**25 MCQ writing tips**

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1. Professional test-item writers plan on 1 hour or more to write one good item.
2. In one study ﬂawed items caused nearly one-quarter more students to fail than unﬂawed items.
3. A direct relationship between instructional objectives and test items must exist.
4. Objectives should be written in terms of speciﬁc learner **behavior** and not what the program will teach. Observable, measurable objectives allow for accurate assessment of whether the learner has achieved an objective. Examples of measurable terms are state, explain, list, identify, and compare. Immeasurable terms include know, understand, learn, or become familiar with.
5. Thoughtfully written objectives are critical to the construction of appropriate test questions and in ensuring adequate assessment of intended learner competence.
6. If the desired outcome involves having participants do more than recall facts, the program should be designed to enable learners to **apply** knowledge or skills.
7. Test items composed of patient vignettes offer several beneﬁts in addition to assessing application of knowledge. They help identify examinees who have memorized facts but are unable to use the information effectively.
8. MCQ components: The entire test question **(Item)** consists of the **stem** (question, statement or lead in to the possible answers and several options. The correct option is called the **keyed response**, the incorrect options are called **distractors**.
9. Ideally, the item should be answerable **without all of the options being read**.
10. The stem should include only the necessary information and be **kept as short as possible**.
11. The stem should not be a test of examinee’s reading ability
12. Vignettes do not need to be long to be effective. They should avoid verbosity, extraneous material, and “red herrings.”
13. **Negative questions** tend to be **less effective** and more difﬁcult for the examinee to understand. Ask for the correct, not the “wrong” answer.
14. Absolute terms, such as always, never, all, or none should not be used in the stem or distractors.
15. Imprecise terms such as seldom, rarely, occasionally, sometimes, few, and many are not uniformly understood and should be avoided. Define eponyms, acronyms or abbreviations.
16. The best number of options is **three to ﬁve**. Constructing questions with more than ﬁve options is burdensome and often leads to faulty options while increasing the reading demands of the student.
17. The most challenging aspect of creating MCQs is designing plausible distractors.
18. The best distractors are (a) statements that are accurate but do not fully meet the requirements of the problem and (b) incorrect statements that seem right to the examinee. Each incorrect option should be plausible but clearly incorrect.
19. Distractors should be related or somehow linked to each other. All options should fall into the same category as the correct answer.
20. Options should be placed in logical order. If the options are ranges of values, the choices should be independent and not overlap with each other. Options should be similar in grammar, length and complexity with distractors being oplausible but clearly incorrect
21. Options in one item should not reveal information that allows the examinee to know the correct answer to another item (referred to as “**cueing**”).
22. Avoid “**hinging**” in which questions require that students know the answer to one item to be able to answer another item.
23. The position of the keyed response should vary among the A, B, C, and D positions. Research shows that the B or C position is overused for the correct option
24. **Item difﬁculty** is determined from the percentage of students who answered each item correctly, with the goal being to construct a test that contains only a few items that more than 90% or less than 30% of students answer correctly. Optimally, difﬁcult items are those that about 50%–75% of the students answer correctly. Items are considered low to moderately difﬁcult if between 70% and 85% of the students select the correct response.
25. **Item discrimination** refers to the percentage difference in correct responses between two groups of students (generally referring to students in the top 25% and the lower 25%). The discrimination ratio for an item will fall between -1.0 and +1.0. The closer the ratio is to 1.0, the more effectively that item distinguishes students who know the material (the top group) from those who don’t (the bottom group). ideally, each item will have a ratio of at least 0.5. An item with a discrimination of 60% or greater is considered a very good item, whereas a discrimination of less than 19% indicates a low discrimination item that needs to be revised