge of Faculties of Various Health Science Courses in Mangalore, India

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Abstract

Introduction: Viva voce or oral examination is widely used to assess the cognitive domain along with attitude and communication skills of students. However, the role of traditional viva voce examinations has always been challenged for high stakes exams due to its poor reliability of assessment. Therefore, it is imperative to train faculty members in the correct procedures and assessment practices in viva voce examinations. Given the challenges faced due to the ongoing COVID-19 pandemic, an online faculty training program was conducted and evaluated.

Objective: To assess the effectiveness of an online faculty development programme in improving the knowledge of the good practices for the conduct of viva voce among faculty members.

Methods: This intervention-based study was carried out among 32 faculty members who were participants of an online workshop on viva voce. It was held at a private medical college in November 2020. Relevant knowledge of the participants before and after the workshop was assessed using multiple choice questions designed in Google Doc. Paired and Unpaired t-tests were used to test associations.

Results: The majority of the participants were faculties of clinical science subjects [17(53.1%)]. Their median years of teaching experience was 12.5(4, 25.7). Half of the participants attended this workshop to learn the recommended procedure for conducting a viva voce. The mean pre-test score among participants was 6.3±2.2, and the mean post-test score was 8.8±2.7 (t=4.381, p<0.001). Most participants gave a positive feedback about the workshop.

Conclusion: Based on the performance scores and the positive feedback given by the participants, this online workshop was found to improve their knowledge regarding good practice for conducting a viva voce. The training of teachers in the proper conduct of viva voce is essential at every teaching institution and can be effectively delivered using online platforms, as confirmed by this study.

Keywords: Viva voce, online workshop, faculty members, knowledge.

Изучение влияния онлайн-семинара по viva voce на профессиональное развитие преподавателей медицинских дисциплин в Мангалоре, Индия

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Аннотация

Введение: Устный экзамен широко используется для оценки когнитивных способностей и коммуникативных навыков студентов. Однако роль традиционных устных экзаменов при проведении квалификационной аттестации всегда ставилась под сомнение из-за низкой надежности оценки. Крайне важно обучить преподавателей правильным процедурам и методам оценки на экзаменах viva voce. Учитывая проблемы, вызванные пандемией COVID-19, программа обучения преподавателей была реализована в онлайн формате.

Цель: Оценить эффективность онлайн-программы повышения квалификации преподавателей с целью расширения знаний о передовой практике проведения устного экзамена viva voce.

Методы: Исследование было проведено среди 32 преподавателей, которые стали участниками онлайн-семинара по viva voce. Исследование было проведено в частном медицинском колледже в ноябре 2020 года. Знания участников до и после семинара оценивались с помощью вопросов, разработанных в Google Doc. В ходе анализа использовались парные и непарные t-тесты.

Результаты: Большинство участников были преподавателями клинических дисциплин [17 (53,1%)]. Их средний стаж преподавания составил 12,5 лет (4, 25.7). Половина участников прослушали семинар, чтобы ознакомиться с рекомендуемой процедурой проведения viva voce. Средний балл до тестирования среди участников составил 6,3±2,2, а средний балл после тестирования составил 8,8±2,7 (t=4,381, p<0,001). Большинство участников дали положительные отзывы о семинаре.

Выводы: Онлайн-семинар позволил преподавателям познакомиться с передовым опытом проведения viva voce. Обучение педагогов правильному проведению устного экзамена может быть эффективно реализовано с использованием онлайн-платформ, что подтверждается результатами данного исследования.

Ключевые слова: устный экзамен viva voce, онлайн семинар, преподаватели, знания.

Introduction

Viva voce means “by or with the living voice” or “by word of mouth”. It is an examination process in which the candidate demonstrates his/her ability to participate in an academic discussion with an examiner (University of Leicester, 2021).

It is an essential constituent of the assessment of learning in medical and allied health education programs. It provides unique insights into the capacity of the candidates to think critically (Orrock et al., 2014; Knight et al., 2013; Naqvi & Aheed, 2014). Ananthakrishnan (1995) stated that viva is widely used to assess the students’ attitude and communication skills, which cannot be evaluated in written exams.

Boon and Turner (2004) observed that traditional viva voce examinations have lower reliability due to examiner bias and use of recall type, lower-order Bloom taxonomic questions. Therefore, they suggested that it may not be appropriate to assess medical students who are expected to be proficient in the higher-order of learning, such as problem-solving and analytical skills, to become competent doctors in society.

Thomas et al. (1993) found that the reliability and validity of the viva voce assessment were questionable due to myriad issues. These issues were the candidate’s level of anxiety, inter-examiner rating inconsistency, examiner’s current mood, and preferences, as listed by Ganji (2017). Thomas et al. (1993) also observed that the questions asked to candidates by examiners were, at times, not in the context or in the curriculum.

To improve the assessment through viva voce examinations, there is a need to restructure the whole process of conducting it. The questions asked should not be wholly focused on ascertaining the recall of knowledge, but should explore the ability of the candidates to apply the knowledge. According to Cox and Ewan (1983), the assessment in viva voce should test the students’ skills in synthesizing and evaluating clinical information.

Results of prior studies support the finding that the validity and reliability of viva voce improve with the help of structured and standardized oral examinations (Davis & Karunathilake, 2005; Epstein, 2007). Framing of viva voce cards, each containing an equal number of structured questions with an equitable and progressive distribution of the learning domains helps to structure the viva (Imran, Doshi, & Kharadi, 2019). DesMarchais et al. (1989) found that structuring oral examination benefitted examiners too, by improving the consistency of their assessment scores.

Teachers should also prepare students for the requirements of viva voce examinations. These could include aspects such as the types of questions usually asked, competencies to be tested, and criteria identified for scoring. Cox and Ewan (1983) suggested that such initiatives would help students build their skills of being examined in viva in the right direction.

Therefore, it is imperative as a first step to train faculty members in the correct procedure and assessment in viva voce examinations. This will ensure that viva examinations are a less threatening experience for both the examiners and the students, as suggested by Cox and Ewan (1983). This study was therefore undertaken to assess the effectiveness of an online faculty development programme based on Resource Activity Support Evaluation pedagogical model (Churchill et al., 2013). The workshop aimed at improving the understanding of faculty members about the effective conduct of viva voce.

Materials and Methods

This intervention-based cross-sectional study was carried out among participants of a three-hour online workshop on viva voce held in November 2020.

The workshop was based upon the RASE pedagogical model for integrating technology in faculty training for the conduct of viva voce. Authentic **resource** was

developed in alignment with the learning objectives to engage faculty in the form of PowerPoint presentations and interactive small group activities conducted online. The learning objectives of the workshop were to know the good practices in the conduct of viva voce. The small group learning **activities** provided a learning experience for the participants by engaging with each other, and suitably, resources were provided to achieve the stated learning outcomes. **Support** for learning was provided through facilitator-participant interaction, interaction between participants, and with the help of resources provided. Participants were also encouraged to reach out to the facilitators thereafter for any support if required following the workshop. The **evaluation** of participant learning was done using pre and post-test questionnaires.

All the voluntary 32 participants and the four facilitators of this workshop were faculties of a private medical college in Mangalore. All facilitators are trained in medical education and hence were chosen as resource persons for the various sessions in this workshop. They also monitored the group activities of the participants during the workshop.

The Scientific and Ethics Committee of this institute approved the study protocol approved with the approval number IECKMCMLR-11/2020/325.

A pre and post-test questionnaire was designed in Google Docs for data collection. The questionnaires were content validated with the help of medical education experts from the institution. They were also pilot tested among five faculties who were not part of the workshop. The pre-test questionnaire took approximately 15 minutes to complete. The Cronbach's alpha value of the reliability of the pre-test questionnaire was found to be 0.829, indicating good internal consistency of the questionnaire. The pre-test questionnaire was posted in the chat box of Microsoft Teams before the start of the workshop. Both pre and post-test questionnaires were completed anonymously. In order to link the pre and post-test questionnaire, each participant was instructed to fill in the same five-digit Arabic numeric of their choice in both forms. To minimize the chances of repetition of the numeric chosen by the participants, they were instructed to use a numeric without repetition of the same number throughout (e.g.:11111) or by avoiding numbers in the sequence (e.g.: 12345).

The information sheet for this study and the consent form constituted the first page of both pre and post-test questionnaires. Participants not willing to participate in this research study were given the option to decline consent, thereby resulting in the submission of the blank questionnaire.

The consenting participants had to fill out a semi-structured questionnaire developed by the investigators following extensive literature search. The first section of the questionnaire inquired about age, gender, department, designation, years of teaching experience after post-graduation, whether they had completed any certified course in medical education, and if they had attended any previous training programme in conducting viva voce examinations.

The knowledge of participants regarding viva voce was assessed using 16 multiple-choice questions (MCQs) covering the didactic sessions featured during the workshop. Each MCQ stem was given four options, containing one right answer and three distractors. One mark was awarded for each correct answer. The participants were also asked to declare their perceived knowledge about various aspects of viva voce on a scale of 0 to 10 in the pre-test questionnaire.

At the end of the workshop, the post-test questionnaire was posted in the chat box of Microsoft Teams. It contained the same set of 16 MCQs as were listed in the pre-test questionnaire. The participants were again asked to declare their perceived knowledge about various aspects of viva voce on a scale of 0 to 10, this time, after the workshop.

After the submission of the post-test questionnaire by the participants, a feedback form designed in Google Doc was posted in the chat box. The feedback form was also content validated, and pilot tested before its use in this study. Feedback regarding the three didactic sessions on various parameters like content and delivery of the talk, explanations provided, use of audio-visual aids, and interactivity were designed on a five-point Likert scale. The ratings on this scale were “poor, average, good, very good, and excellent,” and the points awarded accordingly ranged from 1 to 5, respectively. Feedback on the time allotted for various sessions was rated on a scale of “not adequate, less adequate, and adequate”. The points awarded on this scale ranged from 1 to 3, respectively. Feedback on the pacing of the program was rated on a scale of “too slow and too fast,” each being awarded 1 point, and if “just right,” was awarded 2 points. The participants were also enquired about the effectiveness and usefulness of the breakout room activities, and their feedback on these aspects was rated on a five-point Likert scale. The ratings were “not useful, somewhat not useful, somewhat useful, useful, and very useful”. The points accordingly awarded on this scale ranged from 1 to 5, respectively.

Data entry and analysis were done using IBM SPSS for Windows version 25.0, Armonk, New York. Paired and Unpaired t-test were used to test association; p value <0.05 was taken as the criterion for stating a significant association.

Results

The mean age of the participants was 42.6 ± 10.9 years. The majority of the participants were females [18(56.3%)], and the majority were from faculties of clinical science subjects [17(53.1%)]. (Table 1)

Among the faculty members, 6 were from the Department of Surgery, 5 were from the Department of Paediatrics, 4 were from the Department of Audiology and Speech Language Pathology, 3 each was from the Departments of Anatomy, Pathology, and Internal Medicine, 2 each was from the Departments of Obstetrics & Gynaecology and Microbiology and one faculty each was from the Departments of Physiology, Biochemistry, Pharmacology, and Ophthalmology.

Their mean years of teaching experience after graduation was 14.4 ± 10.9 , and their median years of teaching experience was 12.5(4, 25.7). It ranged from 9 months to 34 years. (Table 1)

Twelve participants (37.5%) had completed a certified course in medical education in the past. Among them, 4 had completed training in a basic course in medical education, 2 had completed training in an advanced course in medical education, and 3 had attended various medical education-related training programmes conducted by Medical Education Department at this institution. Three participants did not specify the type of training they had completed in the past.

None of the participants in this workshop had attended any prior training programme in conducting viva voce.

Half of the participants were primarily interested in learning the recommended procedure for conducting a viva voce. Other participants wanted to know about other aspects of viva voce, such as the method to frame questions and the assessment procedure. (Table 2)

The first session of the faculty development programme (FDP) consisted of a didactic talk on the history, types, advantages, and disadvantages of viva voce. It was delivered using PowerPoint slides. The session lasted for 20 minutes. The differences between structured and unstructured viva voce, and the preparation of viva voce cards, were explained in this session. The advantages and disadvantages of viva voce were discussed interactively by engaging participants in brainstorming.

A group activity followed, wherein 32 participants were divided into 8 breakout groups in Microsoft Teams. In each group, it was ensured that there were no repetition of participants from the same departments. The most senior faculty member in each breakout room was assigned the responsibility of the team leader. Each facilitator monitored the proceedings in two breakout rooms.

There were two activities assigned to the participants in the breakout rooms. In the first activity, participants were asked to share their personal experiences of *viva voce*. The leader was assigned the responsibility of noting down the summary of the discussion. Later the leader of each breakout room was asked to present this summary in the main online room.

The second group activity was centered on sharing their prior understanding of do's and don'ts in *viva voce* by each participant. The points were listed in the One Notebook provided in Microsoft Teams. Both these activities in the breakout room were allotted 15 minutes for completion.

This was followed by re-grouping in the main online room. The summary of all the points listed by the different groups was displayed by the facilitators to all the participants using the option of One Notebook. This session lasted for 20 minutes.

The participants shared several personal experiences regarding the conduct of *viva voce*. One of the experiences included inadequate time allotted for *viva voce*. The participant perceived this would be a greater challenge for students who cannot think quickly while answering questions. Another participant shared that framing appropriate levels of questions in the learning domains to help distinguish the good, average and poor students was a difficult task. Another experience shared was that when questions were asked from limited topics, it could bring in prejudice due to the chance factor.

A few participants also reported that students with sound theoretical knowledge may not always answer well in *viva voce*. This was because of their inability to express their ideas well in the limited time allotted for the assessment.

One of the participants found the practice of asking the same question to all students undesirable, as students who had finished the *viva* could reveal the questions asked to other students waiting to be assessed.

Another personal experience shared by a participant was that examiners tend to get fatigued after conducting *viva voce* for the initial group of students. Therefore, the latter group of students gets the benefit of the circumstances, as they are asked relatively easier questions just to finish the assessment schedule. Another contrary view on this issue raised by participants was that students who turn up later for the assessment are asked more vague questions from less familiar topics. This was because examiners themselves tend to get bored by asking usual questions from important topics towards the end of the assessment. These participants also reported that the students assessed at the end to be more tensed as they had to wait for their assessment to be completed, while their classmates would have already left after finishing their assessment.

The Do's in *viva voce* examinations listed by the participants in the One Notebook were:

- The examination environment should be comfortable for the students.
- Examiner should give time for the student to compose himself/herself before answering.
- Examiners should maintain eye contact with the students.
- Make and use a *viva* card with sets of questions – must know, good to know, nice to know.

- Questions should be arranged in a graded fashion from easy, moderate to tough questions.
- To build rapport and confidence among students, examiners initially need to ask some basic and easy questions.
- Nervous students need to be asked closed-ended questions. As they start answering, more open-ended questions can be asked. This will encourage them to speak more.
- Question wordings should be simplified for students with language barriers.
- Examiners should not restrict themselves to theoretical questions but should also ask clinical and applied questions.
- Examiners need to have adequate topic coverage in the assessment process to eliminate bias.
- Examiners need to stick to the syllabus and not overshoot.
- Examiners should balance time availability for assessing each candidate to maintain uniformity in the assessment.
- Examiners should sit together and discuss student's performance, as practiced during clinical examinations, to avoid uneven marking or bias.
- The entire viva voce session should be recorded so that the examiners won't be blamed for the poor performance/failure of candidates.
- Mock viva with feedback should be frequently carried out for the benefit of the students.

Some of the misconceptions arising from the Do's listed by the participants, as amplified by the facilitators, were:

- Examiners should draft the viva cards.
 - Students experiencing complete blankness while answering, need to be given strategic time out to help them remember the answer.
 - Tensed students should be asked questions from topics with which they are comfortable, followed by questions planned to be asked.
 - The same type of questions should be asked to all the students.
 - Clues need to be given to help students who are performing poorly in the viva voce.
 - Examiners should reassure the student when he/she answers right.
 - The attendance of observers should be encouraged during viva voce proceedings.
- The first to final year post-graduate students will benefit from this experience.
- Viva voce assessment should be part of the clinical examination, and 20% of clinical examination marks can be allotted for viva voce.

The don'ts in viva voce examinations listed by the participants in the One Notebook were:

- Avoid examiner bias while assessing the students.
- Do not interrupt or distract a student while they are answering.
- Avoid persisting on a question wrongly answered by the student as it will reduce the time for assessment.
- Avoid irrelevant personal questions.
- Any prior rifts with candidates should not be settled by lowering marks in viva.
- Examiner should not be judgemental.
- When students do not know any particular answer, the examiner should not engage them by explaining to them the right answer.
- Do not make fun or make any negative remarks if the student gets the answer wrong.
- Do not unnecessarily give appreciation for the answers given by the students.

- Candidates should not be made to feel that they have performed badly.
- Do not assess the students based on their prior performance in clinical or practical examination.
 - It is bad practice to have a long case (it constitutes a complete assessment of clinical history taking, physical examination, and arrival at differential diagnosis) immediately followed with viva voce. This will lead to students who have performed badly in the long case to perform poorly in viva voce too.
 - An internal examiner should not give positive or negative feedback about candidates to other examiners.
 - Candidates who finished the viva should not be allowed to interact with students who are about to take the viva.

The experience-sharing session was followed by a PowerPoint presentation on the procedure of conducting a viva voce examination and its assessment methodology. This session was conducted for 35 minutes. The various misconceptions of participants identified during the experience-sharing session were clarified during this session.

This session was followed by another breakout room activity on conducting viva voce. The participants were grouped into the same room as in the previous group activity. As previously noted, this ensured that none of the four participants in each breakout room were from the same department.

The leaders in each breakout room were given the responsibility of forming an examiner-student pair and an observer pair. The examiner was instructed to conduct a five-minute viva voce for the student on any topic of their choice. At the end of five minutes, role reversal took place, and the return viva was conducted for another five minutes. This formed an excellent background of basic science faculty asking applied questions to clinicians and vice versa. After the two viva sessions, the two observers were instructed to give feedback for both sessions for a time duration of 1 minute each.

In the next cycle of group activity, the examiner-student pair interchanged roles with the observers' pair, and the same process was repeated. The leaders were requested to keep track of time for each component of the group activity. To help the examiners frame suitable questions touching various difficulty levels of the cognitive and affective domains as identified in Bloom's taxonomy, a verb list was posted under the files section of each breakout room. To assist the assessing of the student performance, a standard rubric prepared by the University of Exeter Medical School (2020) was also posted. Similarly, to help observers assess the examiner's performance, a checklist of dos and don'ts covered in the didactic session was posted in the file section. Each facilitator closely monitored the activities in the allotted two breakout rooms. The entire session was conducted within 30 minutes. There was no de-briefing of the proceedings in the main online room after the end of this group activity.

It was followed by the final didactic session on psychometric analysis in viva using PowerPoint slides. Measures to improve validity and measures to assess the reliability of viva voce examination were covered in this talk. This session was of 15 minutes duration. This was followed by filling out the post-test questionnaire and the feedback form by the participants of this workshop.

Performance scores of the participants in the pre and post-test

The mean pre-test score among participants was 6.3 ± 2.2 ranging from 0 to 11. The mean post-test score among participants was 8.8 ± 2.7 ranging from 3 to 13. There was a significant average difference between pre and post-test scores ($t=4.381$, $p<0.001$).

The median pre-test score was 6, with Lower Quartile as 4.5 and Upper Quartile as 7. Its Lower Extreme was 3, and Upper Extreme was 9. The median post-test score was

9, with Lower Quartile as 7.5 and Upper Quartile as 10.25. Its Lower Extreme was 3, and Upper Extreme was 13. (Figure 1)

The participants rated the baseline perceived knowledge of various aspects regarding viva voce before the workshop with scores above 5 on a rating scale of 0 to 10. This was probably because the participants had a good teaching experience. Perceived knowledge regarding types of viva voce, guidelines for conducting viva voce, and psychometric analysis in viva voce improved after the workshop and were rated with scores above 7 by the participants. The differences in mean perceived knowledge scores before and after the workshop were found to be statistically significant ($p < 0.001$). (Table 3)

There was no association of pre-test scores with age ($p = 0.92$), gender ($p = 0.164$), years of teaching experience ($p = 0.598$), and history of completing any certified course in medical education in the past ($p = 0.681$), among the participants.

Similarly, there was no association of post-test scores with age ($p = 0.768$), gender ($p = 0.87$), years of teaching experience ($p = 0.731$), and history of completing any certified course in medical education in the past ($p = 0.743$), among the participants.

During the question-and-answer session, participants raised several concerns with viva voce examinations, which were addressed by the facilitators. (Table 4)

The feedback was taken during the last 5 minutes towards the end of the three-hour long workshop. Therefore, a good number of participants left the meeting soon after filling out the post-test questionnaire or filled out the feedback form incompletely. The feedback form was filled completely by 19 out of the total 32 participants.

The feedback given by these participants was good or above for various parameters concerning the didactic sessions. The effectiveness and usefulness of the breakout room activities were reported to be “very useful” by 6, “useful” by 6, and “somewhat useful” by 7 among the 19 participants. The time allotted in breakout rooms was reported “adequate” by 17 and “less adequate” or “not adequate” by one participant each. The overall pacing of the entire workshop was reported “just right” by 16 participants and “too slow” by 3 participants. (Table 5)

Discussion

Viva voce examinations have always been the center of controversies. The proponents of this mode of assessment have stated several advantages compared to other assessment methods. These include direct personal contact with candidates; help in the assessment of personality (Cox, 1982); assessment of professional behaviour (Pearce & Chiavaroli, 2020); assessment of problem-solving and clinical reasoning (Wass et al., 2003; Pearce & Chiavaroli, 2020); assessment of ethics and professionalism (Wass et al., 2003); scope of ascertaining the depth of understanding (Jolly & Grant, 1997) and flexibility in shifting from one area to another (Gibbs et al., 1988). Unlike written examinations where the same set of questions are asked to all candidates, in viva voce, a varied range of questions can be asked (Wass et al., 2003).

However, others have criticized viva's role in high-stakes assessment systems. This is due to issues concerning its poor reliability (Thomas et al., 1993), that it largely tests only factual knowledge, and lacks standardization (Davis & Karunathilake, 2005). Therefore, Wakeford, Southgate and Wass (1995) suggested that examiners need to be trained in methods to improve the reliability of viva voce assessments. Their performances also need to be regularly monitored. Hence, workshops such as this are essential in various teaching institutions.

The facilitators of this workshop identified several misconceptions in relation to the conduct of viva voce among the participants. These misconceptions were proactively addressed during the conduct of the workshop to ensure uniformity in the conduct of

viva voce examination. The participants of the workshop were encouraged to use viva cards. However, the same was suggested to be drafted and validated before the viva voce examination. It was also stated that every student must be provided equal time during the assessment and should encompass questions from a range of topics. Inadvertent clues and student reassurances or prompting were advised to be strictly discouraged.

In relation to prompting in viva voce, Pearce and Chiavaroli (2020) suggested that the taxonomy of prompting constitutes task presentation, repetition of the information, clarification of the question, and then probing questions being asked by the examiners. An undesirable last stage of prompting constitutes leading questions that pose a significant threat to validity and is not recommended in any viva voce examination (Pearce & Chiavaroli, 2020). Therefore, whenever an oral assessment is scheduled, examiners should have been appropriately trained in the type and extent of prompting that is permitted (*ibid.*). The policy to be followed should be agreed upon by all the examiners in advance to ensure consistency and transparency in the assessment procedure (Harden et al., 2015).

One of the reasons for poor reliability in viva voce assessment is the bias introduced by the examiner's pro-active participation in the questioning process. This may be due to an imbalance in the difficulty level of questions asked by different students, the level of prompting, and the occurrence of incorrect learning outcomes being assessed by them (Davis & Karunathilake, 2005). Examiners are often unaccustomed to the undesirable autonomy of framing fresh questions (Wass et al., 2003). Davis and Karunathilake (2005) reported such concerns to be common in unstructured viva voce examinations and any norm-referenced assessment system.

Variation in the content matter addressed in the traditional viva voce by examiners adversely affects the validity of the assessment. The appropriate and consistent way of setting the question also becomes important. Wass et al. (2003) reported that this could be ensured by structuring the viva using the viva card, which should help in the standardization of the questions asked.

The advantages of structuring the viva voce as identified in previous studies were: making it easier to conduct the exam (Bagga et al., 2016), less time consuming (Imran et al., 2019; Bagga et al., 2016), providing equitable questions (Imran et al., 2019), ensuring broader coverage of the content (Bagga et al., 2016), framing objective and unbiased assessment (Bagga et al., 2016), grading candidates reliably (Imran et al., 2019), and good reliability of assessment (Ganji, 2017; Anastakis et al., 1991).

Davis and Karunathilake (2005) stated that a structured oral examination can also be delivered by building on the platform of a clinical case. They suggested that structured oral examination with well-defined goals provides great insight into students' knowledge, problem-solving skills, and attitudes. Kearney et al. (2002) supported this and said that such measures would give an insight into the interpretation ability and problem-solving capabilities of candidates.

Training on this aspect was given to the participants of this workshop. They were also made aware of the criterion-referenced system in which the performance of the candidate is based on whether he/she has achieved a pre-determined standard as specified in the learning objectives. This can be done by raising more questions on a selected topic, which helps examiners explore deeper understanding within the allotted time (Jolly & Grant, 1997; Gibbs et al., 1988; Cox, 1982).

Swanson (1987) felt that the variation in performance of candidates across cases is another concern in clinical competence testing. One of the participants in this online workshop had also stated that asking questions from several topics will minimize the "chance factor" in answering questions. Therefore, to ensure that the assessment of the candidate is consistent, Wass et al. (2003) suggested that a broad sampling of questions

needs to be asked to ensure a comprehensive assessment. Therefore, examiners need to be swift in action. As soon as a judgement is made, a new question needs to be asked from a different area. The examiners are expected to ask as many questions as possible from those listed on the viva card in the given time, with in-depth questioning of certain topics in line with the course objectives. Thus, Wass et al. (2003) felt that much planning is involved in conducting a viva. In their study, which was undertaken in the United Kingdom, it was found that increasing the testing time and the number of topics had a more positive impact on the reliability of the oral assessment than increasing the number of examiners. The time allotted to each candidate, therefore, needs to be planned beforehand among the examiners.

One of the participants in this workshop had the misconception that examiners should reassure the student when he/she answers right. However, Pearce and Chiavaroli (2020) recommend that examiners need to be dissuaded from either reassuring or discouraging students after each answer. Such gestures could influence the candidate's state of mind and subsequent performance. They suggested neutrality in interaction with the candidates, inclusive of neutrality of body language during the viva voce.

Assessment in an oral examination is another area where there could be wide differences in marking among examiners. Hairer (n.d.) suggested that this problem could be solved if examiners could sit together and discuss individual student performance soon after the viva voce examination, as also suggested by one of the participants in this workshop.

One of the participants of this online workshop discussed the role of environmental factors in the successful conduct of viva voce examinations. Davis and Engward (2018) reported that the students in their study had identified environmental factors like the viva room, the location of the seating, the room temperature, and the presence of outside light inside the room that had influenced their performance in the viva. Having been greeted by the examiner, shown where to sit, provided with water to drink, and on being told that they had time to settle down made the students experience a feeling of reassurance before the viva began.

In the same study, students also found the practice experience of a mock viva very useful for the actual viva. It mentally prepared them to anticipate the emotions and the full range of questions in the final viva voce. One of the participants of this online workshop discussed the need for mock viva as a part of formative assessment. These observations indicate that the candidate's performance in the viva voce can be validly bettered by the preparatory experiences before the start of the viva. The facilitators gave briefing regarding these issues to the participants of this workshop.

Conclusion

Viva voce is considered one of the valid examination methods, allowing examiners to distinguish superficial from deep learning among students, if conducted as per guidelines. This online workshop helped improve the faculty members' knowledge about the good practices for conducting a viva voce examination. The facilitators corrected certain misconceptions among them with respect to the same. The participants' positive feedback reflected their satisfaction with this workshop. Therefore, such online training programmes are recommended as being essential at every teaching institution and can be implemented effectively even during the ongoing COVID-19 pandemic.

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Tables

Table 1. Socio-demographic distribution of the participants

<i>Characteristics</i>	<i>Number of participants</i>	<i>Percentage</i>
Age group (years)		
26-30	5	15.6
31-35	6	18.7
36-40	4	12.5
41-45	4	12.5
46-50	3	9.4
51-55	3	9.4
55-60	7	21.9
Gender		
Males	14	43.7
Females	18	56.3
Specialty		
Preclinical subjects	5	15.6
Para clinical subjects	6	18.8
Clinical subjects	17	53.1
Allied health sciences	4	12.5
Designation		
Professor	7	21.9
Additional Professor	1	3.1
Associate Professor	10	31.2
Assistant Professor	8	25.0
Senior Resident	4	12.5
Tutor	2	6.3
Teaching experience after graduation (years)		
<1	2	6.3
1-10	12	37.5
11-20	9	28.1
>20	9	28.1
Total	32	100.0

Table 2. Expectations of participants of the online viva voce workshop (n=32).

<i>Expectations*</i>	<i>Number of participants</i>	<i>Percentage</i>
Learn the recommended procedure for conducting a viva voce	16	50.0
Learn the dos and don'ts while conducting viva voce	6	18.8
Learn ways to improve the current practice of conducting viva voce	3	9.4
Learn about how to frame questions in viva voce examinations	2	6.2
Learn about the recommended procedure for assessing the students	2	6.2
The concept of the workshop was itself innovative and therefore felt interested to attend	1	3.1
Learn about measures to make the viva voce more interesting for both the examiners and the students	1	3.1
Learn of measures to leave a positive impact on the students after conducting viva voce examination	1	3.1
Learn some innovative ideas regarding viva voce	1	3.1
Learn about guidelines as to what extent students can be possibly assisted in answering questions	1	3.1
Learn the exact norms and rules for conducting viva voce	1	3.1

*Multiple responses

Table 3. Self-perceived knowledge regarding viva voce among participants before and after the online workshop (n=32).

	<i>Before the online workshop</i> <i>Average score</i> <i>± S.D.</i>	<i>Minimum score,</i> <i>Maximum score</i>	<i>After the online workshop</i> <i>Average score</i> <i>± S.D.</i>	<i>Minimum score,</i> <i>Maximum score</i>	<i>t value</i>	<i>p value</i>
Self-perceived knowledge regarding types of viva voce	5.8±1.9	2,9	7.8±1.2	5,10	5.386	<0.001
Self-perceived knowledge regarding guidelines for conducting viva voce	5.8±1.7	2,9	7.7±1.2	5,10	6.245	<0.001
Self-perceived knowledge regarding psychometric analysis in viva voce	5.5±2.0	1,9	7.6±1.3	5,10	6.202	<0.001

Table 4. Solutions given by facilitators to various issues raised by participants in relation to viva voce

Solution No.	Questions/Concerns raised by participants in relation to Viva voce	Answers/Solutions given by the facilitators
1	How was the assessment in bedside clinical case presentation different from the assessment in viva voce examination? Considering the fact that questions based on Bloom's Taxonomy are part of both of these assessments.	Bedside clinical case presentation can assess the psychomotor domain, which is very minimally assessed in viva voce. Facilitators also stated that, as there were only a finite number of cases available for bedside assessment, cases rarely seen as part of bedside assessments can be asked in viva voce examinations. Moreover, they replied that questions meant to assess basic sciences knowledge and recent updates in the field could be additionally asked during viva voce examinations.
2	Why should the examiners give no indication of the outcome of the viva voce? It may so happen that when no indication of the performance was revealed, the student may falsely interpret it as good performance.	Facilitators said that this problem could be best solved with the help of a complete video or audio recording of the entire viva voce session. However, in situations where this facility wasn't available, it was suggested to simply state "yes" or "no" responses to the answers.
3	Is it okay for the students to say that they did not read the topic related to the question? Therefore, they expect examiners to ask alternative questions from other topics.	Facilitators replied that accommodating such student's requests, would introduce bias in the assessment. The questions from the randomly chosen viva voce card should be strictly adhered to, and students failing to answer these questions should be suitably awarded no marks for their non-answer. Students must also be trained in the dos and don'ts in viva voce during the preparatory mock exams to avoid asking such requests.
4	Another comment in the discussion was how viva voce was planned to be conducted in Competency Based Medical Education (CBME) batches of students.	It was replied that, under CBME, marks in viva voce would be added to the practical marks and not to the theory marks as used to happen previously. In addition, it was mentioned that a viva voce exam might not happen at the end of the day. It may start even before the practical exams. In the CBME curriculum, viva voce will be a mode of assessment in clinics, skill labs, and practical examinations. Most of the "shows how" level of competencies and "knows how" level of competencies based on Miller's pyramid can be assessed using the viva voce examination.

Table 5. Feedback of the online session on viva voce among the participants (n=19).

Characteristics	Average feedback score \pm S.D.
Feedback regarding didactic sessions	
Content of the talk	4.2 \pm 0.8
Delivery of the talk	4.0 \pm 0.8
Explanations provided	4.0 \pm 0.9
Use of audio-visual aids	4.0 \pm 0.9
Interactivity	4.1 \pm 0.8
Time allotted for the PowerPoint session talks	3.0 \pm 0.0
Effectiveness and usefulness of the breakout room activities	3.9 \pm 0.8
Time allotted in breakout room sessions	2.8 \pm 0.5
The overall pacing of the program	1.8 \pm 0.4

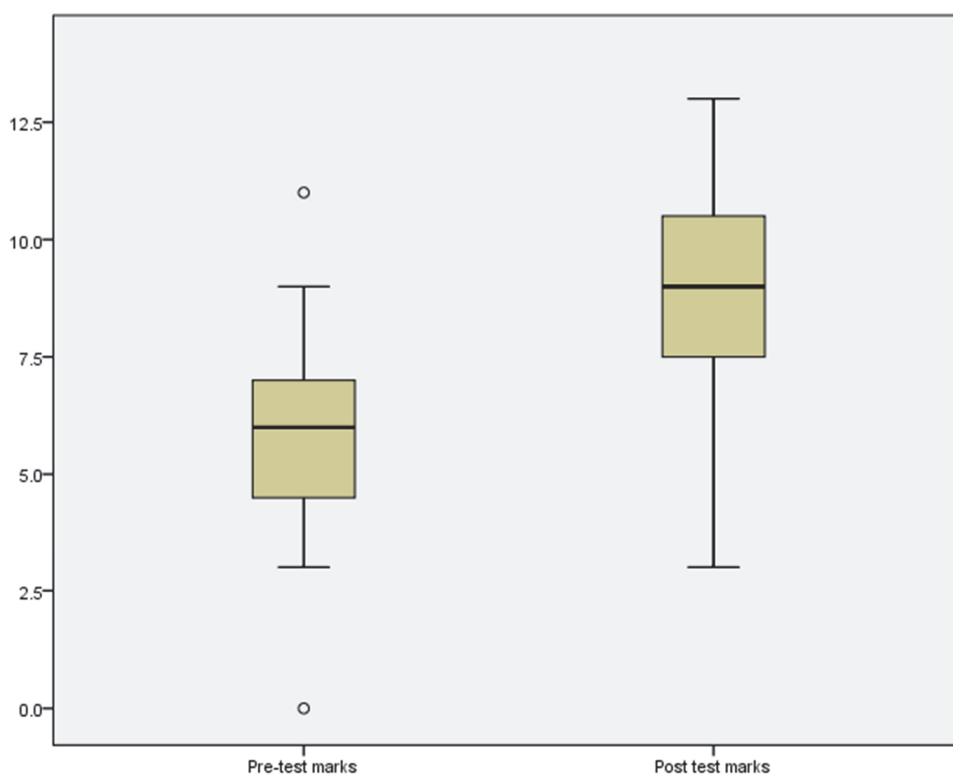


Figure 1. Distribution of pre and post-test scores among the participants (n=32).