Item Writing Guide
for the
Hospice & Palliative Credentialing Center

Presented by
Applied Measurement Professionals, Inc.

INTRODUCTION

This guide is designed to familiarize you with the overall process of writing an item that can be used for the examination of the Hospice & Palliative Credentialing Center (HPCC) with assistance from Applied Measurement Professionals, Inc. (AMP). It is not a comprehensive discussion of item writing or examination development; many comprehensive books are available for the interested reader. This guide will include a discussion of: 1) item types, 2) cognitive levels, and 3) specific item writing suggestions.

While unique terminology may be introduced throughout this guide, an understanding of the following key terms is important to establish uniformity:

Item - the entire question, including the stem and options. In multiple-choice testing it is customary to speak of test "items" rather than questions, since items may be presented in the form of statements rather than questions.

Stem - the statement, question, chart or graph portion of an item. The stem of the item should present clearly the central problem or idea.

Options - all possible answers to the item, including the *distractors* (the incorrect answers to the item), and the *key* (the one correct, best answer to the item).

The cornerstone of any examination program is the individual item. Each item must be linked to a required area of practice. Tasks required for practice have been identified on a rational basis such as a job analysis, and are the justification for the test content outline used for the examination. All items should be linked directly to this outline. As discussed further in the following sections, all items will be of a multiple-choice format. Most of the HPCC examinations use four options; currently the CPLC® uses three options. Examples in this handbook will illustrate four options. Other formats may have a place in some testing programs, but for many reasons, these will not be used for the credentialing program for which you have been asked to write items.

1. ITEM TYPES

One Best Response Type

This is the traditional and most frequently used type of multiple-choice item, and all items will fit this format, or one of the variations described in this section. The one best response item type consists of a stem, followed by a series of possible answers or completions, called options.

Example: STEM   1. In a terminally ill patient, dysphagia is most likely to indicate

              OPTIONS   A. starvation.   DISTRACTOR
                                * B. impending death   KEY (marked by *)
                                  C. poor pain control.   DISTRACTOR
                                  D. TMJ.   DISTRACTOR

In this type of item, the instructions to the candidates emphasize the importance of selecting the "one best response" from among those offered. In answering these questions, the candidate is instructed to look for the BEST or MOST APPROPRIATE choice and to discard others that may appear plausible, but are less applicable. The two primary formats of the one best response item type are the *Direct Question* and the *Incomplete Statement*, as shown in the following examples.

Direct Question: 2. In which of the following family systems would the most difficult adjustments to the death of a family member be expected?

                                  A. open
                               * B. enmeshed
                                  C. disengaged
                                  D. differentiated

Incomplete Statement: 3. A pain assessment scale is used to

                             * A. measure pain intensity.
                                  B. evaluate character of pain.
                                C. graph compliance with medication regimen.
                                D. measure cultural differences in perceiving pain.

Use either a direct question or an incomplete statement as the item stem, whichever seems more appropriate for effective presentation of the item. If it seems to make little or no difference which item type is used, choose the style that you can handle most effectively. Those who have not had experience in writing multiple-choice items may find that they will initially produce fewer technically weak items when they try to use direct questions than

when they use the incomplete statement approach. The direct question induces the item writer to produce more specific responses. For example, the stem of item number three on the previous page could be rewritten as:

For which of the following is a pain assessment scale used?

You may wish to try rewording a stem as both an incomplete statement and a direct question, then complete the sentence or respond to the question to determine which format you prefer. Each time you generate an item, consider these alternative formats and the use of different terminology, then attempt to take the perspective of the person who will be asked to respond to the item. While opinions do differ, the version that you feel is clearer and more easily understood is probably best.

There are two special cases of the one best option format that may be written. The first involves items requiring *Calculations*, but these are rarely used on HPCC examinations. The second involves those that include *Pictorial* or *Tabular* information which is diagrammed or created by the item author, or taken from another source with written permission.

Two other formats have been used previously on HPCC examinations, but are no longer accepted. These formats include 1) a *Negatively Worded* item, which will ask for the LEAST APPROPRIATE or WORST choice among those provided, and 2) a *Situational Set*, in which lengthy background information is provided followed by a series of items.

2. EXPLANATION OF COGNITIVE LEVELS

AMP uses a three-level classification system to identify the level of thinking required to respond to an item. The three levels are recall, application, and analysis. Identifying the cognitive level of an item will require you to take the perspective of the candidate, that is, to consider how an entry level candidate would likely think in responding to the item. Item writers may be requested to write at all levels so as to meet the requirements of test specifications developed from the job analysis study.

Level 1 - RECALL

Recall items primarily test the recognition or recall of isolated information. Such questions require predominantly an effort of memory. They include the recall of specific facts, generalizations, concepts, principles, processes, procedures, or theories. To simplify, such a question will ordinarily be asking: "What is X?"

Example: The grief process can best be described as

      A. an abnormal condition requiring extensive counseling.
      B. a time-limiting process occurring through specific stages.
  * C. an interval process unique to each person with variable time frames.
      D. a universal experience involving shock, confusion, and reinvesting in life.

Level 2 - APPLICATION

Application items primarily test simple interpretation or application of limited data. Such questions require more than simple recall, but less problem-solving. They include questions that require translation into another form of specific verbal, tabular, or graphic data, and recognition of the elements and relationships among such data. Questions at this level will ordinarily be asking: "Knowing X to be true, what would you expect to be true about Y?"

Example: If a patient with a history of breast cancer experiences pain between the
            shoulder blades, it is most likely to indicate metastases to the

  * A. bone.
      B. liver.
      C. brain.
      D. pancreas.

Level 3 - ANALYSIS

Analysis items primarily test the evaluation of data, problem solving, or the fitting together of a variety of elements into a meaningful whole. Items at this level will ordinarily require examinees to make value judgments concerning the effectiveness, appropriateness, or best course of action for a particular situation. Many steps may be required in the candidate's thought process.

Example: A 100-item certification examination has been administered to 2,000 candidates. Reliability on this administration was .92, and the passing point was 70. The mean raw score was 85, with a standard deviation of 15. Approximately how many candidates passed this examination?

        A. 1110
        B. 1400
   * C. 1680
        D. 1840

While the difficulty of an item is sometimes related to its cognitive level, it must be emphasized that it is the thought process required that determines an item's cognitive level. To write items that assess a particular cognitive level, the essential question to ask is: "What do I expect the candidate to do in order to select the correct response?" If you expect the candidate to identify, recall, or recognize, you will generally be writing Level 1 items. If you want the candidate to classify, explain, or differentiate, you are likely writing Level 2 items. If you expect the candidate to formulate, evaluate, or judge, Level 3 items should result.

3. ITEM WRITING SUGGESTIONS

The Whole Item

1. EXPOSE ITEMS TO EXPERT REVIEW. "Review" in this suggestion refers to content even more than to adequacy with respect to grammar, diction, or spelling. A formal review of the items will be conducted, but the first review should take place with one of your trusted colleagues. Such a review ordinarily involves:

    - verification of the "correct" answer,
    - suggestions for better wording,
    - suggestions for better distractors, and
    - appraisal of an item's significance.

2. FOLLOW THE NORMAL RULES OF GRAMMAR.

    - If the stem of the item is a question, each alternative should begin with a capital letter and end with a period or other terminal punctuation mark if it is a complete sentence.
    - The period should be omitted with numerical options to avoid confusion with decimal points.
    - When the stem is an incomplete sentence, each alternative should begin with a lowercase letter (except for proper nouns). No period, colon, etc. is used at the end of incomplete sentences.

3. AVOID IRRELEVANT SOURCES OF DIFFICULTY. Just as it is possible to incorporate clues to a correct response inadvertently, it is possible to place obstacles unintentionally. Frequently, problems in mathematics are answered incorrectly by candidates who have reasoned correctly, but slipped in their computations. To measure an understanding of the process used in a calculation, simple numbers (whole numbers) should be used. Similarly, candidates should not miss an item solely because of language or vocabulary difficulties. All items must be written so that an appropriate reading level is required. You should use appropriate professional terminology, but do not use longer, more complicated words when shorter, less complex words will suffice. Overall, the difficulty of the "average item" should be such that 55-75% of the candidates get it right. Most item writers tend to underestimate the difficulty of the items they produce.

4. AVOID ANY POTENTIAL SOURCES OF BIAS. Make sure all of the language in the item is appropriate, and avoid any words or phrases that could be potentially offensive to any particular group. Avoid the use of words that may have varied meanings in different regions of the country (e.g., soda *vs.* pop *vs.* soft drink). Do not include references to age, gender, race, ethnicity, or religious/spiritual beliefs, unless it is important from a clinical perspective.

5. USE AN EFFICIENT FORMAT. The options should be listed on separate lines, under one another, like the examples in this guide. This makes the options easy to read and compare. The use of letters in front of the options is preferable to using numbers. This avoids possible confusion when numerical answers are used in an item.

6. ELIMINATE IRRELEVANT CLUES. Irrelevant clues may make the item easier as a whole or may even change the basis upon which the item discriminates. "Testwise" candidates who normally would not be able to choose the correct response will notice the clue and respond correctly on the basis of it.

- Similarity of wording in both the stem and the correct answer is one of the more obvious clues. Key words in the stem may be unintentionally repeated verbatim in the correct answer, or a synonym may be used, or the words may simply sound or look alike.

- The phrasing of the correct answer is likely to give it away. Even the most poorly prepared candidates are able to recognize a familiar phrase or "buzzword."

- When the answer is qualified by modifiers which are typically associated with true statements (e.g., sometimes, may, usually), it is more likely to be chosen.

- Including absolute terms in the distractors enables candidates to eliminate them because such terms are commonly associated with false statements (e.g., always, never, all, none, only).

- Including two responses that have the same meaning makes it possible to eliminate them as potential answers. If two options have the same meaning and only one answer is to be selected, it is fairly obvious that both of them must be incorrect.

7. USE DETAILED CONTENT OUTLINE. Relate every item to a specific task on the detailed content outline. This ensures strong evidence of content validity for the test and helps meet the test specification requirements for items.

The Stem

1. USE CLEAR AND SIMPLE LANGUAGE. The production of good test items is one of the most exacting tasks in the field of creative writing. Few other words are read with such critical attention to implied and expressed meaning as those used in test items. The problem of ambiguity in objective test items is particularly acute because each test item is usually an isolated unit. Unlike other reading material in which extensive content helps to clarify the meaning of a particular phrase, a test item must be explicitly clear in and of itself.

2. AVOID UNESSENTIAL SPECIFICITY. Design your items to test knowledge that may be applied in a variety of specific situations. The superior value of general knowledge over specific knowledge should be reflected in tests whenever possible.

3. AVOID DIFFICULT AND TECHNICAL VOCABULARY. Unless it is essential for the purpose of the item, sentence structure should be as simple as possible. Complex sentences should be broken up into two or more separate sentences. Qualifying phrases should be placed near the terms they qualify. The important elements should generally appear early in the statement of the item, with qualifications and explanations following.

4. PRESENT A SINGLE, CLEARLY FORMULATED PROBLEM. The task set forth in the stem of the item should be so clear that it is understood without reading the options. In fact, a good check on the clarity and completeness of a multiple-choice stem is to cover the options and determine whether it could be answered. Avoid an "undirected stem" in which the candidate must read all options to know what the item is asking.

5. AVOID THE USE OF NEGATIVE WORDING. State the stem of the item in positive form whenever possible. A positively-phrased test item tends to measure more important learning outcomes than a negatively stated item.

6. AVOID TEST QUESTIONS RELATING TO DEFINITIONS. A correct response to a definition simply indicates that the candidate can recall what he or she has learned in class. It does not mean that he or she knows how to use that information in a job-related setting.

7. PUT AS MUCH OF THE WORDING AS POSSIBLE INTO THE STEM OF THE ITEM. Avoid repeating the same material over again in each of the options. By moving all common content to the stem, it is usually possible to clarify the problem and to reduce the time required to read the options. In many cases, it is not simply a matter of moving the common words to the stem, but one of rewording the entire item.

8. AVOID EXCESSIVE "WINDOW DRESSING." The item should contain only material relevant to its solution, unless selection of what is relevant is part of the problem.

9. INCLUDE ALL QUALIFICATIONS NEEDED TO CHOOSE THE RIGHT ANSWER. Item writers do not always state the qualifications that exist in their own minds about a topic. They forget that different individuals need to have these qualifications specifically stated.

Options and Distractors

1. SELECT AND FORMULATE THE DISTRACTORS WITH CARE. The options are as important as your statement of the problem in the stem. Incorrectness should not be the sole criterion. The difficulty of an item depends largely on the options. The finer the distinctions that must be made to select the correct answer from the distractors, the more difficult the item.

2. MAKE CERTAIN THAT THE KEY IS CORRECT AND CLEARLY BEST. There should be ONLY ONE correct answer and it should be unquestionably correct. The intended answer should be the one that experts would agree is clearly the best, in which case, it may also be necessary to include "of the following" in the stem to allow for equally satisfactory answers that have not been included in the item.

3. MAKE THE DISTRACTORS PLAUSIBLE TO THE UNINFORMED OR MISINFORMED. The distractors in a multiple-choice item should be so appealing to candidates who lack the knowledge called for by the item that they select one of the distractors in preference to the correct answer. The art of constructing good multiple-choice items depends heavily on the development of effective distractors. There are a number of things that can be done to increase the plausibility and attractiveness of distractors. These are summarized below:

   - Use the common misconceptions of candidates as distractors.
   - State the options in the language of the candidate.
   - Use good-sounding words (e.g., accurate, important, etc.) in the distractors, as well as in the correct answer.
   - Make the distractors similar to the correct answer in both length and complexity of wording.

- Use extraneous clues in the distractors, such as stereotyped phrasing, scientific-sounding answers, and verbal associations with the stem of the item. However, beware of writing trick questions.
- Make the options similar but avoid fine discriminations, which are not practically significant.
- Avoid using options which are opposites of each other. Each alternative should be plausible; opposites are inconsistent with that idea, and candidates can eliminate them with limited information.

4. ARRANGE THE RESPONSES IN LOGICAL ORDER. When the options consist of numbers or "steps," they should be arranged in logical order. If no logical order exists, then order the options randomly.

5. DO NOT USE THE OPTIONS "ALL OF THE ABOVE" OR "NONE OF THE ABOVE." The inclusion of "all of the above" as an option makes it possible to answer the item on the basis of partial information, and the chances of guessing the correct answer are increased. Another difficulty with this option is that some candidates, recognizing that the first choice is correct, will select it without reading the remaining options. "None of the above" is a poor option because it could almost always be argued for being a correct answer.

6. MAKE THE DISTRACTORS INDEPENDENT. Responses should NOT be interrelated in meaning or mutually exclusive of each other. Sometimes a subset of two or three of the responses may cover the entire range of possibilities, so that one of them must necessarily be correct. Sometimes, one response may include one or more of the other responses, so that all the items in that subset must necessarily be false. Related responses help candidates eliminate wrong answers.

7. MAKE ALL OPTIONS GRAMMATICALLY CONSISTENT WITH THE STEM OF THE ITEM AND PARALLEL IN FORM. The correct answer is usually carefully phrased so that it is grammatically consistent with the stem. Make sure that you read each option with the stem, and ensure that the options are consistent, parallel, and properly stated.

~ 9 ~

SUMMARY OF ITEM WRITING SUGGESTIONS

A. The Whole Item

1. Expose items to expert review.
2. Follow the normal rules of grammar.
3. Avoid irrelevant sources of difficulty.
4. Avoid any potential sources of bias.
5. Use an efficient format.
6. Eliminate irrelevant clues.
7. Use the detailed content outline.

B. The Stem

1. Use clear and simple language.
2. Avoid unessential specificity.
3. Avoid difficult and technical vocabulary.
4. Present a single, clearly formulated problem.
5. Avoid negative wording.
6. Avoid test questions relating to definitions.
7. Put as much of the wording as possible into the stem.
8. Avoid excessive "window dressing."
9. Include all qualifications needed to choose the right answer.

C. Options and Distractors

1. Select and formulate the distractors with care.
2. Make certain the key is correct and clearly the best.
3. Make the distractors attractive to the uninformed.
4. Arrange the responses in logical order.
5. Do not use "all of the above" or "none of the above."
6. Make the distractors independent.
7. Make all options grammatically correct and parallel.

Prepared by:
Lawrence J. Fabrey, PhD
Senior Vice President, Psychometrics
Applied Measurement Professional, Inc.
913-895-4706
LFabrey@goAMP.com