

# PRECISION NARRATOR'S SCRIPT

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## INTRODUCTION AND PURPOSE

The focus of this module is the third element of assessment design—precision.

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By the end of this module, you should be able to describe what “precision” means for the purpose of these modules and make an imprecise item more precise.

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## KEY CONCEPTS

### Precision

Now, let's get started.

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For the purpose of this series of modules, precision means that assessments and items are accurate and clear. A *precise* assessment measures students' knowledge and skills, not their misinterpretations or lack of unrelated background knowledge.<sup>1</sup>

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Specifically, all parts of a precise assessment or an item are formatted in a logical order. They do not contain typos or factual errors, and they do contain accurate and clear instructions so that students understand where and how to respond. They include all of the information that students need to demonstrate their knowledge and skills.<sup>2</sup>

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For example, in the module about bias, we describe an assessment item that is not biased but that still measures something it does not intend to measure.

*If one card is taken at random from a deck of playing cards, what is the probability that the card will be an ace?*<sup>3</sup>

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<sup>1</sup> Kansas State Department of Education, “Assessment Literacy Project”; Ohio Department of Education, “Assessment Literacy: Identifying and Developing Valid and Reliable Assessments” (2013); Relay Graduate School of Education, *Designing and Evaluating Assessments* (2014); and Rhode Island Department of Education, “Deeping Assessment Literacy.”

<sup>2</sup> Relay Graduate School of Education, *Rules for Constructed Response Item Design* (2013); and Relay Graduate School of Education, *Rules for Multiple Choice Item Design* (2013).

<sup>3</sup> New Jersey Department of Education. *SGO 2.0—From Compliance to Quality* (2014).

The item omits key pieces of information that students need to know in order to select the correct answer: the number of total cards in a deck of cards and the number of aces in a deck of cards.

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We can make the item clearer if we add the missing facts to the item: "There are 4 aces in a deck of 52 playing cards."

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## How to Design Precise Assessment Items

Let's look at a few more examples.

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How could you revise this item to make it clearer?

*Marcus has 34 marbles. He puts an equal number of marbles into 4 bags. For "1a" through "1d," choose Yes or No to indicate whether each number sentence could be used to find the number of marbles that Marcus puts in each bag.<sup>4</sup>*

- a.  $36 \times 4 =$
  - b.  $36 \div 4 =$
  - c.  $36 \times [\text{blank}] = 36$
  - d.  $36 \div [\text{blank}] = 36$
- 

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

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The first sentence contains a typo; that is, it reads 34 marbles instead of 36. The prompt references choices "1a" through "1d," but the answer choices do not include the number "1," which may cause confusion. The choices also do not make clear where they are missing information; that is, choices "a" and "b" are missing information after the equal sign, and choices "c" and "d" are missing information before the equal sign.

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Although precision may not be as difficult a concept to grasp as other elements, such as rigor and alignment, it is every bit as important. Do not underestimate the power of formatting to confuse or provide clarity. Sometimes a simple formatting change can make the difference between an assessment item that measures what it intends to measure and one that does not.

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Here's another example.

*Choose the **one word** that completes the sentence.*

*Football quarterbacks, who line up directly behind the offensive line, are often tackled during games \_\_\_\_\_ they do not have a good offensive line.*

- a. *even though;*
- 

<sup>4</sup> Hawaii Department of Education, "Grade 3 Mathematics Sample SR Item C1 T1."

- b. *although*;
- c. *in spite of*; or
- d. *because*

How could you revise this item to make it more precise?

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This item is confusing because it asks for the “one word” that completes the sentence, but two of the choices have more than one word. We can rewrite the prompt to make this item more precise.

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For example:

*Choose the **conjunction** that completes the sentence.*

You may have suggested other changes to improve the item. In the module about bias, we suggest additional revisions.

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We can also apply the element of precision when we select items. Be mindful of the format of items from banks of items or curriculum developers because some published materials are not as precise as they *could* be.

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## CHECK FOR UNDERSTANDING

We’ve completed our discussion of precision and learned that we have to design items with great care, just as we want our students to respond to our questions with great care. Let’s now review our goals.

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At the outset of the module, we set goals that you would be able to describe what “precision” means for the purpose of these modules and make an imprecise item more precise.

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To determine whether we have achieved the second of these goals, let’s check your understanding with an assessment item.

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How might you improve the accuracy and clarity of this assessment item?

The item asks the student to “find  $x$ .” It includes a picture of what appears to be a right triangle with sides labeled “10cm” and “10cn.” The side opposite of what appears to be a right angle is labeled “ $x$ .”

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

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A sample answer to the item would be: I could improve this assessment item by:

- fixing the typo of 10cn to read 10 centimeters;
- placing the square symbol that indicates a right angle in the lower right-hand angle; and
- revising the item prompt so that it reads, “What is the value of  $x$  in centimeters? Show your work in the space provided.”

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Good work! Thank you for completing the module on precision. Please view additional modules to continue your learning.

## SOURCES

Hawaii Department of Education. "Grade 3 Mathematics Sample SR Item C1 T1." <http://www.hawaiipublicschools.org/DOE%20Forms/Testing/MathGrade3SampleItems.pdf>.

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

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>.

Relay Graduate School of Education. *Designing and Evaluating Assessments*. 2014.

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