Practical Suggestions for Writing Multiple-Choice Questions

### General Suggestions

1. **Do not write the test in one day.** Spread the work out over time. Questions demanding high-level thinking take longer to craft. Write one or two questions after each class or preparation session, so it becomes a simple matter of assembling them into an exam. You may want to simply keep track of question ideas or concepts that are applicable to the course objectives that can later be crafted into questions.

2. **Exam content should match the course objectives.** We test what we want the students to value. Important topics should be weighted more heavily than less important. Topics that were more heavily covered should be more heavily tested.

3. **Good questions should utilize an application of knowledge.** Items can be classified as requiring either recall or an application of knowledge. Recall items test the student’s knowledge of a specific fact. Application of knowledge presents a situation and requires the examinee to interpret information given in the stem, recall facts, and apply the knowledge to reach a correct conclusion. Use of a clinical vignettes is one way to accomplish this goal.

### Writing the Stem

1. **Phrase stems as clearly as possible.** Confusing questions can generate incorrect responses from student who do understand the material.

2. **Avoid extra language in the stem.** This will not raise complexity, it will simply increase student reading time. If a sentence or words can be removed without affecting the quality of the question, consider removing it.

3. **A very good stem should enable the student to answer the question without looking at the options below.** Stems that are data rich with pertinent findings are always good.

4. **Avoid absolutes** such as always, never, and all in the stem, likewise, vague words such as usually and frequently should be avoided.

5. Negatively phrased questions can lead to double negative responses and confusion.

6. **Focus on important concepts**, testing trivial facts doesn’t typically measure mastery of the objectives of the course.

7. **True/False and matching are suboptimal question types.**

8. **All of the above or none of the above should be avoided.** This allows the test taker to use the process of elimination to come to the correct answer without having to discriminate as to what would be the “best answer”

### Answer Options
1. Avoid lifting phrases directly from the course materials or lecture. This creates a simple recall activity.

2. Most literature recommends writing the correct answer before writing the distractors. This ensures that there is one clearly correct answer.

3. Answer options should be approximately the same length and parallel in grammatical structure. Too much detail or too long of an answer can give the answer away.

   For example, the specificity and grammatical structure of the first option here are dead give-aways:

   The term “side effect” of a drug:

   A. refers to any action of a drug in the body other than the one the clinician wanted the drug to have.
   B. Is the chain effect of the drug
   C. Additionally benefits the drug

4. Distractors must be incorrect, but plausible. An unprepared examinee should think that most of the answers are equally attractive. Also you may use the principle of having a distractor which is partially correct, but the correct response is clearly superior.

5. If there is a recognizable key word in the correct response, it should appear in other incorrect responses as well.

6. It can be difficult to come up with three to four plausible distractors. This can lead to using a very weak distractor, or even a humorous distractor. This can lead to a question that is basically true/false. This is one situation where “none of the above” can be used effectively, if the only other option is a very weak distractor.

7. There are conditions in which three plausible answers to a multiple choice question is adequate.

8. The Correct response should be placed randomly. Test constructors will often place the correct response as either B or C, attempting to “camouflage” it.

9. If a distractor is chosen by less than 5% of students or great than 50% of students, consider replacing it.

Principles for organizing multiple-choice exams

1. 50 items per hour testing generally is conventional
2. Sort items into logical groupings
3. Test bank use is fine if consistent with instruction and objectives
4. Be careful about use of humor within items
5. Think about creating a “Test blueprint” prior to construction of items to reflect proper content, focus and emphasis of the test.
6. Longer (50-60 questions) is better than shorter to accurately assess students, though excessively longer tests appear to have no greater benefit
7. Evaluate the test after administration, make needed changes and adjustments to improve the test

References
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