

Item Writing & Embedded Items

Topics

- Item writing
 - Multiple choice
 - Multiple Select (reduced set matching)
- Embedded items

Multiple choice: parts of

- Who is the most constructivist professor in the ITLS department?

• Andrew Walker
• Brett Shelton
• Doug Holton*
• Mimi Recker
• Sheri Haderlie

Multiple choice

- The good
 - Variety of learning targets
 - Minimize the BS response
 - Does not assess writing abilities
 - Guessing is more difficult* (T/F)
 - Diagnostic abilities
 - What's missing from this list?

Multiple Choice

- The bad:
 - Little self-expression
 - Limited to trivia or factual knowledge*
 - Punishes bright students
 - Canonized knowledge
 - Forces drill-and-practice

Multiple choice Recommendations (stem)

- Write as direct questions
 - (Haladyna & Downing, 1989a)
- Avoid incomplete sentences
- Keep it simple (non-technical)
- For definitions, place term in stem
- Drop the window dressing
- Do not use negatives
- Avoid examinee opinion
- Paraphrased (not from the textbook)
- Separate items

Multiple choice Recommendations (leaves)

- 3-5 rule
- Homogenize
- Place repeated words/phrases in stem
- Consistent punctuation & grammar w/ stem
- Arrange in a list that is logical or meaningful
- Distinct leaves
- Avoid true/false leaves
- Avoid "none of the above/all of the above"
- Overly plausible distractors
- 'Joke' response

Multiple choice examples

- Which of the following three-dimensional shapes is best suited to traversing a smooth surface in a linear fashion?
 - cube
 - pyramid
 - ruler
 - point
 - cylinder*

Multiple choice examples

- If you want students to perform a calculation in a test the best thing to use is:
 - A fixed-response item.
 - A multiple choice item.
 - A matching item.
 - A fill-in-the blank item.*

Multiple choice examples

- Which of the following is the best film set in New York City?
 - Sex in the City
 - When Harry met Sally
 - CSI New York
 - You've Got Mail
 - Spider-Man*

Matching: parts of

In column A are statements about our history, in column B Names places and dates, match the letter of the appropriate Name, place, or date with the appropriate line next to column A

- | | |
|--|----------------------|
| <input type="checkbox"/> 1. First president of the United States | A. Columbus |
| <input type="checkbox"/> 2. Discoverer of America | B. George Washington |
| <input type="checkbox"/> 3. Year America was discovered | C. Washington, D.C. |
| <input type="checkbox"/> 4. Beginning of the Revolutionary War | D. 1492 |
| <input type="checkbox"/> 5. Present capital of the United States | E. 1776 |

Matching

- The good
 - Efficient
 - Variety of learning targets
- The bad:
 - Promotes rote memorization
 - Most difficult to write

Matching Recommendations

- Match with learning targets/objectives
- Match assessment plan
- Homogenous sets of premises/responses
- Clear directions
- Every response is a plausible option for every premise
- 5-10 rule
- No perfect matching (# responses > # premises)
- Each premise longer than each response
- Logically arranged responses
- Numbered premises/lettered responses

Matching examples

In column A are statements about our history, in column B
Names places and dates, match the letter of the appropriate
Name, place, or date with the appropriate line next to
column A

- | | |
|---|----------------------|
| ___ 1. First president of the United States | A. Columbus |
| ___ 2. Discoverer of America | B. George Washington |
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Embedded items

- Goal is to check understanding
 - Timing (formative)
- Do not grade
- Allow for multiple attempts
- Feedback
 - Correct response (prompt to continue)
 - Incorrect response = recursive corrective feedback (try again)
 - Invalid response (re-prompt)

What we did not cover

- Assessment blueprints and assessment plans
- Validity/reliability of items
 - Content validity
 - Intra-item reliability
 - Item analysis
- Other item types: true/false, short answer, fill in the blank, essay, project-based.
