

Testing Thinking Skills

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Many of the reforms in education, both here and abroad, stress goals of critical thinking/analytical thinking, creative thinking, problem solving, and decision making, that is, higher-order thinking. This renewed emphasis on thinking comes in part from the common perception that the majority of our students do not or cannot think. These comments are routinely heard from employers of graduates of the secondary system and UWI. Does it mean, then, that students who have been in the school system for 12, 14, or 17 years pass examinations, and even achieve “A” grades, without having had opportunities to be engaged in higher-order thinking? There are at least two distinct but interrelated elements of schooling that can facilitate or hinder the development of student higher-order thinking. These are the teaching/learning experiences and the types of assessments that are used. The dominant mode of assessment in Trinidad and Tobago is the pencil and paper examination and hence is the focus of this article. If the pencil and paper examinations did require higher-order thinking, then what form would the examination questions (items) take?

First, there would be items that seek to have students apply their understandings to new situations. In many cases, however, these applications are not merely algorithmic, as obtains when students are required to apply numbers to a standard mathematical equation or to change the subject of a formula—patterns of thinking and actions that are clearly defined in advance. Lauren Resnick, an internationally known scholar in the cognitive science of learning and instruction, characterised higher-order thinking as thinking that is not algorithmic. Students are required to apply principles learnt in the classroom to novel scenarios or situations that they have not discussed with the teacher. The premise is that if the items on the examination addressed only those examples that the teachers have given to, or discussed with, their students, then they really test students’ recall of, or their ability to regurgitate, the answer that the teacher provided.

Test items are usually designed within a framework that requires students to demonstrate that they can recall, explain, apply, analyse, synthesise, or evaluate. The latter three are required for higher-order thinking. Therefore, if the examination comprises items that are pitched at levels of recall, understanding, and application that require algorithmic thinking only, or if these items are a significant majority (more than 70%), then it is evident that students can achieve high marks on the examination without being required to demonstrate that they can engage in higher-order thinking. Examples of such questions are “define the following terms,” or “list/label the parts of the digestive system,” or “state the capital of each of the following countries,” or “calculate the circumference of the circle.”

The pattern of types of items produced in examinations over the years often signal to teachers what should be emphasised in their classroom teaching/learning encounters and what teaching strategies should be adopted. It is therefore possible that in their attempts

to help their students to pass examinations, teachers may engage in classroom practices that in fact militate against the development of critical and creative thinking.

Based on the evaluation of stakeholders, it appears that many paper and pencil tests do not always live up to the expectation that persons who are certified are indeed critical, creative thinkers and problem solvers. It seems then that focused attention should be paid to the development of items that require higher-order thinking. In addition, alternative assessment strategies, which are more amenable to tasks that require critical and creative thinking, are needed to supplement the paper and pencil tests.

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