

PRACTICE BRIEF

Accommodations for Multiple Choice Tests

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Abstract

Students with learning or learning-related disabilities frequently struggle with multiple choice assessments due to difficulty discriminating between items, filtering out distracters, and framing a mental best answer. This Practice Brief suggests accommodations and strategies that disability service providers can utilize in conjunction with faculty to help students with disabilities and postsecondary instructors achieve more valid measures of student learning when using multiple choice exams.

Keywords: multiple-choice, strategies, accommodations, assessment

Literature Review

The use of multiple choice (MC) exams dates from roughly the end of the nineteenth century, following the birth of statistics and the concept of norm referencing. Although the use of MC tests is now so widespread as to be ubiquitous, the struggles that many students with learning or learning-related disabilities have with MC exams are equally well-known. A very real issue of fairness can be raised when this exam format is the primary method of assessing student learning (Gatfield & Larmar, 2006; Schutz, Rivers, Schutz, & Proctor, 2008; Tanner, 2003).

In the postsecondary environment, all students generally have to develop some degree of skill in taking MC assessments. For many students with learning or learning-related disabilities, this skill set remains relatively weak due to the information processing and/or memory issues that interfere with discrimination, managing cognitive distractions, and holding information from several possible answers in short-term memory for active comparisons. To make matters more complex, there is variability amongst the suggested best practices for creating MC exams, which implies that a student with a disability may be even more disadvantaged than typical students by a poorly designed assessment (McCoubrie, 2004; Ricketts, Brice, & Coombes, 2010).

The Problem

The problem is to utilize the advantages of MC format (e.g., allowing large sampling of content, testing recall of factual material, testing plausibility) while at the same time accommodating for cognitive disabilities that can directly interfere with the very skills being tested, such as short-term memory, reading comprehension, and visual discriminatory ability.

Students and Location Information

The techniques suggested in this article were developed at a small, private liberal arts college in the mid-Atlantic region, where roughly 10% of the student population has learning and/or learning-related disabilities. Accommodations were negotiated with professors on a case-by-case basis involving approximately 25 students and 12 faculty members.

Strategy

The strategy employed in this project involved two elements. The first was proactive training of faculty through the disability support services (DSS) office, which is part of the center for teaching and learning. The second was the provision of individualized accommodations and/or strategies for students taking MC exams in those faculty members' courses. Faculty instructors frequently use MC assessments

because of the convenience, the prevalence of use across disciplines, and the well-known validity and reliability of such measures (Rodriguez, 2005; Su, Osisek, Montgomery, & Pellar, 2009). However, they are seldom trained in the design and effective use of such measures. As part of this project, individual professors were given one-on-one instruction in best practice for MC design, including the use of distractor analysis, stem construction, and taxonomies of higher level thinking (Rodriguez, 2005; Tanner, 2003). These professors were mostly in the sociology, psychology, and hard science departments, and were contacted due to their history of using MC exams.

The training was based loosely on popular assessment practices such as those seen in *Assessing Student Learning* (Suskie, 2009) and from websites such as the Virginia Commonwealth University Center for Teaching Excellence (http://www.vcu.edu/cte/resources/nfrg/12_03_writing_MCQs.htm). Typical training of this type includes giving tips for writing good MC items, how to avoid trick questions, and how to make MC fair but rigorous (Suskie, 2009, pp. 170-173). Specific strategies could include reducing the number of MC items from four or five to three, administering the MC portion of the exam separately and allowing additional time for that portion, reducing the number of overall MC items, eliminating MC questions that involve complex analysis of language that is not directly tied to content, offering students MC error analysis to learn from testing experiences, and/or allowing students to circle answers directly on the test rather than bubbling separately on a Scantron sheet.

To practice these techniques, professors were offered examples of typical MC questions and then ways to improve them. For example:

Kleege describes which of the following as an emergent field?

- a. Art history (arguably a reasonable distractor)
- b. Aesthetics (probably eliminate to reduce verbiage distractors)
- c. Media studies (arguably a reasonable distractor)
- d. Visual studies (the correct answer)
- e. Visual rhetoric (probably eliminate; too close to correct answer; too tricky)

Participating faculty were also offered possible methods to re-formulate MC questions into other formats:

Explain briefly how Kleege believes that visual studies are different from other fields of study? (Students should respond that it is new, emergent, not yet well known, in its developing stages, etc.)

In general terms, these faculty members were willing to hear about MC ideas when contacted individually, but reluctant to relinquish the use of MC formatted exams. Minor pushback occurred when a professor felt that the accommodation or strategy would alter the assessment in terms of difficulty (i.e., make the test too easy). Interestingly, this response usually led to a discussion of discrimination skills and the intended purpose of the question and often resulted in new approaches that balanced a willingness to accommodate with an overarching concern about rigor or fairness.

On the student side, the following accommodations were implemented when deemed reasonable by DSS after a review of that student's documentation: reduction of item choices, giving the MC test section in a separate session with extra time, and reducing the number of MC items. In addition, students were invited to attend a workshop on MC test-taking skills. This workshop helped students learn and practice specific MC test-taking skills, such as highlighting qualifiers (e.g., "Always," "a finding that was relegated only to the lab setting") or covering up the response options and formulating a mental answer before reading the possible answers. The workshops also served a DSS purpose by allowing informal assessment of students' strengths and weaknesses with taking MC exams. For example, a student with documented short-term memory impairments in his testing records demonstrated this functional limitation while practicing MC exams during the workshop. The author was able to recommend that this student receive questions with fewer answer choices on actual exams.

Observed Outcomes

There is evidence that these accommodations and strategies, used in tandem, can help students with disabilities perform more effectively or as well as non-disabled peers on MC tests (Ricketts et al., 2010; Schutz et al., 2008). Individual student rates of cor-

rect responses on MC tests improved in most cases, although this test format remained difficult for almost all the participating students despite the interventions described in this article. One limitation of this practice was the inconsistency with which students reported their grades after attending the workshop and/or taking MC exams with these new accommodations. Our ability to rigorously measure student outcomes requires a more robust approach in future applications. Additional barriers to success included the occasional lack of willingness on the part of some instructors to adapt tests; the degree of severity of some students' short-term memory deficits, which made even accommodated exams extremely difficult; and the anxiety and stress attendant to the MC format. Based on informal student reporting, students' test anxiety remained higher for MC exams compared to other formats.

Implications

If, as many suggest, MC tests are fated to be a permanent fixture in postsecondary education as well as on high stakes testing such as the MCAT and GRE, then some students with disabilities are likely to continue experiencing barriers to valid assessments of their mastery of course content due to the intersection of the skills needed on this test format and the functional limitations that can arise from their learning disorders. This barrier can be lowered in some cases through additional accommodations and improved test design. There may also be merit in providing more extensive test anxiety intervention for students in tandem with accommodations and strategies, as they often report anxiety about MC. The practice described in this brief requires careful assessment of students' specific test-taking strengths and weaknesses and an active partnership with faculty members who have the time and desire to learn how to modify their course exams.

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About the Author

Jack Trammell received his M.Ed. in Education (History) and his Ph.D. in Education (Research and Evaluation) from Virginia Commonwealth University. His experience includes working as a special educator in the public schools, and serving as director of disability support services at Randolph-Macon College, where he is also assistant professor of sociology and teaches courses in disability studies. His primary research interests include disability stigma, special education, and disability rights. He can be reached by email at: jtrammel@rmc.edu

APPENDIX

Multiple-Choice Accommodations and Strategies Workshop for Students (Outline)

- I. PowerPoint presentation covering a brief history, typical format, and parts of MC tests (adapted from Ellis, 2011)
- II. Complete a diagnostic MC practice test
Example: (<http://www.coun.uvic.ca/learning/exams/multiple-choice>)
- III. Discuss a “hit list” of top ten MC strategies (adapted from Ellis, 2011)
 - A: Answer mentally first (can even cover answer choices up)
 - B: Diagram the question: mark stem, highlight distracters, etc.
 - C: Look for obvious incorrect answers and cross them off
 - D: Finish reading the question all the way through before answering
 - E: Pay particular attention to qualifiers
 - F: Use a system for keeping track of negatives
 - G: If using scantron, circle on test and later check against scantron
 - H: If you leave question blank for later, be wary of transcription errors on scantron
 - I: Identify vocabulary you are uncertain of and underline to look for context clues
 - J: If testing alone, read questions with answers out loud to test for plausibility
- IV. Offer to consult with individual professors when students have followed appropriate DSS registration procedures