



## Vetting of Examination Questions: Are we Adequate?

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### Introduction

The vetting of examination questions is an essential process in medical institutions and is considered mandatory to maintain quality standard of any examination [1]. A medical education program for its assessment part cannot be run without this important procedure of examination process. Vetting sessions are not only used for screening of questions towards technical and language problems but vetting is also used to generate the content-related validity of assessment questions [2]. An exclusive session for content-related validity of question, if at all practiced, is done before the students actually take the examination. Arrangement of content validity session however, require calling upon a number of subject experts, briefing them on purpose of assessment, program modules and its learning outcome to evaluate the content validity of items and measures. Most of the institutions do not find this process feasible and alternatively, responsibility goes to the vetting team whose job is to consider examination questions for compliance of technical and

language as well as content aspects. This makes the vetting process a serious task for each and every faculty member in the vetting team.

Vetting session regularly held in medical schools therefore needs a sound system with prescribed structure and protocol of questions setting and subsequent vetting, which aims to assess students' competency consistent with global standards. Vetting of questions is the responsibility of entire members of the vetting committee and not the job of an individual or a couple of person. The role of vetting committee has been mentioned in literature [3]. Regularly conducted vetting is also to meet accreditation requirement. It has been experienced that the coordinators or the chairpersons appointed for this task find it difficult to deliver. First major problem is the job being taken less seriously in the absence of properly appointed review or vetting committee. A functional vetting committee is recommended to improve the items quality [4]. The objective of vetting committee is to review the test items several times at different level of vetting in order to make the items

flawless and as clear and understandable as possible [5].

Second problem encountered in practice of vetting of examination questions and faced by many medical schools is the coordinator or the chairperson's appointment without delegating the power to execute this important task. Often the appointment letter and the job description are not provided. The vetting of questions is informally done on verbal orders. Third problem is the inability to follow vetting schedule by the members of vetting committee. There have been situations when an important member (subject/module expert) replaced by another member has not been involved in question setting or departmental vetting that he/she is asked to represent. This raises question on his contribution as content expert and the person to guide other members in committee to ensure content validity. This is simply representing a regular member without taking his active role in the vetting session. Yet another similar problem encountered is, when module/package/end of posting vetting at discipline or department level is not held prior to central vetting. In these situations coordinator/chairperson is compelled to accomplish the job in a given timeframe that compromise the quality of questions. The technical and content issues are ignored and vetting of items is basically confined to correction of language issues only.

### **Organization of structured vetting**

The quality of vetting depends how members of the vetting committee adheres to their commitment. To achieve this, vetting practice needs organization on part of hierarchy to ensure good vetting practice. A single or couple of person cannot achieve the objective of vetting no matter how well it is set on paper but not practiced with formal protocol and prescribed method. The organization decides on, how many levels of vetting should we have and who, when and how should we do the vetting of examination questions. Vetting is also essential for in-house test or continuous assessment, which often is reported with unusual failure rates. This might be

due to flaws of poorly written items, which is a major threat to validity of assessments [6]. Vetting of questions practiced in continuous assessment significantly improve the item quality [7]. It also provides an opportunity to develop faculty in structuring quality examination questions in subsequent assessments in the program.

### **Levels of vetting practice**

A couple of meeting of vetting of examination questions should at least be carried at departmental and central level, engaging two different vetting committees. Item must be tested for its technical, content and language aspects at module or package level before submitting it for central vetting. Phase or package coordinator can chair this vetting committee. An important task of this committee should look into representativeness of assessment questions across the content. The other important job of this committee should be, to look into structure and principles of questions format and the language and grammar used to structure the items. The vetted questions should then be passed on to next level of central vetting whose job is to review and fine-tune the items if necessary.

### **Who should do the vetting?**

Vetting of examination questions are routinely considered for technical, content and language aspects. It is important to identify the appropriate teaching faculty with their assigned role to play to finally produce quality items for assessment. The interchangeable roles may be as administrator (chairman or phase coordinator) to organize the meeting, technical person (medical educationist) to relook into appropriateness of format, language and grammar and person with subject expertise (content expert) to look into content matters. Therefore a review or vetting committee should comprise of a number of members in the panel (see table 1, 2 and 3). Review or vetting of the question should involve every level from continuous assessment to professional examination for improving the

learning curve and quality of questions written by faculty members.

### When should we do the vetting?

In order to decide on, when to do the vetting, the central vetting session should follow the module/departmental vetting committee meetings. A well-organized mechanism that informs all the members well before the actual date of meeting should be in place. The members must set their priorities to attend this meeting. In case a regular member cannot attend the meeting a replacement should be provided. Academic office or the chairperson must be informed of this situation well ahead of time. A replacement assigned to perform the task must take the responsibilities of the person he/she is replacing and that his/her role should be actively substituted. For example the medical education unit will be responsible to provide replacement, appointing another medical educationist.

The process to organize vetting starts with the module coordinator calling for questions from the lecturers involved in teaching of that module few months before the semester or professional examination. Lecturers are informed of subject areas (module/discipline), type of questions or items (Multiple True/False MCQ, OBA/EMQ, SAQ/SEQ, PBQ/MEQ, OSPE/OSCE) number of question to be submitted from each module, using a blueprint. Lectures are also informed of

definite date of submission and proposed vetting committee meeting. All lecturers involved in setting of questions should be invited to attend the meeting; however, this should be optional. The number of questions from each module/discipline is invited according to weighting in curriculum determined by credit units (specification/blueprinting of exam question). A template should be prepared to send out to relevant lecturers to invite questions (see table 4).

### When should we do the vetting?

Phase coordinator, in case of professional examination and Package/module coordinator, in case of semester assessment should invite the questions on behalf of the academic office. Chairperson central vetting committee and phase coordinator should set the dates for central and module/package/discipline vetting sessions respectively. All the members of vetting committee should be invited for every meeting of central or module/package vetting committee respectively. Module/posting or examination coordinator in case of professional exams invite the question and after receiving the questions a checklist is followed through to observe that the questions submitted are aligned with the format and criteria and the blueprint of exam questions set by the school. Next, chairperson of respective vetting committee is informed to set the date feasible for all members to attend.

Table 1: Shows the list of members and their numbers to be included in the panel of central vetting committee. Vetted questions from this committee are forwarded to academic office for central vetting.

No	Members Central Vetting Committee	Number
1	Chairman (a senior faculty member with experience of vetting)	One
2	Phase coordinator (preclinical or clinical phase of training)	One
3	Representatives from medical education unit/department	One
4	Module coordinators (also acting as experts of modules)	One or more
5	Paper coordinator (named as MCQ, SAQ, OSPE coordinators)	One
6	Subject experts (senior lecturers from modules/discipline)	Two
7	Question setters (from respective modules/discipline)	Optional

Table 2: Shows the list of members and their number to be included in the panel of module (package) vetting committee.

No	Members Module (Package) Vetting Committee	Number
1	Chairman (Phase coordinator)	One
2	Package coordinator (respective package under vetting)	One
3	Module coordinators (respective modules under vetting)	One or more
4	Author of questions (from respective modules/discipline)	One or more
5	All lecturers involved in teaching of respective module	All
6	Lecturers involved in teaching of preclinical phase	Optional

Table 3: Shows the list of members and their numbers to be included in the panel of continuous assessment vetting committee.

No	Members Vetting Committee for Continuous Assessment	Number
1	Chairman (Package coordinator)	One
2	Module coordinator (of respective modules under vetting)	One each
3	Author of questions (from respective modules/discipline)	All
4	All lecturers involved in teaching of respective module	Optional

Table 4: Shows the information that a lecturer is provided with invitation to write examination questions.

MD Year 2-1 <sup>st</sup> Professional Examination Scheduled November 2014				
Module	Type of Question	Numbers	Submission date	Vetting date
C.V.S	OBA	5	15 August	5 September
	T/F Items	5		
	SAQ	2		
	MEQ	1		
	OSPE	2		
	OSCE	1		

### How should we do the vetting?

The vetting sessions are held in a venue equipped with sound system, LCD projector, display screen, adequate lights and privacy on a scheduled date. Questions are read by one of the coordinating person or a volunteer from the members. Members discuss the questions for its language, grammar, and format and content by the participating member. If the faculty is trained to do the coding of each item, vetting is the right session to do it. Coding of items are checked for its cognitive domain as per Bloom's taxonomy, psychomotor domain as per Simpson taxonomy and affective domain as per Crathwhole taxonomy or any other taxonomy that institution recommends and practices. The mistakes pointed out by the members of the vetting committee also suggest the corrections if the items with minor errors are to be redone. A MCQ item, which cannot be addressed in 15 minutes are generally regarded as irreparable and is either rejected straightaway or sent back for restructuring. Such questions are highlighted and documented by the coordinator to present again in subsequent meeting of next level ensuring that the concerns raised by the previous committee members were addressed amicably well. The vetted questions are then submitted back to the phase coordinator, who will arrange the questions in proper order and send it to the academic office for formatting into an examination paper draft. The draft is then sent for final review of the coordinator examination or chairman/deputy dean academic for final

review of technical or language compliance set in institution guidelines for vetting. After receiving back from the chairperson, phase coordinator sends it to the examination unit for printing, few days prior to actual exam date.

The ability to write test questions requires knowledge of principle and technique of test construction and skills of items application. These aspects of examination questions mostly considered in vetting sessions by the members vetting committee. The proper combination of members in the panel of vetting committee provides a perfect environment to learn these techniques. This is why it becomes important for junior lecturers to attend the vetting sessions and polish their skills as frequently as possible.

**Technical aspects** ensure that the each question fits-in well in the recommended format and that the type of question it is selected for, as under.

- Multiple (T/F): Five options as ABCD and E are provided with either true or false options.
- MCQ (OBA/EMQ) Questions: Problem, lead-in and 3-5 alternatives as agreed are provided with one best answer and 2-4 distractors relatively close to best answer.
- SAQ/SEQ: Statement or problem is followed by question with appropriately used key words in command and the response can be answered in a few words, a phrase, or a number.
- MEQ/PBQ: Each step is written in appropriate length of MEQ text for its allocated time and that adequate space is provided for students' to answer a particular question.

- OSPE/OSCE: OSPE at each station is ensured for appropriate fit and time allocation of 5-7 minutes and that each question is context-specific and refers to the exhibit introduced in beginning of the question. In case of OSCE each station is ensured for appropriate time required to respond each question. Questions are appropriately divided for relative marks according to the nature of questions and are provided with appropriate checklist. Questions are context-specific and SP, if used, is provided with appropriate steps to be trained for standardized result.

**Content aspects**, ensure that the questions are very clear and comprehensible without any ambiguities and are relevant to subject area, module or discipline delivered from the curriculum. It further ensures that the questions are representative of entire content from the subject area, module or discipline. Each item is also checked for its fit of appropriate format and if any deviation from the format is identified by the any of the attending member, it is aptly addressed. A vigilant medical educationist role is very important at this point and he may use such an opportunity to guide the members with specific attention on individual format as under.

- Multiple True/False Items: Each T/F item is structured with clear, short and precise stem to be able to answer in allocated time. Options covered in response list, though heterogeneous, are integrated rather than discipline oriented. All questions depict exclusively single problems rather than complex problems presented in the stem. Items are void of cues as far as possible. Some T/F items are also structured to test relatively higher thinking skills rather than simple recall of knowledge.
- MCQ (OBA/EMQ): Problems in all questions are cleared of superfluous information. Questions are answerable within the allocated time. All questions have a reasonable chance of being selected as answer. All questions are with positive stems as far as possible and avoid words like not, never or except and if negative words are necessary, they should be used with capital alphabets or turned bold. Question is not developed in problem and is stated in leads-in part only. Lead-in is either in question form or as a statement. Problem is not repeated

in lead-in or question is not raised in problem. Most of the options should be of similar length in each question. All options and the right answers are homogenous and mutually exclusive options are avoided. Options, which are synonymous, are to be avoided. Options should be presented in some logical order of clinical attributes, chronological order or alphabetical order. Option list have only one correct answer with all distractors with some degree of correctness to the real correct answer. Distracters are not obviously identifiable and are rather approximate than opposite to correct answer. Cues to key such as never, always or all are avoided and vague qualitative modifiers such as many, large, most, much and important are avoided too.

- PBQ/MEQ: Clinical scenario or problems in MEQ/PBQ should trigger candidate's thinking from multidisciplinary approach on first reading. Scenarios developed subsequently should depict different stages of problem in continuity with problem initially presented. Each scenario though linked to previous clinical attribute, provides new information that require clinical appraisal of problem solving or decision-making. In MEQ brief description of each of previously presented scenario is repeated before developing the new scenario on different aspect of clinical attribute. Clinical scenario developed to depict different clinical attributes is gradually built in the same manner in which clinical problem is handled in real life situation and no cue of subsequent scenario is provided as information in current scenario in test. However, the major difference between two measures is about the logistics of administering the test. In PBQ entire questions are placed on same paper and administered at the same time, whereas in MEQ the questions are asked one at a time and answer-sheet is collected back before new question is put forward. In PBQ one can still go back and correct his/her answer once realized after reading the subsequent questions. On the contrary in MEQ, once answer is written cannot be allowed to reconsider since answer-sheet is already taken back.
- SAQ/SEQ: SAQ is the short answer question similar to an objective test item however, with supply answers. SEQ is the structured essay questions in which multiple attributes of a long

essay can be asked as brief answers in structured manner. The answer required in SAQ is in a few words, phrase, symbol, number, definition or a sentence. The answers in SEQ are in few lines to one or two paragraphs only. SAQ is useful for measuring the simple knowledge outcome like recall and comprehension of knowledge but it can be constructed to test the problem-solving ability as well. SEQ allows brief description with recall to comprehension and application of knowledge depending how the question is designed. SAQ/SEQ requires clearly written question, free from irrelevant clues that has a definite answer. In SAQ attention must be paid to keywords used as question and this definitely does not include describe, explain, discuss or elaborate. However, in SEQ brief description of different clinical attributes of same condition can be developed as structured questions or a series of questions may be developed to discuss different clinical conditions under the same theme.

- OSPE/OSCE: One should not be able to answer the question list provided with OSPE or OSCE without looking at the exhibits. OSPE/OSCE is the test of psychomotor dimension of skills rather than a written test that measures cognitive dimension of knowledge and it should be used to measure the skills. Developing OSCE question as test of knowledge/skill without a clinical context to exhibit should be avoided. Interactive OSCE stations with dichotomous checklist of yes or no or fully performed/partially performed vs. not performed should be preferred over rubric with multiple options of scoring, since it distracts examiners from gauging students' performance in an ongoing sequence of demonstration. Exhibits produced, like photographs, should be ensured to depict a clear picture and be well labelled. Duplicate stations in OSPE or OSCE should be ensured to have a similar appearance rather than different. Each OSCE/OSPE station should follow the format of topic/theme, objective, clinical scenario, and instruction for student, check list for examiner, script for SP, exhibits and equipment needed.

**Language aspects**, observe for standardized spelling of British orthography is preferred rather

than a mix pattern of different orthography. Language used in developing questions is simple, clear and direct, rather than words with indirect meaning and those that are difficult to comprehend. Colloquial language with inappropriate use of grammar and slang words should be avoided. Spelling and typographic errors and grammar mistakes should be avoided. Sentences used are consistent throughout the problem or question and problem presented in different tense are avoided. Appropriate action words such as discuss, describe, explain, show, illustrate or indicate are used. Punctuation marks should be used correctly and should exist to facilitate and improve reading rather than causing a hindrance in the flow of reading. Terminologies used are those current versions than those obsolete and out of fashion terms.

All faculty members must find a chance to get involved in vetting and vetting committees in medical schools to ensure appropriate combination of members in the panel. Practicing vetting with proper structure and protocol is considered a source of learning for those who may want to know how to write test questions, with knowledge of principles relevant to an item format and technique and skills of test construction it requires. Quality questions in assessment are judged on technique, content and language in vetting sessions. Vetting of question is a consistently run process that essentially is all about teamwork represented by the right combination of experts from within the teaching faculty, who frequently meet to guarantee quality questions for assessment as an ongoing process.

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