

Guidelines for writing test questions



Selected-response test questions

True-false questions

Example:

Read the following sentences. If the sentence is grammatically correct, circle the 'C'. If it is grammatically incorrect, circle the 'I'.

Sentence	Correct	Incorrect
1. I heard you was at the bowling party.	C	I
2. He don't plan to study engineering at college.	C	I
3. Are you calling us?	C	I
4. The rear tires had wore out.	C	I

Guidelines for writing true-false questions

1. Write clear directions about how to mark the correct answers (for example, underline or circle the T or F) on the test paper. Repeat these directions orally before students start the test.
2. Write questions based on statements that have been presented to students in lessons and discussions as definitely true or definitely false. Ideas that have been presented to students as opinion are not eligible to be true-false questions.
3. Make sure there are equal numbers of true and false questions in the test.
4. Make sure the true and false questions are of approximately equal length.
5. Questions should not contain two negatives (for example, *no*, *not*, and *never*).

Do not write questions that contain words indicating an indefinite quantity or time (*small*, *briefly*, or *frequently*, for example) or absolutes (for example, *never*, *only*, *always*).

6. Be careful not to place questions in the test in a pattern (true-true-false-false, for example), because students may detect the pattern and use it to choose an answer rather than reading the question.
7. Create your own questions rather than taking sentences out of context from a textbook and turning the sentences into test questions.
8. True-false questions create a 50 per cent chance that the student who guesses will choose the right answer. Before the test begins, encourage all students to guess if they don't know the correct answer.

Matching questions

Example:

Match each term with its definition.

Deposition
Erosion
Lithification
Weathering

- a. The chemical alteration and breakdown of rock
- b. The conversion of sediment to rock
- c. The dropping of sediment into a long-term reservoir
- d. The picking up and carrying away of sediment

Guidelines for writing matching questions:

1. The description list (the items for which the question seeks a match) and the options list (the matches) should be short.
2. Lists for matching should be homogeneous (for example, all names, or all places, or all events, or all dates). Students should not be expected to match some names and some dates in the same question, for example.
3. Number each description (1, 2, 3, etc.) and letter each option (a, b, c, etc.).
4. Include more options than descriptions. In the example above, this could mean taking out definition 'D' so that students choose from four terms for three definitions.
5. In some questions, include options that can be used with more than one description.
6. Directions for answering matching questions on the test should tell (or show) students how to answer the question (for example, by drawing a line to connect the correct option with the description or by writing the letter of the correct option next to each description).
7. Tell students before they begin the test if an option can match more than one description.

Multiple-choice questions

Example:

Why is it summer in the southern hemisphere when it is winter in the northern hemisphere?

- a. The southern hemisphere heats up really fast
- b. The southern hemisphere receives the most direct rays from the Sun
- c. The southern hemisphere is in the path of warm winds from the north
- d. The southern hemisphere balances out temperatures for the Earth

The question's stem is 'Why is it summer in the southern hemisphere when it is winter in the northern hemisphere?' The students' choices for answers to the question are a, b, c, and d.

Most multiple-choice questions assess either knowledge or understanding (comprehension).

This question assesses knowledge:

What happens to the relationship between the Earth and Sun every 24 hours?

- a. The Sun goes around the Earth once
- b. The Earth rotates on its axis once
- c. The Earth goes around the Sun once

Guidelines for writing multiple-choice questions

1. Make sure that the stem contains enough information for students to understand the question.
2. All distracter (wrong answer) choices must be plausible, yet wrong.
3. Keep the length and form of the answer choices approximately equal.
4. Avoid negative stems. For example:

Which of the following is not a symptom of malaria?

- a. Tiredness
- b. Fever
- c. Chills
- d. Skin rash

Better to write:

Which of the following is a symptom of malaria?

- a. Spots
- b. Swollen ankles
- c. Fever
- d. Skin rash

5. Eliminate unintentional grammatical clues. In the following example, the use of 'a' suggests the answer.

Albert Eisenstein was:
 - a. anthropologist
 - b. astronomer
 - c. chemist
 - d. a mathematician
6. Rotate the position of the correct answer on a random basis from question to question.
7. You don't need to have the same number of distracters for each question. Distracters can range from three to five in one test.
8. Try to test for knowledge rather than encourage guessing.
9. Try to avoid repetition of concepts and vocabulary in response options.
10. Avoid using the response options 'all of the above' and 'none of the above'.

Interpretive questions

Most true-false, matching, and multiple-choice questions test knowledge, understanding (comprehension), and application (using learned material in new situations). However, true-false and/or multiple-choice questions can be created that require the use of higher-order cognitive skills, which Benjamin Bloom would identify as analysis, synthesis, and evaluation. Such test questions are often called interpretive questions.

Interpretive questions present students with some information (a story, table of data, map, graph, chart, mathematical principle, or picture) and then ask questions that can be answered using the information provided. The intent is to assess reasoning, critical thinking, and problem-solving skills.

This is an example of an interpretive question that asks students to identify the information that will help solve a simple problem.

Fauzia lost her notebook on the way to school this morning. The notebook was a gift from her aunt. It has a blue cover. Fauzia drew a border of flowers on the first page of the notebook. The notebook is new, and she can't remember if she wrote her name on it. She wants her teacher to tell the students in her class about the lost notebook so they can help her find it.

What should the teacher tell the class? Circle **yes** if you think the information in the sentences that follow will help Fauzia's classmates find the notebook.

yes no 1. The notebook was new.

yes no 2. Fauzia rides in a car to school.

yes no 3. The notebook was a gift.

yes no 4. The notebook was purchased in Karachi.

yes no 5. The notebook has a blue cover.

yes no 6. Fauzia's teacher knows Fauzia's aunt.

1. Define the cognitive task (for example, distinguish between fact and opinion, make an inference, apply a principle, recognize an assumption, or evaluate an argument) to be assessed precisely before writing the question.
2. Make sure the information to be interpreted is new to students, brief, and accurate.
3. Ask several questions. Mix multiple-choice and true-false questions.
4. Make sure the material to be interpreted can be read by the students.
5. Write the questions so that students cannot answer them unless they read and understood the information provided in the question.

Constructed-response test questions

The simplest forms of constructed response questions are fill-in-the-blank or sentence-completion questions. For example, the question may take one of the following forms:

1. Who was the president of Pakistan in 1968?
2. The president of Pakistan in 1968 was _____.

Guidelines for writing simple sentence-completion questions

1. Construct your own sentences and questions.
2. Avoid taking questions out of context by using sentences from textbooks.
3. Word the question so that only one answer is correct.
4. Make all of the blanks of equal length.
5. Place the blank near the end of the statement or question.
6. Be sure the question is free of grammatical clues.
7. Be sure there is only one answer and that it is factually correct.

8. Most completion questions assess knowledge.
9. The word that you omit to make a sentence-completion question should be significant to the meaning of the question.

Short-answer questions

Example:

What is the main purpose of formative assessment in the classroom?

1. Short-answer questions assess knowledge and comprehension.
2. Write the question so that the only one answer is correct.
3. Write the question so the answer is brief.
4. Construct your own questions. Avoid questions taken directly from a textbook.
5. Use words in the question that you know students understand.
6. Make it clear to students that the answer is brief.
7. Make sure that the space allocated for the answer is consistent with the length of the answer.

NOTE: Sentence-completion questions have a one- to three-word answer written in the one blank in the sentence. Short-answer questions may have a one- to three-sentence answer.

Essay questions

1. Many education-measurement specialists believe that essay questions should be restricted to those learning outcomes that cannot be measured satisfactorily by objective test questions.
2. Essay questions on a test are designed to assess students' ability to communicate what they know and how they think on particular topics in subjects they study in school.
3. Good performance on an essay question depends on writing ability.
4. If essay tests are to be used, students need to be taught how to plan and write essays within restricted time limits.
5. It is important to write the essay question so that the student's writing task is clearly indicated.

6. Essay questions are either restricted-response or extended-response questions.

Example of restricted-response essay question:

Why is the barometer a useful instrument for forecasting weather? Answer in a brief paragraph.

Example of extended-response essay question:

We learned during class that some natural resources are renewable and others are not.

In two pages, defend the importance of conserving natural resources in our everyday lives.

Make sure to include the following in your answer:

- Definition of *natural resources*
- At least three different arguments for the importance of conservation of natural resources in our everyday lives
- At least three different ways we can conserve natural resources

7. Restricted-response essay questions should be framed in a way to provide students with boundaries for their responses. For example, rather than a question that asks ‘explain the workings of the digestive system’, a better question would be ‘in one page, explain the role of the large intestine in the digestion process’. The first example does not provide students with definite boundaries, whereas the second example clearly outlines the boundaries for the student response. Because the digestive system is very complex and cannot be explained in its entirety using the restricted-response question, it is important to restrict students’ responses to only one or two aspects of the whole system.
8. When writing extended-response essay questions, it is important to provide the students with the background information or a scenario for the question, state the question clearly, and then provide directions about material to be addressed in the question.
9. Students should be told the approximate amount of time required to answer each essay question.
10. Avoid presenting students with a choice of essay questions in a test.
11. Essay questions are scored using a rubric.

Adapted from:

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