

# **PAIDEIA**

TEACHING & LEARNING AT MOUNT ALLISON UNIVERSITY  
 THE NEWSLETTER OF THE PURDY CRAWFORD TEACHING CENTRE

## Getting the Most Out of Multiple-Choice Questions

In September, PCTC hosted Dr. David DiBattista, Professor of Psychology at Brock University. An expert on multiple-choice testing, Dr. DiBattista explained that good multiple-choice questions can do so much more than test memory and recall—a limitation for which they are frequently and unjustifiably maligned.



Dr. David DiBattista

### What is effective testing?

According to Dr. DiBattista, the primary purpose of testing is to measure the extent of student learning. An effective question will discriminate between good and poor students, meaning that students with higher test scores are more likely to answer it correctly than those with lower test scores.

If you want to assess students' higher-order thinking skills, he said, design questions that students cannot answer based on memory alone. Over-reliance on test-banks and poor question construction are the biggest contributors to ineffective testing using multiple-choice items.

	Top 25% of Class	Bottom 25% of Class
<b>Good test item—broad discrimination</b>	90 percent answered correctly	Only 50 percent answered correctly
<b>Poor test item—minimal discrimination</b>	71 percent answered correctly	69 percent answered correctly



Mount Allison University  
<http://www.mta.ca/pctc>

## David DiBattista's Fourteen Tips for Constructing Multiple-Choice Questions

The following tips are presented with permission. They refer to the three parts of the multiple-choice question:

1. **The stem**—the question, which contains the fact or concept you are testing.
2. **The keyed option**—the correct answer.
3. **The distractors**—the other alternative answer you are providing.

**To access Dr. DiBattista's entire PowerPoint presentation, please visit the PCTC Moodle site Education, Teaching and Learning at <http://moodle.mta.ca/course/view.php?id=13930>**

- 1) Use question format rather than sentence completion whenever possible, with correct punctuation and capitalization.  
*Question format helps you to be more precise and helps the students to focus.*
- 2) If you use sentence completion format, check carefully that each alternative answer is consistent with the stem.
- 3) Use the stem to present the issue clearly and with as much information as possible.  
*This can save the students' time in test-taking.*
- 4) Exclude irrelevant information from the stem, unless that information plays a role in the assessment procedure.
- 5) Check carefully for spelling errors, especially in the distractors.  
*An error can often signify that an answer received less care and is therefore incorrect.*
- 6) Avoid using negative words in the stem whenever possible. If you must use them, **emphasize** them.  
*Negative wording can cause unnecessary confusion and potential time-wasting for the test-taker.*
- 7) Make sure that all distractors are plausible.  
*A random answer, such as "Is made of meringue," is a wasted opportunity to test learning.*
- 8) Four alternative answers (a, b, c, d) are usually enough, but let the number of plausible distractors you can supply limit the number of alternatives. (Continued on page 3.)



9) Generate plausible distractors by:

- a. Using the most common errors students have made in past tests.
- b. Designing distractors that are like the correct answer in terms of length, content, and complexity.
- c. Using words that sound significant or are associated with the stem.
- d. Using distractors that are true in themselves but that do not answer the question correctly.

10) Avoid patterns in the location or length of the correct answers.

*These could provide clues to the test takers that are unrelated to their knowledge of the material.*

11) Balance the answer key so that correct responses appear in each position roughly the same number of times.

12) Do not use 'None of the above.'

*This alternative is often an afterthought and often signals to the test-taker that you ran out of plausible distractors. Even when it is the correct response, the student could potentially choose it without knowing what the correct answer to the question is.*

What's wrong with 'none of the above'? Dr. DiBattista gave this simple example:

Who wrote *Middlemarch*?

- a) Charlotte Bronte
- b) Jane Austen
- c) Oscar Wilde
- d) None of the above

Even a student who does not know who wrote the novel—who thinks for example, that Charles Dickens wrote it—would receive full marks for choosing option d.

13) Do not use 'all of the above' unless there are only two distractors.

*Like 'none of the above' the option allows a student with incomplete knowledge to get the mark.*

14) Ignore all of the preceding rules when you have a good reason to do so.

Want to create great multiple-choice tests for your classes?

Mark your calendars:

**Multiple Choice Success**

presented by

**Toni Roberts**

Friday, November 18, at 2:30 pm in DUNN 104.



Mount Allison University  
<http://www.mta.ca/pctc>