Developing Quizzes and Assessments for "CME that counts for MOC"

A Resource Kit for CME Activity Directors and Instructors

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Contents:

1. **Roadmap** of technical elements required in MOC questions

2. **Suggested Practices** for question-writing in MOC/CME

3. **Templates** that question authors can use

4. **Peer Reviewer Form** to document adherence to question Review Process

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Introduction: What to Assess?

- When writing assessment instruments, **Start with the end in mind:**

  - **What kind of learner** does your target audience include?

  - **What specialty** ?

  - **What learning outcomes** do you need to measure?

    - Ability to recall facts (test of Memorization)

    - Ability to synthesize concepts (test of using multiple facts)

    - Ability to Practice Competence (What would you do in this case?)

  - MOC-credit assessments can measure Medical Knowledge, Practice Assessment, Self Assessment, or Patient Safety.

  - What style of question do you or your speakers feel best measures your Learning Objectives?

Best Practices and Pitfalls:
multiple choice test-item writing:

1. Offer four answer choices that are of similar **length and detail.**

Good Example:

Bad example:

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2. Avoid Order-dependent answers

Why? We may need to alphabetize or randomize the choice order, so numbering may change.

Bad Example ("<u>A</u> and <u>C</u> only")

Good Example

Best Practices and Pitfalls:

multiple choice test-item writing:

3. Avoid Combination answers ("A <u>and</u> D") etc.

- Combination choices impose extra cognitive load and only <u>indirectly</u> measure the learning objective

- Good Example

- Bad Example

Best Practices and Pitfalls:
multiple choice test-item writing:

4. <u>Half</u> right should <u>not</u> be scored as <u>all</u> wrong-
Restructure combination answers into partial credit choices

- Good Example
- Bad Example

Best Practices and Pitfalls:

multiple choice test-item writing:

5. Avoid "All/None" answers: these steer the learner and shortcut their <u>full</u> consideration of the options choices.

Best Practices and Pitfalls:

multiple choice test-item writing:

6. **Avoid unfair and "trick questions"** such as introducing material NOT covered in your curriculum. (Peer Reviewers will comment on how aligned your questions are to specific learning objectives.

- Good Example

- Bad Example

Feedback must be provided after assessments

- Show formative feedback statements for Incorrect choices (Not quite, think about how etc.)

- Show summative feedback for Correct Answers (Correct! Good Job)

- All questions require a Further Reading or Source Citation.

- Multiple Choice Questions can be machine scored.

- Reflective statements responses must be peer-reviewed or instructor-reviewed, for quality control. Feedback should be provided timely (<14 d)

Questions templates

- **Medical Knowledge question**:_____

  _____

  a) Answer option 1:_____
  b) Answer option 2:_____
  c) Answer option 3:_____
  d) Answer option 4:_____

- Correct Answer choice is: _____

- A single correct answer should be referenced to published evidence so we can provide further reading/feedback to learners who answer incorrectly. Provide a citation (or weblink) that explains the correct answer:

  _____

Questions templates

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- **Practice Assessment Reflective Response question:**

  _____

  _____

- *Examples of Reflective Response Question stems:*

  - **Please describe a barrier you currently face in adopting (__recommended practice change__)** …….[Free Text response]

  - **Please describe how you will implement (___recommended practice change ___):**….. [Free Text response]

  - **How often do you currently (___recommended practice change__) in your practice?** ….. [Free Text response]

Questions templates

- **Self-Assessment Scale question**:

_____

_____

For Self-Assessment Scale question provide a Likert rating scale, that includes exactly FOUR scale labels. If possible use existing, validated scales to aid in comparison.

- Avoid using an odd number (3, 5, or 7) of scale labels: the "safe middle of the scale" is an attractive confounder.

- Multiple Choice Scale Labels:

  i)_____

  ii)_____

  iii)_____

  iv)_____

- **Example: Please rate your competence** in (___measurable objective goes here___):

Expert – Need more proficiency – Need basic Preceptoring – None/Not Applicable

Peer Review Requirements

- Medical Knowledge and Practice Assessment questions should be Peer Reviewed. Responses for PA questions, and passing level should be peer- or instructor-reviewed(See table).

- Peer Reviewers should be Board Certified in a relevant medical specialty, but need not be a subject matter expert.

- A Peer Reviewer template form is included below.

	Question Type	
Requirement Type	*Medical Knowledge*	*Practice Assessment*
Question Quality	**Peer Review**	**Peer Review**
Answer Quality	*Machine scored* if multiple choice, must meet a **peer reviewed** level of satisfactory completion, usually 70% correct.	**Peer Review** of reflective answer; or **Moderator's assessment** of individual participation in group discussion
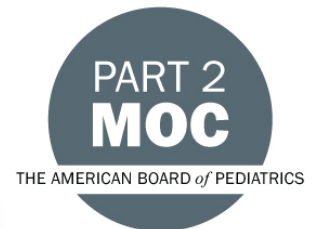
Program Evaluation approaches by "Purpose"

DEVELOPMENTAL   FORMATIVE   SUMMATIVE

Maturity of the "Unit of Analysis"

Innovations. Iterative   Foster development and   Determine whether an

"When the cook tastes the soup, that's formative; when the guests taste the soup, that's summative" (Stake, 2004)

When the host is planning what to do for the guest, that's developmental - Rojas

CORE Principles

The maturity of the unity of analysis would help inform the evaluation purpose and the question.

The evaluation "purpose" can inform the types of outcomes to be captured/analyzed

New platforms and technologies offer the opportunity to focus on different/new outcomes, however, it is important to have a purpose for the collected data. How is it going to be used? What would it inform?

Determine whether the theoretical underpinnings would remain the same for the learning activities (Unit of analysis). This is important as the "program theory" would help inform the expected change and the associated outcomes

Always close the loop. Show what has been done with the collected data and (when possible) report back to your participants. [response rate]