SELECTED-RESPONSE ITEMS
NARRATOR'S SCRIPT

CONTENTS

INTRODUCTION AND PURPOSE

The focus of this module is selected-response items, which, if done well, are a lot more difficult to design than your students probably realize.

By the end of this module, you should be able to define what a selected-response item is, identify the benefits and challenges selected-response items present, know the four parts of a well-designed multiple-choice item and use the assessment blueprint to help you design assessment items.

KEY CONCEPTS

Types of Assessment Items

Now, let's get started with a quick review of the three types of assessment items.

We can categorize assessment items into three types: selected-response items, constructed-response items and performance tasks.

Constructed-response items ask students to write, or "construct," the correct answer.[1]

Performance tasks ask students to create products or perform tasks to show their mastery of particular skills.[2]

---

[1] Kansas State Department of Education, "Assessment Literacy Project"; Ohio Department of Education, "How to Design and Select Quality Assessments"; Relay Graduate School of Education, *Designing and Evaluating Assessments* (2014); and Rhode Island Department of Education, "Deeping Assessment Literacy."
[2] Ibid.

Selected-Response Items

Selected-response items are the focus of this module. They ask students to select the correct answer from a list of options included in the item. Examples of selected-response items include matching, true/false and multiple choice. We use answer keys and scoring guides to score these items.[3]

These items offer a major advantage: They are efficient. You can use selected-response items to assess a range of student knowledge and skills, and you can score them faster than other types of assessment items.

Although well-designed selected-response items can measure higher-order thinking, they cannot do so in the same direct manner as constructed-response items and performance tasks. This is because students are always selecting the answer, not creating it themselves. Students can also guess the answers to selected-response items, which makes the results less accurate. Finally, a long assessment that contains only selected-response items can overwhelm and frustrate students.

How to Design Multiple-Choice Items

We will now describe in detail how to design a common type of selected-response item—multiple choice.

Multiple-choice items require students to choose the correct answer from four or five possibilities. They are useful because they can measure a range of student knowledge and skills, but they do not require you to use a scoring guide or rubric. (Although, as the module about scoring suggests, you can add rationales to answer keys to inform your instruction.) We focus on multiple-choice items because they can be the most challenging selected-response items to write. We can also apply these steps to write and select matching and true/false items.

A typical multiple-choice item contains four parts: an item number, background information, a prompt and choices. The choices include one correct answer and several incorrect answers, which are also known as distractors.[4]

Let's use examples to describe how you can develop each of these parts so that the item, as a whole, is well designed.

Item Number
An *item number* orients students to where the item fits within the assessment.[5]

The best practice for this part is self-explanatory: You should number each item.[6]

Background Information

---

3 Ibid.

4 Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).

5 Ibid.

6 Ibid.

Background information includes what students need to know to select the correct answer.[7]

Be sure to include all necessary information that students need in order to select the correct answer.[8]

What background information is missing in this item? You may remember this assessment item from a different module.

*Choose the **one** answer that best solves the problem.*

If one card is taken at random from a deck of playing cards, what is the probability that the card will be an ace?

    a. 8 percent;
    b. 50 percent;
    c. 25 percent; or
    d. 10 percent[9]

Pause this video if you want a few moments to think about your answer or discuss it with colleagues.

The item omits two key pieces of information that students need to know in order to select the correct answer: the number of aces and the total number of cards in a deck of cards. We can make the item clearer if we add into the item the missing facts—"There are 4 aces in a deck of 52 playing cards."

Prompt

The *prompt* asks a question or describes a task.[10]

You should try to frame prompts positively. Just because a student can recognize an incorrect answer does not mean that he or she knows the correct answer. If you decide to use a negative prompt, be sure to emphasize the negative key words so that students are not confused.[11]

For example, this item has a negative prompt.

A student is revising the following paragraph and needs to take out information that does not support why birds make good pets.

There are many reasons why people keep birds as pets. Canaries sing beautiful songs. Parakeets will sit on your shoulder. Parrots can talk to you. Birds fly outdoors. Pet birds can be fun.

---

[7] Ibid.

[8] Ibid.

[9] New Jersey Department of Education, *SGO 2.0—From Compliance to Quality* (2014).

[10] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).

[11] Ibid.

Which of the following sentences does not support why birds make good pets?

    a. "Canaries sing beautiful songs."
    b. "Parakeets will sit on your shoulder."
    c. "Parrots can talk to you;" or
    d. "Birds fly outdoors."[12]

How might you revise the item to emphasize the negative word?

You can capitalize and underline the word "not" in the prompt to make clear what students need to do.

A prompt should not require students to know information not included in the prompt.[13]

What clarification would students need to answer this item, and how might you rewrite the prompt to eliminate the need for the clarification?

The word "attribute" means:

    a. to regard something as being caused by someone or something.;
    b. a quality or feature regarded as a characteristic or inherent part of someone or something;
    c. to give someone a gift; or
    d. blame.

The item requires students to know in what context the speaker or writer is using the word "attribute," but the prompt does not contain the appropriate context. The revised prompt provides the appropriate context by using the word in a sentence.

*Marlena said in her victory speech that she must **attribute** her success to her supportive parents and teachers. In this context, the word "attribute" means BLANK.*

Prompts should not include words or grammatical cues that might give away the answer.[14]

What in this prompt gives away the answer?

A frog is an example of an:

    a. mammal;
    b. amphibian;
    c. reptile; or

---

[12] Haywood County Schools, "Smarter Balanced Test Items Samples: ELA Grade 3."
[13] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).
[14] Ibid.

    d.   fish.

Because "amphibian" is the only choice that begins with a vowel and requires "an" as an article instead of "a," students could infer that "amphibian" is the correct answer without knowing that a frog is an example of an amphibian. We can revise the item by rephrasing the prompt. For example:

Frogs belong to which class of animals?

Items should be as concise as possible, which often requires a concise prompt. To simplify prompts, you can include words in the prompt that would otherwise be repeated in choices.

How could we simplify the prompt in the assessment item?

The three parts of the Constitution include:

    a.   the Preamble, the Articles and the Bylaws;
    b.   the Preamble, the Articles and the three branches of government;
    c.   the Preamble, the Articles and the Articles of Confederation; or
    d.   the Preamble, the Articles and the Amendments

We can include two parts of the Constitution in every choice: "the Preamble" and "the Articles." For example:

The three parts of the Constitution include the Preamble, the Articles and the:

    a.   Bylaws;
    b.   three branches of government;
    c.   Articles of Confederation; or
    d.   Amendments

Choices
Choices include answers to the item prompt.[15]

Multiple-choice items on a single assessment should always use the same number of choices so that students have the same odds of guessing the correct answer. We use four or five choices for most grades, though we can use as few as three choices for kindergarten and first grade. Four or five choices provide only a 20 or 25 percent chance of students guessing the correct answer *and* limits the number of good distractors you need to write.[16]

---

[15] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).
[16] Ibid.

Choices should be consistent in form, content and length. Choices that are inconsistent with others stand out. For example, a choice draws attention if it is significantly longer or shorter than the other choices.[17]

How can we revise the assessment item so that choice "c" does not stand out?

What role did many colonial women play during the American Revolution?

    a. *They served as officers in the army;*
    b. *They gave speeches to rally the people;*
    c. *They kept the farms and shops running during the war, which was vital for the American economy; or*
    d. *They helped run the government*[18]

We could shorten choice "c" and lengthen choices "b" and "d" so that the correct answer does not stand out.

Choices should be ordered in a logical sequence because logical order enhances the perception of randomness.

For example, if the choices are numbers, order them from least to greatest or from greatest to least.[19]

If the choices are single words, order them alphabetically.[20]

Include only one clearly correct answer, but make sure that your incorrect answers, also known as distractors, are plausible. If distractors are too obvious, students may be able to guess the correct answer, whether or not they have mastered the content. Strong distractors should reflect common student misconceptions and errors so that if students answer items incorrectly, you can gain information about where and how student understanding breaks down.[21]

Let's consider an example:

The Wolf and the Goat
A hungry wolf spied a goat at the top of a steep cliff where he could not possibly get at her. "That is a very dangerous place for you," he called out, pretending to be very anxious about the goat's safety. "What if you should fall? Please listen to me and come down! Here you can get all you want of the finest grass in the country." The goat looked over the edge of the cliff. "How very, very anxious you are about me," she said, "and how kind you are with your grass! But I know you! It's your own food you are thinking of, not mine!"

[17] Ibid.
[18] National Center on Education Statistics, NAEP Questions Tool "What role did many colonial women play during the American Revolution?"
[19] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013); International Association for the Evaluation of Educational Achievement, *TIMSS 2007 User Guide for the International Database, Released Items Science— Fourth Grade* (2009).
[20] Ibid.
[21] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).

What does the word "anxious" mean in the text?

    a. selfish;
    b. hungry;
    c. hopeful; or
    d. worried[22]

In this example, although there is one correct answer, all of the distractors are somewhat plausible. For example, "selfish" is plausible because the wolf in the text is selfishly trying to get the goat. "Hungry" is plausible because the wolf in the text wants to eat the goat. "Hopeful" is plausible because the wolf in the text is hopeful that he will get the goat. "Worried" is plausible and is the correct answer because it has the same meaning as "anxious."

Finally, avoid using "all of the above" or "none of the above." Items with these two choices stand out and may appeal to students who can answer an item with four choices correctly if they know that two of the choices are right, although they may not have known that the third choice is right.[23]

Ideally, you will develop a well-designed scoring tool *while* you are developing each assessment item.

How to Score Multiple-Choice Items
We typically use answer keys to score multiple-choice items.

Answer keys provide the correct answer to an assessment item. Some well-designed answer keys explain why each choice is correct or incorrect, which can help you diagnose common student errors, adjust your instructional strategies and plan areas for re-teaching. The module about scoring includes more information about well-designed answer keys.

How to Use the Assessment Blueprint

Let's use the assessment blueprint and assessment blueprint example to apply what we've learned.[24]

Imagine that you are a fifth-grade teacher planning a unit focused on reading and writing about informational texts. You expect the unit to last approximately four weeks.[25]

---

[22] Haywood County Schools, "Smarter Balanced Test Items Samples: ELA Grade 3."

[23] Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).

[24] Adapted from Ohio Department of Education, "Assessment Literacy: Identifying and Developing Valid and Reliable Assessments" (2013).

[25] Ohio Department of Education, "Ohio's New Learning Standards: English Language Standards" (2010); and Student Achievement Partners, "Mini-Assessment for *Who Was Marco Polo?* by Joan Holub and *The Adventures of Marco Polo* by Russell Freedman" (2014).

At the end of the unit, you plan to use a summative assessment to measure how well your students have mastered the relevant standards.

You have determined that the unit will focus on four reading informational text standards and one writing standard. You have "unpacked" the standards to identify and paraphrase the skills you plan to teach and assess. You have also identified a level of rigor for each item and possible types of items you may use to assess each skill.

Step 6 of the assessment blueprint asks you to write and/or select assessment items.

For each item, it asks you to:
- identify the standards and/or skills addressed by the item;
- identify the type of item;
- identify the level or levels of rigor of the item;
- write or select the item; and
- assign a number of points to the item.

For example, let's say that you want to address with your first assessment item a skill associated with reading informational text standard 4: Determine the meaning of new vocabulary words.

You decide to write a multiple-choice item that requires lower-level thinking and is worth five points.

The next step is to write the actual item, which includes developing all parts of the item and a scoring tool.

Here's an item from the assessment blueprint example:

In paragraph 4 of Who Was Marco Polo?*, the author states that an exaggeration became known as a "Marco Polo." What is the meaning of the word "exaggeration"?*[26]

The choices are:

a. *a misunderstanding of factual information;*
b. *a long journey taken over several years;*
c. *an individual who does exciting and interesting things; or*
d. *a statement that things are bigger or better than they are.*

The answer key explains why each choice is correct or incorrect. For example:

---

[26] Student Achievement Partners, "Mini-Assessment for *Who Was Marco Polo?* by Joan Holub and *The Adventures of Marco Polo* by Russell Freedman" (2014).

Option a, *"a misunderstanding of factual information,"* implies that the reader has some confusion, while an exaggeration is an act on the part of the speaker/writer that shows the speaker/writer is deliberately not telling the whole truth.

Option b, *"a long journey taken over several years,"* describes Marco Polo's trip rather than his possible stretching of the truth.

Option c, *"an individual who does exciting and interesting things,"* describes Marco Polo's life rather than the possibility he didn't tell the truth.

Option d is the correct answer. *"A statement that things are bigger or better than they are"* is the definition of the word *"exaggeration."* When one makes an exaggeration, one is misrepresenting what really happened, or exaggerating.

This well-designed item illustrates the concepts we discussed in this module. It contains all parts of a multiple-choice item. The prompt is precise, and the choices are all plausible. The item includes a well-designed answer key that can help improve your instruction.

CHECK FOR UNDERSTANDING

We have addressed the key concepts in this module, so let's review our goals.

At the outset of the module, we set goals that you would be able to define what a selected-response item is, identify the benefits and challenges that selected-response items present, know the four parts of a well-designed multiple-choice item and use the assessment blueprint to help you design assessment items.

Although we cannot check to determine whether we have achieved all of these goals, let's use two assessment items to check your understanding of the benefits and challenges that selected-response items present and your understanding of one of the parts of a well-designed multiple-choice item.

Here's the first item:

Describe one benefit and one challenge of selected-response items.

Pause this video if you want a few moments to think about your answer or discuss it with colleagues.

A sample answer to the first item would be: Selected-response items are efficient. You can use selected-response items to assess a range of student knowledge and skills, and you can score them faster than other types of items. However, students can guess the answer to selected-response items, which makes the results less accurate.

Here's the second item:

Describe in one or two sentences why you should make sure that the distractors in your multiple-choice items are plausible.

Pause this video if you want a few moments to think about your answer or discuss it with colleagues.

A sample answer to the second item would be: If distractors are too obvious, my students may be able to guess correctly, whether or not they have mastered the content. Strong distractors should reflect common student misconceptions and errors so that if my students answer items incorrectly, I can gain information about where and how student understanding breaks down.

CONCLUSION

Good work! Thank you for completing the module on selected-response items. Please view additional modules to continue your learning.

SOURCES

Education First. *A Primer on Common Core-Aligned Assessments*. 2013. http://www.education-first.com/files/A_Primer_on_Common_Core-Aligned_Assessments_Education_First.pdf.

Haywood County Schools. "Smarter Balanced Test Items Samples: ELA Grade 3." Accessed March 23, 2015. http://eclass.haywood.k12.nc.us/pluginfile.php/25078/mod_resource/content/2/asmt-sbac-ela-gr3-sample-items.pdf.

International Association for the Evaluation of Educational Achievement. *TIMSS 2007 User Guide for the International Database, Released Items Science—Fourth Grade.* 2009. http://timss.bc.edu/TIMSS2007/PDF/T07_G4_Released_Items_SCI.zip.

Kansas State Department of Education. "Assessment Literacy Project." http://www.k-state.edu/ksde/alp.

National Center on Education Statistics. NAEP Questions Tool "What role did many colonial women play during the American Revolution?" Accessed March 23, 2015. https://www.learningpod.com/question/history-4-what-role-did-many-colonial-women-play-during-the-american-revolution-what-role-did/e4ba4b5d-b375-454d-8441-383ea328ec9c.

New Jersey Department of Education. *SGO 2.0—From Compliance to Quality.* 2014.

Ohio Department of Education. "Assessment Literacy: Identifying and Developing Valid and Reliable Assessments." 2013. http://education.ohio.gov/getattachment/Topics/Teaching/Educator-Evaluation-System/How-to-Design-and-Select-Quality-Assessments/AL-Training-PPT-FINAL-for-Distribution.pdf.aspx.

Ohio Department of Education. "Ohio's New Learning Standards: English Language Standards." 2010. http://education.ohio.gov/getattachment/Topics/Ohio-s-New-Learning-Standards/English/ELA-Standards.pdf.aspx.

Relay Graduate School of Education. *Rules for Multiple Choice Item Design*. 2013.

Rhode Island Department of Education. "Deepening Assessment Literacy." Accessed March 23, 2015. http://media.ride.ri.gov/PD/Eval/Deepening_Assessment_Literacy_output/story.html.

Student Achievement Partners. "Mini-Assessment for *Who Was Marco Polo?* by Joan Holub and *The Adventures of Marco Polo* by Russell Freedman." 2014. http://achievethecore.org/page/502/mini-assessment-for-who-was-marco-polo-by-joan-holub-and-the-adventure-of-marco-polo-by-russell-freedman-detail-pg.