

MULTIPLE-CHOICE?

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This is an era in which we are continually encouraged to demonstrate our accountability and professionalism. Often, the manner in which we are expected to accomplish this feat is with certification, continuing education and recertification. Whenever this takes place, testing is inevitable.

Testing is as valuable an educational experience as classwork. In addition to measuring the intended outcomes of instruction, testing aids in student motivation and provides feedback to the student.

Whatever the reason might be for testing, one must remember that there are two sides to every examination; that of the "test taker" and that of the "test maker".

The position of the "test taker" is one with which almost all of us are familiar. We easily recognize the jitters that come to us as final instructions are being given and the exams are being distributed. But many of us are being put into the other category. As instructors we are being asked to measure the results of our instruction by testing. Yet most of us receive little to no instruction in how to construct a good test.

It is my hope to give some insight into the construction of a proper test question and provide guidelines for instructors. At the same time, however, the "test taker", or student can learn to identify "flaws" in questions. These can be used as an aid to the successful completion of the item.

Since the multiple-choice question is the most widely used and regarded of the selection-type test question, I will limit this discussion to this item.

The multiple-choice item consists of a stem, which presents a problem situation and several alternatives (options or choices), which provide possible solutions to the problem. The stem may be a question or an incomplete statement. The alternatives include the correct answer and several plausible wrong answers called distractors. The thirteen rules for writing multiple-choice items that follow are quoted from the text *How To Construct Achievement Tests* by Norman E. Gronlund.

RULE #1. "Design each item to measure an important learning outcome. The problem situation around which an item is to be

built should be important and should be related to the intended learning outcome to be measured. When writing the item, focus on the functioning content of the item and resist the temptation to include irrelevant material or more obscure and less significant content to increase item difficulty." The instructor is advised to write a direct question on an important topic. You are hoping to see if the student has learned the subject. You should not be attempting to confuse.

HINTS FOR STUDENTS. Understand that there may be irrelevant material given in the question. This commonly occurs in the problem solving type of question where extraneous variables may be included. Don't be led to believe that all information must be used to solve the problem.

RULE #2. "Present a single clearly formulated problem in the stem of an item." (Remember, the stem is the question.) "The task set forth in the stem of the item should be so clear that a student can understand it without reading the alternatives. A good check on the clarity and completeness of the stem is to cover the alternatives and determine whether it could be answered without the choices."

HINTS FOR STUDENTS. If the meaning of the question is unclear to you read ALL of the alternatives. This will often clarify the intent of the question for you. If the question is still unclear, don't dwell on it. Go on to the next question and come back to the question later if time allows. Often a later item will jog your memory or provide a clue to the answer.

RULE #3. "State the stem of the item in simple, clear language. The problem in the stem of a multiple-choice question should be stated as precisely as possible and should be free of unnecessarily complex wording and sentence structure." To put it another way, KEEP IT SIMPLE!!!

HINTS FOR STUDENTS. The cardinal rule in test taking is READ THE QUESTION! Be sure that you understand just what is being asked. Then answer that question. Don't look for trick questions or deeper meanings. You can easily outsmart yourself.

RULE #4. "Put as much of the wording as possible in the stem of an item. Avoid repeating the same common material in each of the alternatives. By moving all of the common content to the stem, it is usually possible to clarify the problem further and to reduce the time the student needs to read the alternatives."

HINTS FOR STUDENTS. Read all of the alternatives carefully. Don't assume that all of the alternatives will be constructed

in the same fashion. A slight variation in the wording can change the entire meaning of a statement.

RULE #5. "State the stem of an item in positive form,

whenever possible. A positively phrased test item tends to measure more important learning outcomes than a negatively stated item. This is because knowing such things as the "best" method or "most relevant" argument typically has greater educational significance than knowing the "poorest" method or the "least relevant" argument."

RULE #6. "Emphasize negative wording whenever it is used in the stem of an item. In some instances the use of negative wording is basic to the measurement of an important learning outcome. Any potentially dangerous situation may require a negative emphasis.

When negative wording is used in the stem of an item, it should be emphasized by being underlined or capitalized and by being placed near the end of the statement."

An example might be as follows;

All of the following are considered allowable expenses for calculating net income EXCEPT,

- A. maintenance.
- B. insurance.
- C. depreciation.
- D. utilities.

HINTS FOR STUDENTS. Be especially aware of negative statements and act accordingly. I will reemphasize the cardinal rule. READ THE QUESTION.

RULE #7. "Make certain that the intended answer is correct or clearly best. There should be only one answer and it should be unquestionably correct."

HINTS FOR STUDENT. Remember that having only one answer is the ideal situation. If it appears that more than one of the alternatives is correct, concentrate on those possibilities. Re-read the question looking for any clue that might lead you in the right direction then select the alternative that you believe best answers the question.

RULE #8. "Make all alternatives grammatically consistent with the stem of the item and parallel in form. The correct answer is usually carefully phrased so that it is grammatically consistent with the stem. Where the test maker is apt to slip is stating the detractors."

HINTS FOR STUDENTS. Look for clues in grammatical

inconsistencies. For example:

- A. The stem is singular while some of the alternatives are plural, or vice versa.
- B. The stem ends with the indefinite articles "a" or "an". This can indicate whether the correct answer begins with a consonant or a vowel.

RULE #9. "Avoid verbal clues that might enable students to select the correct answer or eliminate an incorrect

alternative."

HINTS FOR STUDENTS. Similarity of wording in both the stem and the correct answer is an obvious clue. Key words in the stem may be repeated verbatim in the correct answer, a synonym may be used or the words may simply sound or look alike.

RULE #10. "Make the distractors plausible and attractive to the uninformed."

HINTS FOR STUDENTS. Look for distractors that seem out of place. Remember, if even one distractor can be eliminated as a possibility, your chance of selecting the correct answer increases proportionally.

RULE #11. "Vary the length of the correct answer to eliminate length as a clue. There is a tendency for the correct answer to be longer than the alternatives because of the need to qualify statements to make them unequivocally correct. This provides a clue to the testwise student. To the other extreme, test makers frequently make a special effort to avoid ever having the correct answer longer than the alternatives. The alert student soon learns to dismiss the longest alternative as a possible answer."

HINTS FOR STUDENTS. Look for any patterns that might develop and use them to your advantage. Be especially aware of qualifying statements in the alternatives.

RULE #12. "Avoid using the alternatives "all of the above" and use "none of the above" with extreme caution. When test makers are having difficulty in locating a sufficient number of distractors, they frequently resort to the use of "all of the above" or "none of the above" as the fourth option. These special alternatives are seldom used appropriately and almost always render the item less effective than it would be without them."

HINTS FOR STUDENTS. If an item uses "all of the above" as an

alternative, and you can identify one distractor as an error, you have eliminated two possibilities. In the same manner, if any two of the alternatives seem correct, the answer is probably "all of the above". Similar logic can be applied to the item that uses "none of the above" as an alternative. Also, always be sure to read all of the alternatives in an item even if the first choice appears to be correct or you might miss the "all of the above" alternative.

RULE #13. "Vary the position of the correct answer in a random manner. The correct answer should appear in each alternative position about the same numbers of times, but its placement should not follow a pattern that might be apparent to the person taking the test. Students who detect that the

correct answer never appears in the same position more than twice in a row, or that "A" is the correct answer in every fourth item are likely to attain a higher score than their knowledge would warrant."

HINTS FOR STUDENTS. Be aware of any pattern that might form and use it to your advantage. If all else fails and you have some question left at the end of an exam that you can not answer, count the frequency of the alternative. If any alternative appears less frequently, it is probably your best guess. For example, if the following frequencies occur, A-5,B-6,C-6,D-2, use D as your answer.

Obviously there is no substitute for study when it comes to taking a test, but using some of these hints can aid the student when nerves or memory fail. Yet if all instructors would adhere to the suggestions for test writing that have been included, there would be little advantage in being a "smart" test taker.

Reference cited: How To Construct Achievement Tests by
Norman E.Gronlund
Fourth Edition
Published by Prentice-Hall, Inc.