Useful Guidelines for Instructors on Multiple Choice Question Writing

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Abstract

With increasing class sizes and the need to quickly return exam scores, more instructors are utilizing some form of multiple choice exams in their courses. Composing effective multiple choice questions is not an easy task and requires considerable time and effort. Poorly written multiple choice questions not only do not assess the course objectives, but also can be confusing and frustrating for students. Therefore, it is important for instructors to learn and follow appropriate guidelines to compose quality multiple choice questions.

Introduction

Multiple choice question (MCQ) exams are a popular assessment tool as they serve a operational advantage to assess large numbers of students with minimal time commitment to grading (McCoubrie, 2004). MCQ exams are utilized in all levels of curricula. In the 2010-2011 Higher Education Research Institute (HERI) Faculty Survey, one aspect investigated was the usage of MCQ exams by full-time faculty apportioned by rank (Hurtado, Eagan, Pryor, Whang, & Tran, 2012). The survey found that as faculty rank moved from Instructor to Full Professor, the usage of MCQ exams decreased, with Instructors having the highest use of MCQ exams at 41.2% (Table 1).

The ubiquitous nature of MCQ exams are related to their advantageous characteristics. MCQ exams, when properly written, can measure simple to complex learning outcomes, allow for a broader sample of course content than other forms of testing (e.g., essay exams), and allow for rapid, clear-cut grading. MCQ student responses are also less influenced by student guessing than are true/false questions, but may be impacted to some degree. Although the guessing factor reduces the reliability of the exam, the reliability can be increased by increasing the number of items on the exam (Burton, Sudweeks, Merrill, & Wood, 1991) (Table 2).

The importance of constructing well-written MCQs is important to prevent the addition of negative error to the examination. Additionally, well written MCQs can appropriately measure the extent to which learning objectives are met, which is vital information for accreditation reporting.

<p>| Table 1. Usage of Multiple Choice Question Exams by Full-Time Faculty by Rank |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Full Professor</th>
<th>Associate Professor</th>
<th>Assistant Professor</th>
<th>Lecturer</th>
<th>Instructor</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.0%</td>
<td>28.2%</td>
<td>31.3%</td>
<td>36.3%</td>
<td>41.2%</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

Although particular adjustments may be needed for certain disciplines, listed below are some overall guidelines to follow in order to develop good multiple choice questions (MCQs):

- Determine if a MCQ is the most appropriate assessment option to assess each learning objective
- MCQs should be tied to learning objectives
- Each MCQ should be linked to ONE and ONLY ONE learning objective
- Avoid using second person (e.g., you)
- Avoid true/false or correct/incorrect items
- Avoid extremes, absolutes, and negatively phrased items
- Provide clear instructions
- Avoid trick items
- Use vocabulary that is at the learners’ level
- Use correct and consistent grammar
- Avoid verbatim phrasing from textbook
- Avoid testing trivial material

Listed below are some overall guidelines to follow in order to develop a good multiple choice question:

- List options in alphabetical or numerical order in a vertical arrangement
- All options should be homogeneous in content and length
- Grammatically consistent and logically compatible with stem
- Clear and concise
- All options should be mutually exclusive; no overlap
- 100% true or 100% false as potential options
- Avoid using “double options” (e.g., A and B, all of the above, none of the above, etc.)
- Only use plausible distractors

### Online Resources for MCQs

1) Go to [http://testing.byu.edu/resources](http://testing.byu.edu/resources) for multiple resources such as:

- How to Prepare Better Multiple-Choice Test Items: Guidelines for University Faculty
- 14 Rules for Writing Multiple-Choice Questions
- Multiple-Choice Item-Writing Guidelines (Rules / Suggestions / Advice as Derived from 46 Authoritative Textbooks) (From Haladyna and Downing, 1989)


- Writing Good Multiple Choice Test Questions

3) Go to [http://www.utexas.edu/academic/cft/assessment/areas/students/planningmethodexams-mchoice-wri/](http://www.utexas.edu/academic/cft/assessment/areas/students/planningmethodexams-mchoice-wri/) for:

- Multiple Choice Under Question Types

### References

