

## How to write multiple-choice test items (For course content experts)

### A. Overall test construction

1. Use the test specification matrix to write items that **reflect what is taught in the right proportion**.
2. Each item should test a concept that is **important** for the participants to learn in the course. Items should be written around the basic principles of the course, in terms of knowledge or concept and the application of that knowledge.
  - a. Knowledge or concept items tend to reflect definition of essential terms and knowledge of key principles. They require the test taker to recall something important that was discussed in the course or presented in the materials that the participants used.
  - b. Application items are all other types of questions that require evaluation, problem solving, and other types of a higher order thinking.
3. **No item should reveal the correct response** to another item in the test.
4. Correct responses should **not systematically be the same** all over, such as “all of the above” or “none of the above.” (These response alternatives should be avoided.)
5. Items should include one beginning (stem) followed by **5 response options**. To avoid guessing, “I don’t know” is always the fifth response option. It is never the correct answer.
6. Items should have an **average difficulty level**, meaning that you expect less than half of the participants to know the answer before the course and more than half to know it at the end.

### B. Stems

7. The stem should **clearly define the problem** with which the item is concerned.
8. The preferred format for a stem is a **full interrogative sentence**. If the stem is in the form of an incomplete statement, the response options should finish the statement.
9. The stem should **include words** that otherwise would have to be repeated in each option.
10. The stem should **avoid using negatives**, particularly if participants do not answer in their native language. If negative words must be used, all letters of the negative words should be capitalized, bolded and/or underlined.
11. The stem should **not give cues** by using key words that are repeated in the response options.

### C. Response Options

12. An item should have **one and only one** response option that experts would consider **correct**.
13. Incorrect response options (distractors) should all be **plausible**. Common misperceptions often make good distractors.
14. Response options should all have the **same grammatical structure**, include **similar terminology** and be about the **same length**.
15. Response options should be arranged in a **logical order, wherever appropriate**, e.g., when listing numbers. Also “all of the above” should **not** follow “none of the above.”
16. Response options should be arranged in a **random or non-systematic order** so that the correct answer cannot be guessed because of its place in the sequence of options.