

DEVELOPING HIGH-QUALITY MULTIPLE-CHOICE TESTS USING PATIENT VIGNETTES AND MULTIMEDIA

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Abstract

Writing good tests is a challenging task. Multiple-choice questions (MCQs) often contain technical flaws providing advantages to “test-wise” examinees, and they sometimes focus on content that is relatively unimportant from clinical and life-long learning perspectives. This **half-day** workshop focuses on writing patient-based MCQ items for basic science courses and clinical clerkships that assess application of knowledge to clinical situations, rather than recall of isolated facts. Incorporating multimedia into test items to increase the fidelity of patient descriptions will be stressed.

Intended Audience

Medical school faculty and others involved in writing exams, including directors of basic science courses and clinical clerkships, members of medical education departments, curriculum deans, item writers for specialty board certifying examinations and Royal College membership exams, and others interested in achievement testing in the health professions.

Specific Objectives

At the conclusion of the workshop, participants will be able to

- Recognize, correct and avoid commonly occurring technical flaws in MCQ phrasing
- Prepare MCQs that assess application of basic science and/or clinical knowledge to patient care situations rather than just recall of isolated facts
- Identify the advantages and disadvantages of incorporating multimedia into MCQs
- Participate effectively in group review of patient-based MCQs involving multimedia

Format/Methods/Products/Materials from Workshop

This half-day workshop will be run in an interactive, seminar-style format that also includes small-group activities as delineated below.

- Take pretest assessing “test-wiseness”
- Discuss the importance of designing assessments to reinforce key instructional goals
- Discuss MCQ item formats and item flaws that commonly occur in course exams
- Discuss preparation of MCQs using clinical situations and multimedia to provide a context for testing application of knowledge
- Write items using multimedia in small, inter-disciplinary groups. (The organizers will provide a variety of still images, audio clips, and video clips for attendees to use in writing items; participants are also invited to bring images to the workshop on CD or USB disk.)

- Review of items by the full group
- Discuss lessons learned and participate in general question-and-answer session

Each participant will receive a copy of Case and Swanson's *Constructing Written Test Questions for the Basic and Clinical Sciences*, published by the National Board of Medical Examiners. (Participants can download additional PDF copies of this manual from the NBME website and reproduce/distribute them free of charge at their own schools.)

Length of Workshop: Half-day (four hours)

Pre-Requisite Skills: None

Maximum Number of Participants: Limited to 20 attendees – 2/computer

BIOGRAPHICAL SKETCHES

Kathy Holtzman joined the staff of the National Board of Medical Examiners (NBME) in 1977 and has worked on a broad range of examination programs since that time. After managing test development for USMLE Step 2 and the NBME Clinical Science Subject Examination program, Ms. Holtzman became the Senior Director of Test Development for all examination programs, including the three Step examinations, the NBME Subject Examination program, client programs, and international programs. She has also conducted item-writing workshops at numerous medical schools and conferences, both in the US and internationally.

Dave Swanson, the NBME Deputy Vice President for Professional Services, has overall responsibility for test development for all examination programs. Over the years, he has co-authored and presented on a variety of assessment-related topics, including measurement of basic science and medical decision making skills with multiple-choice tests and written/computer-based clinical simulations; assessment of clinical skills with standardized patients; issues in computer-based testing; and the validity of scores on licensing and certification examinations. He has also conducted workshops on assessment at dozens of medical schools and conferences.

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