

From Curriculum To Examination Paper: Lessons On Setting Viva Voce



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Outline

- Definitions and descriptions
- Applications of viva voce
- Evolution of viva voce
- The structured viva voce
- Support systems for a good viva examination
- Construction of viva test items
- Conclusion



What is viva voce?

- Viva = live
- Voce = voice
- Viva voce = An examination mode in which a candidate makes verbal responses to test challenges



What can the viva voce test?

- Viva voce can test across all cognitive domains.
- It is however highly suited for testing:
 - Critical thinking through clinical scenarios
 - Organisation of thought
 - Communication skills – ability to convey information in acceptable language
 - Professional attitudes and specialty-specific characteristics
 - Rapid response to sudden academic and clinical scenarios



What else?

- Viva voce gives opportunity to observe a candidate's
 - State of confidence and self-assuredness
 - Ability to perform under stress



Viva voce and cognition domains

- Viva voce can test across all cognitive domains
 - FROM Level One - Remembering and Understanding
 - THROUGH Level Two - Applying and Analysing
 - TO Level Three - Evaluating and Creating



Choice of test items for viva voce

- Theoretically, any test item can be used for viva voce simply by asking examinees to provide verbally responses.
- In practice however, this should not be so.
 - Test items requiring reproduction of didactic learning are best left for MCQ
 - Still and motion pictures should be used for OSPE
 - Demonstration of clinical skills should be tested as part of the clinical examination



Special strengths of viva voce — 1

More than MCQ and Short Essays and

More like Long Essays,

Viva voce has the ability to test communication skills at Level Three and particularly, the “Creating” level of the Revised Bloom Taxonomy



Special strengths of viva voce — 2

- Behind and beyond evaluating scenarios and creating new situations, viva voce is well positioned for testing:
 - Critical thinking through of clinical scenarios
 - Organisation of thought
 - Communication skills – ability to convey information in acceptable language
 - Professional attitudes and specialty-specific characteristics
 - Rapid response to sudden academic and clinical scenarios

**** Development of viva test items must focus on these facts to produce the best results***



Demands of validity, reliability and fairness

- Viva must be able to discriminate between competent and incompetent candidates.
- Viva results must be reproducible under the same conditions.
- Candidates and examiners should be able to admit that contents and phrasing of test items have been within the scope prescribed by the curriculum
- Candidates have operated on a level playing field and the test has been administered under conducive conditions.



To enhance fairness

- All candidates answer the same questions.
- Allotted time is mostly spent by the candidate addressing test items.
- No or minimal interruptions of candidates.
- Test items are written down and moderated in advance.
- Candidates read out the test item as a check that examiners that the item matches the scoring guide.



Evolution of the viva voce — 1

The unstructured viva (first generation):

- Test items were generated on the spot and verbally posed to the examinee.
- Sometimes, it was agreed that each candidate should respond to two or three items.
- Often, it did not quite work out that way because examiners tended to interject and interrupt by disagreeing with candidates and by introducing subtasks.
- No standardisation of test items and no grading guide.



Evolution of the viva voce — 2

The unstructured viva (second generation):

- A number of test items were generated on the spot and written down.
- The candidate randomly chose one at a time until the time was up.
- The added advantage was that the candidate got to make a choice.
- Again, no standardisation and no grading guide.



Evolution of the viva voce — 3

The unstructured viva (third generation):

- Test items were developed in advance and typed out as flashcards
- Once again, the candidate made random picks.
- Added advantage: there was more time for the examiner to think through and adjust test items before banking.
- However, marking guides were not necessarily part of the setup.



The structured viva — 1

Structuring necessarily involves:

- Developing test items well in advance
- Reviewing items for content and phrasing
- Opportunity for standardisation
- Checking items for coverage of cognition levels
- Checking items for agreement with the table of specifications



The structured viva — 2

- Structuring test items is complimented by:
 - Developing a marking/grading guide and
 - Checking the guide for congruity with the test item



Determinants of good outcome with viva voce — 1

- Thus, success of structured viva voce depends on:
 - o The intrinsic value of the test item
 - o Comprehensiveness of the marking/grading guides and rubrics
 - o Good application of marking/grading guides and rubrics



Determinants of good outcome with viva voce — 2

These measures overcome the disadvantages of the “traditional” oral exams, namely:

- subjectivity,
- lack of objectivity,
- challenged validity, reliability and fairness.

The net effect is a healthy enhancement of assessment metrics.



Limitations of viva voce

Time constraints greatly reduce coverage of a wide part of the curriculum.

Thus, care must be taken to reduce overlap with species of test items mounted for other sections of the examination.

Specifically, effort must be made to ensure delineation of knowledge sets and skills to be tested by viva as distinct from MCQ, Pictorial tests and Clinical examinations.

This should leave more opportunity for viva voce to concentrate on its major strengths.



Framing viva voce questions

- Back end considerations
 - The letter and the spirit of the training curriculum
 - Consult the table of specifications
 - How much time is allocated?
 - How many test items are prescribed?
 - From which domain of the training curriculum would the test items for a particular examination diet be drawn?
 - What knowledge or skill is to be tested?



Two parts of the viva voce test item

- Background, setting or scenario
- The test challenge



Construction of viva voce items — 1

First, identify the knowledge and/or skills to be tested.

§ Use multiple subtasks rather than one single challenge.

§ Use subtasks to target different levels of cognition.

This provides opportunity to interrogate ability over a wider range and depth, so as to properly evaluate the candidate's ability.

§ Minimise the use test items that call for single word responses unless some degree of thought process is required to arrive at the response.

§ Prefer test items that force the examinee to discuss and argue a position



Construction of viva voce items — 2

§ Wherever possible, ask for a specific number of responses should be requested e.g., identify three ethical issues in the presented scenario.

Requesting numbers helps to focus the candidate and provides a level ground for awarding marks.



Construction of viva voce items — 3

@ Question should be:

- clear
- short
- precise
- unambiguous

@ Sub tasks should be covered in proper sequence



Content of viva voce items — 1

- @ Equitable proportions of information groups should be covered:
 - Must know (70%)
 - Good to know (20%)
 - Nice to know (10%)

- @ Different domains of cognition should be tested in the right proportions:
 - Level One (20%)
 - Level Two (30%)
 - Level Three (50%)



Content of viva voce items — 2

Examiners must resist the temptation to:

- (i) concentrate on small print or to
- (ii) dig deep into subspecialty stuff to raise test items.



Content of viva voce items — 3

Guiding questions:

- To what extent will success in a test item testify to a candidate's admissibility to the next level of certification?
- To what extent will failure at demonstrating such ability detract from a candidate's admissibility to the next level of certification?



Content of viva voce items — 4

If responding correctly or wrongly to a test item is not critical to deciding whether a Membership candidate can function competently as a specialist, such an item should not play a major role in the certification process.



The Marking Guide

- Viva voce loses a lot on reliability and fairness if not accompanied by a well-developed marking guide
- The guide should be as complete as possible



The good marking guide:

- Responds to the task assigned to candidates.
- Allots marks to each sub-task.
- Takes into consideration the certainty that candidates will approach responses in different words and ways.



Using the marking guide

- In recognition of the fact that correct answers may be offered in different ways:
 - The context of the response should be considered while awarding marks, rather than exact words, unless specific expressions are core to the correct response.
 - Precision in framing test items should help minimise wide variations in response patterns, and hence, subjectivity in grading.



Don'ts of grading viva performance

- Much as it is offensive, poor grammar and inappropriate mannerisms should be ignored in grading responses.
- Do not carry impressions formed during responses to one test item into the next. Each test item should be judged independently.
- Do not show emotions - positive or negative.
- Minimal or no disruptions or interruptions.
- Be distracted, especially by mobile phones.



Training of examiners

- If there is one thing I learnt from Dr. Kanu Nkanginieme, it is that trainers must be trained in examination techniques.
- Irrespective of status and years of experience, each trainer must first take the position of a learner, go through the grill before returning to the position of a trainer.



Benefits of training examiners

- There are some immediate benefits
 - The trainer becomes used to the examination technique
 - The trainer is better able to see things from the learners' perspective
 - A larger pool of examiners submitting usable test items and marking schemes
 - Better consistency in grading of examination performances



Modalities of presenting the viva challenge

- All subtasks are presented to candidates at the same time
- Candidates choose their sequence of tackling the sub-tasks
- ***This is a more traditional way of doing things***

OR

- Information is released piecemeal and sequentially
- Candidates are presented with subtasks as more information is released
- ***This system encourages the examination to employ a lot of clinical reasoning but it does place a heavy demand on time***



For example: Scenario

5-year-old child, the only child of the parents, is referred to you with protracted bleeding from a scraped knee, following a fall scraped knee. He is otherwise well and had ingested no medicines. Prior to referral, an inquisitive intern had ordered some tests which showed normal packed cell volume, leucocyte counts and platelet count. Physical examination was normal apart from the right knee which was continuously oozing blood.



Sequential release of information and subtasks - 1

Section 1

Subtask

A. Outline eleven (11) critical questions you would ask to discern the probable cause of the symptom.

To the candidate

1. The examiners will provide responses to each of your question.
2. Note the responses as they will be needed to address further tasks.



Sequential release of information and subtasks - 2

Section 2

Background

Based on the interactions so far:

Subtasks

- B. What would be your primary diagnostic consideration and why?
- C. Mention and briefly discuss two differential diagnoses.



Sequential release of information and subtasks - 3

Section 3

Background

Your consultant requests a “clotting profile”.

Subtask

D. How would the results of this group of tests assist in the diagnostic process?



Grading table for Section 1

			Scores	
	Expected responses	Reply	Max	Earned
1	Previous bleeding?	Yes	1	
2	If yes, bleeding site?	The other knee	1	
3	How was it treated?	Pressure	1	
4	Previous blood transfusion	No	1	
5	Prolonged post-circumcision bleeding	No	1	
6	Bleeding in the extended family?	Yes	1	
7	If yes, how many are affected?	One	1	
8	If yes, male or female?	Male	1	



Grading table for Section 1 (continued)

			Scores	
	Expected responses	Reply	Max	Earned
9	Specifically, maternal uncle?	No	0.5	
10	Specifically, male maternal cousin?	Yes	0.5	
11	Any affected paternal relatives?	No	1.0	
ALTERNATIVELY				
9b/11b	Is the affected relative maternal or paternal?	Maternal	1	
10b	Who is the affected relative?	Cousin	1	



Marking guide for Section 2

What would be your primary diagnostic consideration and why?

Haemophilia A (2 marks)

- (i) Protracted bleeding from minor trauma (1 mark)
- (ii) The patient is a male and the disease is mostly X-linked recessive (1 mark)
- (iii) The only affected relative is male and on the maternal side (1 mark)



Marking guide for Section 2 (continued)

Mention and briefly discuss two differential diagnoses.

1. Haemophilia B (2 marks)

- (i) Protracted bleeding from minor trauma (1 mark)
- (ii) The patient is a male and the disease is mostly X-linked recessive (1 mark)
- (iii) The only affected relative is male and on the maternal side (1 mark)

2. Von Willebrand disease (2 marks)

- (i) Protracted bleeding from minor trauma (1 mark)
- (ii) Both males and females may be affected (1 mark)
- (iii) This would have been placed higher if family history of affected individuals had been extensive enough to include females (1 mark)



Marking guide for section 3

Clotting profile and the diagnostic process?

	Platelet count	Prothrombin time	Partial thromboplastin test
Haemophilia A	Normal	Normal	Prolonged
Haemophilia B	Normal	Normal	Prolonged
Von Willebrand disease	Normal but may be low	Normal	Normal



Concluding remarks

- For the past several minutes, we have navigated through the essentials of viva voce (and in some sense, examinations in general).
- Strengths, weaknesses and strengthening of viva as a mode of examination were broached.
- The role of marking guides and examiner training were emphasised.



Bibliography

Moleyar, Vishnu Sharma. How to Conduct Medical Viva. Medical Journal of Dr. D.Y. Patil Vidyapeeth 11(4):p 374-378, Jul–Aug 2018. | DOI: 10.4103/mjdrdypu.MJDRDYPUPU_171_17

Kumar P. Structured oral viva. <https://slideplayer.com/slide/13014256/>
Accessed March 22, 2025.

Afroze SR. Structured oral examination. <https://slideplayer.com/slide/14390005/> Accessed March 22, 2025.

Abuzied AIH, Nabag WOM. Structured viva validity, reliability, and acceptability as an assessment tool in health professions education: a systematic review and meta-analysis. BMC Med Educ. 2023 Jul 25;23(1):531. doi: 10.1186/s12909-023-04524-6. PMID: 37491301; PMCID: PMC10369684

Western Sydney University. Designing and assessing vivas. 2020.
https://www.westernsydney.edu.au/_data/assets/pdf_file/0011/1757837/Designing_and_Assessing_Vivas.pdf

Sadiqa A, Khalid A, Anjum A. Appraisal of Objectively Structured Viva Voce as an Assessment Tool by the Medical Undergraduate Students through Feedback Questionnaire. P J M H S Vol. 13, NO. 1, JAN – MAR 2019: 53–56.

Dhasmana DC, Bala S, Sharma R, Sharma T, Kohli S, Aggarwal N, Kalra J. Introducing structured viva voce examination in medical undergraduate pharmacology: A pilot study. Indian J Pharmacol. 2016 Oct;48(Suppl 1):S52-S56. doi: 10.4103/0253-7613.193308. PMID: 28031609; PMCID: PMC5178057

Thank you!!!