



## MNSU Guide to Writing Good Multiple Choice Quizzes and Exams

### Writing Good Multiple Choice Quizzes and Exams

**Overview:** This document outlines some strategies for writing good multiple choice exams. It is adapted from a paper by David Zimarro (2010). Multiple-choice questions typically have 3 parts: a stem, the correct answer - called the key - and several wrong answers, called distractors. The following document outlines three sets of principles for writing good multiple choice exams.

#### Procedural Principles:

- Use either the best answer or the correct answer format.
  - Best answer format refers to a list of options that can all be correct in the sense that each has an advantage, but one of them is the best.
  - Correct answer format refers to one and only one right answer.
- Format the items vertically, not horizontally (i.e., list the choices vertically)
- Allow time for editing and other types of item revisions.
- Use good grammar, punctuation, and spelling consistently.
- Minimize the time required to read each item.
- Avoid trick items.
- Use the active voice.
- The ideal question will be answered by 60-65% of the tested population.
- Have your questions peer-reviewed.
- Avoid giving unintended cues – such as making the correct answer longer in length than the distractors.

#### Content-related Principles:

- Base each item on an educational or instructional objective of the course, not trivial information.
  - Test for important or significant information.
  - Focus on a single problem or idea for each test item.
  - Keep the vocabulary consistent with the examinees' level of understanding.
  - Avoid cueing one item with another; keep items independent of one another.
  - Use the author's examples as a basis for developing your items.
  - Avoid overly specific knowledge when developing items.
  - Avoid textbook, verbatim phrasing when developing the items.
  - Avoid items based on opinions.
  - Use multiple-choice to measure higher level thinking.
  - Be sensitive to cultural and gender issues.
  - Use case-based questions that use a common text to which a set of questions refers.
- Stem Construction Rules:
  - State the stem in either question form or completion form.

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- When using a completion form, don't leave a blank for completion in the beginning or middle of the stem.
- Ensure that the directions in the stem are clear, and that wording lets the examinee know exactly what is being asked.
- Avoid window dressing (excessive verbiage) in the stem.
- Word the stem positively; avoid negative phrasing such as "not" or "except." If this cannot be avoided, the negative words should always be highlighted by underlining or capitalization: Which of the following is NOT an example .....
- Include the central idea and most of the phrasing in the stem.
- Avoid giving clues such as linking the stem to the answer (... Is an example of an: test-wise students will know the correct answer should start with a vowel)

### **General Option Development Rules:**

- Place options in logical or numerical order.
- Use letters in front of options rather than numbers; numerical answers in numbered items may be confusing to students.
- Keep options independent; options should not be overlapping.
- Keep all options homogeneous in content.
- Keep the length of options fairly consistent.
- Avoid, or use sparingly, the phrase all of the above.
- Avoid, or use sparingly, the phrase none of the above.
- Avoid the use of the phrase I don't know.
- Phrase options positively, not negatively.
- Avoid distractors that can clue test-wise examinees; for example, absurd options, formal prompts, or semantic (overly specific or overly general) clues.
- Avoid giving clues through the use of faulty grammatical construction.
- Avoid specific determinants, such as never and always.
- Position the correct option so that it appears about the same number of times in each possible position for a set of items.
- Make sure that there is one and only one correct option.
- Distractor (incorrect options) Development Rules:
  - Use plausible distractors.
  - Incorporate common errors of students in distractors.
  - Avoid technically phrased distractors.
  - Use familiar yet incorrect phrases as distractors.
  - Use true statements that do not correctly answer the item.
  - Avoid the use of humor when developing options.
  - Distractors that are not chosen by any examinees should be replaced.
- Suggestions for Writing Good Multiple Choice Items:
  - Present practical or real-world situations to the students.

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- Present the student with a diagram of equipment and ask for application, analysis or evaluation.
- Present actual quotations taken from newspapers or other published sources and ask for the interpretation or evaluation of these quotations.
- Use pictorial materials that require students to apply principles and concepts.
- Use charts, tables or figures that require interpretation.

## References

Zimarro, David (2010). "Writing Good Multiple-Choice Exams." Center for Teaching and Learning, University of Texas at Austin. Downloaded 10.3.12 from <http://ctl.utexas.edu/assets/Evaluation--Assessment/Writing-Good-Multiple-Choice-Exams-04-28-10.pdf>.

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