

Assessment with multiple choice and single best answer questions

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Assessments are conducted for various purposes. In undergraduate medical education, the assessments are conducted to ensure that you, as medical undergraduates achieve the expected standards at different levels to become doctors. Assessments focus on ‘abilities,’ which include knowledge, skills and attitudes. The abilities in these areas are assessed using various assessment methods.

Assessment of knowledge is a major part of the assessment. Knowledge is assessed at different levels. Bloom’s taxonomy helps us to understand these levels. A simplified version of Bloom’s taxonomy which is more relevant to knowledge assessment, is provided in Figure 1 below.

an answer (e.g. Structured Essay Questions). The focus of this account is on selected-response questions.

Multiple Choice Questions

In Multiple Choice Questions, students are expected to select out of the options given. Multiple Choice Questions come in different formats. True/False (T/F) and Single Best Answer (SBA) formats are commonly used in undergraduate medical education. They are very useful for assessors as they can be used to cover a large area of content in a manageable time.

Approaching T/F MCQs

In T/F, students are expected to decide whether each of the statements regarding a given concept is correct or incorrect. As the statements should be absolutely correct or incorrect for students to make such a decision, only facts or, in other words, the lowest level of Bloom’s taxonomy could be assessed using T/F type. If a student gets his/her answer wrong, he/she gets negative marks. Therefore, you need to be careful about guessing.

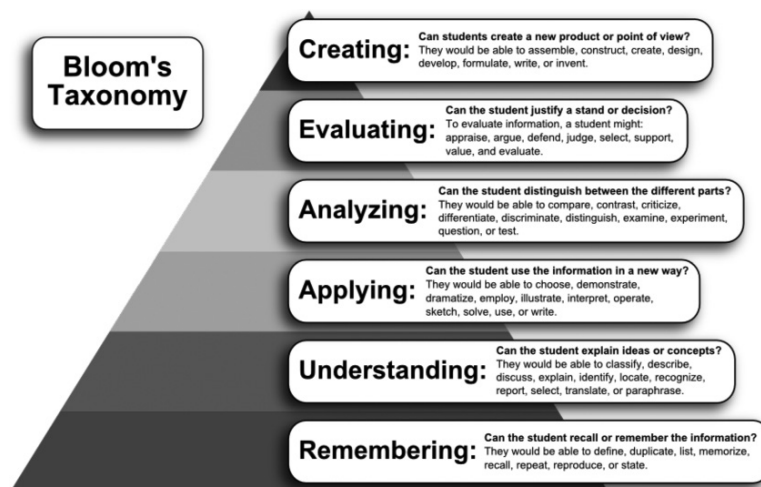


Figure 1 – Bloom’s Taxonomy

In knowledge assessments, if the questions are focused on assessing students’ ability to memorize facts, those questions are at the lowest level of Bloom’s taxonomy. If the questions attempt to assess your understanding of the concepts, those questions are at the comprehension level. Some questions should be answered based on the clinical or practical scenario. Those questions are at the levels of application and judgment, as they expect you to apply the theoretical knowledge or make a conclusion based on theory knowledge. These levels are assessed mostly using written questions in our context. The written questions are given in two types: you are asked to select a response out of multiple responses (e.g. Single Best Answer Questions) or you are asked to write

In approaching T/F questions in an exam situation, it is always better to approach those questions in several rounds. In the first round read the theme of the question, e.g. ‘Regarding human heart’. If you are familiar with the theme, i.e. if you have studied that area well and you feel confident, attempt the statements. Respond only to statements that you are very sure of and leave out the rest. By the end of the first round, you have some understanding of your performance. Attempt the rest of the questions. Respond only to the statements that you think can be responded accurately.

By the end of the second round, you have a better understanding of your performance, and the nature of the paper (whether the paper, in general, is hard or easy for you). The first target should be getting 50% (the pass mark). You can evaluate your performance and decide where you are. The third round depends on where you are in your performance in relation to the pass mark.

If you have not gone beyond 50% in the first and second round, you anyway should attempt the half-hearted statements. It is wise to use informed guessing in this round rather than wild guessing. The words like 'always', 'never', 'maybe', 'associated with' in statements will help test-wise students to make informed-guesses. If you have scored more than 50% in the first and second rounds, the third round depends on your level of risk-taking. You may attempt more questions or statements to get a better score using informed-guessing. Again, wild guessing can be counter-productive. If you have not scored 50% but nearly there, informed guessing should be used and make sure that you respond to a reasonable number of statements using informed guessing. If you are nowhere near 50% in the first and second rounds and informed-guessing does not take you near the pass mark, you may adopt wild guessing.

It is not bad to remember that one has a chance of getting 50% only by guessing answers. The negative marks will not continue from one question to another which means that the minimum mark you will get for a question is zero.

Approaching SBA

The SBAs assess a higher level of knowledge in Bloom's taxonomy. In an SBA, the expected answer can be the only correct answer or the best answer to the situation provided in the question. As discussed above, the first and second rounds can be completed by reading the scenarios. If you are familiar with the area covered in the SBA, after going through the scenario, you will come up with the answer and you will look for the answer in the options list. Those are the questions you should attempt in the first round. In the second round, you may find the answer by excluding the others in the options list. You may employ guessing in SBA. However, the chance of getting your guessed answer correct is 20%. The only encouragement for such guessing is that you will not get negative marks.

Conclusion

Scoring in multiple-choice questions largely requires knowledge. However, strategies like informed guessing and level of risk-taking may influence your final score. Achieving the pass mark maybe your first goal as students. Completing the tasks, which you are familiar with first and building on that may be the most efficient strategy.