



## Writing Multiple Choice Question Test Items

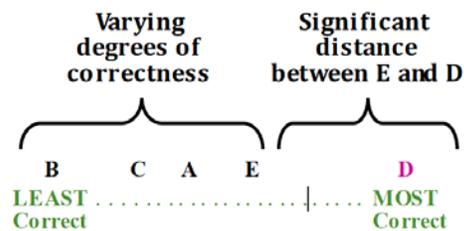
### BACKGROUND

How you write multiple choice question (MCQ) items directly influences what learners consider important to learn. (i.e., test recall of minutiae if you want them to memorize minutiae, test application of concepts if you want them to think and apply.) The format used by the National Board of Examiners (NBME) is helpful for testing knowledge and not savvy test taking skills.

### SUGGESTIONS

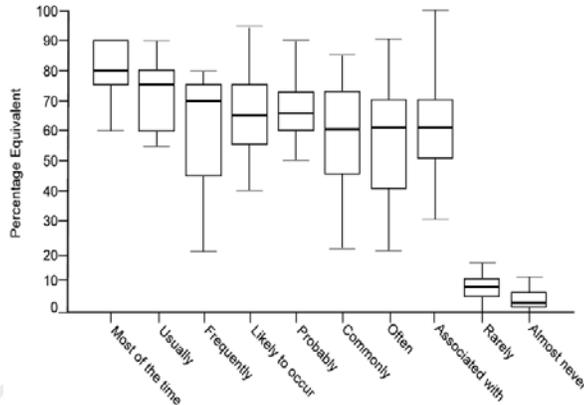
Parts of the multiple choice question include:

- **Stem** – What is the background information needed to solve a problem? Patient’s presenting symptoms, description of a disease process, timeline of events
- **Question** – What is the problem to be solved? Test taker should be able to answer the question without looking at the response options. (e.g., The most likely cause of the patient’s condition is:)
- **Correct response** – Best option given the information presented in the stem
- **Alternative responses** (plausible distractors) – Provide 3-4 in correct or less correct response options. NBME avoids using true-false and combination responses (“A and C”, “All of the above”)



Reduce giving away the answer by:

- Keeping response options similar in length, similar in category, similar in perspective (positive/negative)
- Avoid using absolute words (e.g., always, never, all, must) unless the answer is all/none.
- Note that relative words can be interpreted differently by different test takers.(e.g., seldom, generally, tend to, probably, usually)



- Avoid having a response option that is opposite to the correct answer. (i.e., often one of these options is the correct answer)
- Keep grammar similar between the question and the options (subject and verb tense, pronoun and nouns)
- Avoid extreme number options which can be readily eliminated (e.g., 0.25, 15, 40, 65, 200)
- Alphabetize the response options or list them in ascending order

Example from NBME manual (3<sup>rd</sup> ed)

**Stem:**

A 32-year-old man has a 4-day history of progressive weakness in his extremities. He has been healthy except upper respiratory tract infection 10 days ago. His temperature is 37.8 C (100 F), blood pressure is 130/80 mm Hg, heart rate is 94/min, and respirations are 42/min and shallow. He has symmetric weakness of both sides of the face and the proximal and distal muscles of the extremities. Sensation is intact. No deep tendon reflexes can be elicited; the responses are flexor.

**Lead-in:**

Which of the following is the most likely diagnosis?

**Options:**

- A. Acute disseminated encephalomyelitis
- B. Guillain-Barré syndrome
- C. Myasthenia gravis
- D. Poliomyelitis
- E. Polymyositis

**ADDITIONAL RESOURCES**

[NBME Manual for Constructing Written Test Questions](#)