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FRIDAY FOCUS ON . . .



TEACHING

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This is the second installment of our series on classroom assessment: here we look at multiple choice items, what we often called “multiple guess” on tests for which we were not prepared! I use “we” loosely.

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Multiple Choice Items

Often, we need to measure fundamental knowledge in our course to be certain students have the prerequisite understandings to handle the next level of course content or process content at higher levels of thinking. So, we proceed to write some multiple choice items or select some from a test bank.

Well-written multiple choice items are versatile and can do a good job of measuring knowledge, comprehension, and application of subject matter. They are probably the only type of “objective” item that, when carefully constructed, can also measure higher levels of thinking such as analysis or synthesis.

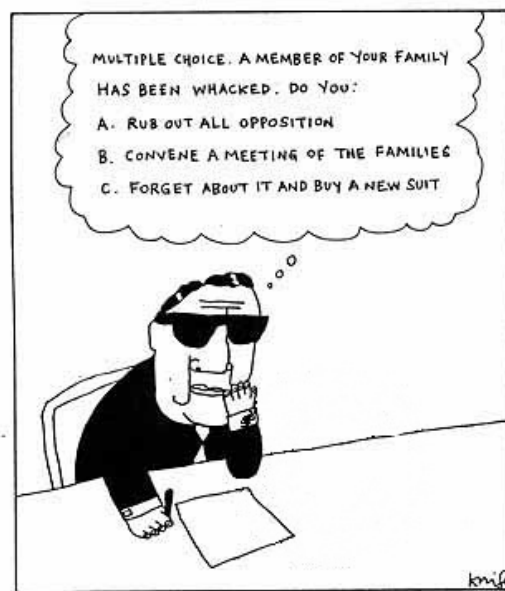
As with any type of test items, we must broach the subject of discrimination: we want the right students to miss the right items.

Yes, you read the last sentence correctly. We give tests in order to determine who knows and who doesn't know. So, we do want students to miss items on content that they don't know. And, we want students who do understand the content of items to correctly answer them. This is a way that we can use test results, not just for a grade, but also to inform our students of their real progress and tell us about the effectiveness of our teaching.

If all or nearly all our students are answering an item correctly, let's look at that item to see if it was too easy or if we inadvertently provided a clue to the correct answer. If all or nearly all our students miss an item, did we miss-key that item on our answer key? Did we forget to cover or downplay that issue in our instructional content? Here are some suggestions to help overcome these common hurdles in choosing and writing multiple-choice items.

Multiple choice items can be of two types: a direct question or a statement that is open-ended. Here are some hints for m/c item writing.

1. It is important that the answer options following the stem be grammatically consistent with the question or open-ended statement.



MAFIA EXAMS

2. We should include more than two answer options that are plausible, serious responses to each question to avoid the 50-50 chance of correct guessing. A correct guess doesn't tell us who understands and who does not.
3. To avoid cueing the correct answer, answer options should be approximately the same length (The correct answer, to the test-wise, is often the longer choice!).
4. If we choose to write a negative question, bolding or underlining the negative word helps to avoid misreading. Again, we want students to miss a question because they do not know the content, not because they have misread. If we are measuring our content learning objectives, also measuring misreading in the same score or grade clouds our interpretation of test results.
5. The words *always* and *never* in an answer option cue test-wise students that the answer is false.
6. The test should be organized logically and should be possible to complete in the time allotted.
7. Directions for the set of multiple choice items should include whether the answer to be chosen is the *best* or *correct* answer.
 - a. In best answer scenarios, all answers are correct, but there is a best choice. In correct answer situations, there is only one correct answer. Typically, best answer tests measure higher levels of thinking and correct answer tests measure lower levels of learning.
 - b. "None of the above" as an answer option imposes correct answer format on the question, whether you have intended it or not. Not a good choice.
 - c. "All of the above" as an option may not appropriately discriminate between those who know and who don't know the answer. Suppose a student chooses A because it is a correct answer and doesn't read further; and suppose all of the answers are correct. The student misses the item because s/he didn't read all the options, not because s/he didn't know the answer. Another iffy one here. Refer to #4 above.

We can run into problems when we make certain assumptions about items we find in test banks. Do they really measure **our** learning objectives? Do some of the items inadvertently give clues to the correct answer? Are all distracters (answer options that are not the correct answer) plausible? If test bank items are chosen, be sure to edit them carefully. Someone good at item writing and well versed in content may **not** have been the item creator!

Reynolds, Livingston, and Willson (2006) provide a checklist for editing our self-developed items and for selecting pre-written multiple choice items. I have adapted their list here.

1. Does the item stem (question portion) state the problem or question clearly?
2. Are there more than two answer options?
3. Are answer options approximately the same length?
4. Are answer options written in parallel structure for easy reading?
5. Are all distracters plausible?
6. In the set of items, is there a random pattern of correct answers?
7. Do any of the questions contain the answer to another question?

8. Reynolds, C., Livingston, R., & Willson, V. (2006). *Measurement and assessment in education*. Allyn-Bacon/Pearson.
9. Have negatively stated options been re-written?
10. Is there only one *correct* or *best* answer?
11. Do the instructions indicate whether the *correct* or the *best* answer should be chosen?

Reynolds, C., Livingston, R., & Willson, V. (2006). *Measurement and assessment in education*. Allyn-Bacon/Pearson.

Good teaching *and testing*,

Sara