

Writing Simulation-like Questions Job Aid

Benefits for Using Simulation-like Questions

According to Will Thalheimer, there are many benefits or arguments for advocating the use of simulation-like questions. The following are a few of the most important ideas that are beneficial for writing simulation-like questions (<http://www.work-learning.com/ma/publications.htm>, Writing Simulation-Like Questions, February 2003):

- Simulation-like questions produce similar benefits to those generated by full-blown simulations, but they do it at a fraction of the cost. Simulation-like questions do not require the costs of multimedia development. They do not incur costs for video and audio production, talent and talent recruitment, editing, studio rental, and project management associated with such efforts.
- Simulation-like questions utilize the same five learning factors that full-blown simulations do. They (1) provide realistic decisions set in realistic situations, (2) prompt learners to make decisions and retrieve information from memory, (3) provide realistic or didactic feedback, (4) use multiple scenarios covering the same learning points, and (5) space repetitions over time.
- Simulation-like questions can improve learning outcomes by 50 to 190%, the same rate possible through full-blown simulations.
- Simulation-like questions are easier to modify than multimedia-based simulations.
- The use of simulation-like questions is supported by proven research-based findings compiled from the world's best-juried journals on learning, memory, cognition, instruction, and performance.
- Learners seem to like simulation-like questions because they challenge them to perform in realistic situations. Learners feel they should know what to do, and hence they stay motivated throughout the learning.
- Because they are easy and inexpensive to create, simulation-like questions can be developed to repeat key learning points.

Terms and Definitions

1. **Validity** measures the accuracy of the inferences made from an assessment's results. It answers the question, "Are we measuring the knowledge, skill, or ability to master the learning that a candidate must possess to be truly qualified at our pre-established minimum level of competency?" In simple terms, it asks, "Are we assessing the right people?"
2. **Reliability** refers to the accuracy and consistency of assessment scores and pass/fail decisions based upon them. Reliability is "repeatability." It measures how close the same person would get to their first score the next time the assessment is taken, and takes into consideration that no further studying has taken place. It answers the questions, "How accurate and consistent is this score?" "How much does this score vary from what this person should have scored were this assessment perfectly reliable?" In general, terms, it asks, "How consistently are we assessing the right people?"
3. **Simulation-like-questions** are short-stem case scenario questions that provide learners with practice on the types of decision-making they will face in their real-world situations. These questions produce more powerful learning benefits than most other forms of questioning. They also have significantly fewer resources than full-blown simulations.
4. **Full-Blown simulation questions** are long case scenario questions that provide learners with practice on the types of decision-making they will face in their real-world situations. Typically, these questions include a long scenario that has several questions associated with the scenario. Participant's must download the scenario and then answer the questions based on the scenario.
5. **Assessments** are any systematic method of obtaining evidence from posing questions to draw inferences about the knowledge, skills, attitudes, and other characteristics of people for a specific purpose.
6. **Formative** assessments that have a primary objective of providing practice for search and retrieval from memory for a participant and that provide prescriptive feedback (item, topic and/or assessment level).
7. **Summative** assessments that are usually quantitative and whose primary purpose is to give a definitive grade and/or make a judgment about the participant's achievement. If this judgment verifies that the participant has met an established standard indicative of special expertise, the judgment may confer "certification".

No.	Question-Writing Checklist	Check if complete
1	Determine that simulation-like questions are appropriate, and understand how they will be used in your instruction, how they will benefit your learners, and how they will improve the performance of your learners when they return to their jobs.	
2	Determine overarching objectives. Why are you writing these questions? What do you want your learners to know? What situations will your learners face on the job? By answering these and other general questions for yourself, you will create some initial guidance for your writing. Make sure you write down your answers and keep track of your notes so that you will remember them.	
3	Learn the topic material. This is vital so that you can create rich, meaningful questions and so that you can determine how the material applies to the learners' on-the-job performance situations.	
4	Learn about the learners' performance situations. If you are going to create meaningful scenarios that mirror different performance situations, you have to know what these performance situations are like. Although you ought to have a general sense of the learners' day-to-day activities, it is most important to focus on the specific situations relevant to the topic.	
5	Create a list of all of the specific learning points you want learners to know. Because these are simulation-like questions, you are developing, try and keep most of your learning points focused on cause-and-effect relationships. In addition, keep in mind the following question as you develop your list of specific learning points: "What do you want your learners to do, and in what situations do you want your learners to do those things?" By keeping in mind the cause-and-effect relationship and the situated actions you want your learners to be able to perform, you will be able to create the most powerful types of questions.	
6	Begin writing a simulation-like question for each learning point.	
7	Write other questions that seem relevant, that focus on performance situations not covered, or that intrigue you. Do a reality check. Ask yourself whether the question really teaches a key learning point.	
8	Create brief feedback for each question or each decision choice. Feedback is most beneficial if it is very concise and direct. Praise for correct answers and empathetic responses for incorrect answers are not useful.	
9	If you plan to provide additional practice—generally a good idea—write a second or third question for each learning point. Where applicable, vary the decision choices. Where appropriate, vary the background situation described in the scenario. Consider varying the question type and providing learners with more difficult types of questions, even the more realistic recall questions.	