Teaching methods for teaching Infectious Diseases
FACTSHEET ON SINGLE BEST ANSWER QUESTIONS

Teaching Method

Single Best Answer Questions

Single Best Answer Questions (SBAs) are not usually considered a stand-alone teaching method but they can be used in conjunction with other teaching methods such as a self-paced e-learning presentation or Team Based Learning. They also often used as stand-alone formative tests to inform teachers and learners about the learners' progress and these might be done in an identified or de-identified manner depending on purpose. There is a significant body of literature suggesting that testing itself enhances learning over and above the associated learning. The downside to testing is the cost and stress it causes both learners and staff.

SBAs are increasingly used as the format for summative assessments in healthcare.

Learning objectives

Many types of learning objectives can be addressed using SBAs: knowledge; application of knowledge (using a range of cognitive skills such as synthesis, analysis, evaluation); and explanation of practical skills and their application. Of course they cannot be used to assess the implementation of practical skills.

In terms of medicine the learning objectives *that can be tested through SBAs include:*

- knowledge recall
- application of basic sciences, social sciences and ethics
- interpretation of data, graphs, images or photographs related to non-clinical and clinical scenarios and settings
- differential diagnosis, investigations and management from a clinical scenario plus data, images or photographs
- situational judgements – the right thing to do in a complex professional setting

Pros and cons

What are the advantages and disadvantages of this teaching method?

Advantages	Disadvantages
• can assess a wide range of learning outcomes and if well written can encourage students to focus on application of knowledge • permits one exam to sample well across a wide range of learning outcomes, specialties and settings. • authoring and quality assurance process usually ensures the question addresses intended learning outcomes and has a widely agreed correct answer • machine marking permits SBAs to be used in learning packages • they can be rapidly marked • students perceive them as fair: all get the same questions and examiner influence on marking has been removed (on the understanding the quality assurance process has ensured the question is appropriate with a widely agreed correct answer). • can be adapted to be used in many situations (e-learning, TBL, stand-alone)	• difficult to write clearly to be discriminating based on ability under test, and prevent challenge • a number of traps lead to poorer quality SBAs that focus on recall only, and/or do not discriminate or encourage appropriate learning • authoring and quality assurance process is very time consuming, expensive • students remember and share SBAs: a very large bank is required • though rapidly marked, requires post-exam review and adjustments (if used summatively) • cannot assess all learning outcomes, especially topics such as ethics and social sciences are difficult to address • learners spot answers rather than create them; less impact on learning than short answer questions