

RSCtv – Designing eAssessments – from elementary to higher order skills.

Introduction -

Some of the most common misconceptions about eAssessment are:

- Objective tests are easy & dumb down education be used to assess basic knowledge
- Objective tests encourage guessing
- Writing objective tests is easy - really it's a bit of an art and takes a bit of practice but once you have a model that suits you can replay use the concept

One way to classify eAssessment is using this convergent / divergent model - convergent = one correct answer / divergent = a range of answers which depend on opinion or analysis.

In reality assessments fall somewhere in a continuum between extremes. And this model relates quite well to Blooms taxonomy but as you move towards a more divergent model it does become more difficult to create objective tests. In designing eAssessments that assess higher order skills what you can do is take account of both these concepts and try to word questions which reflect analysis, synthesis & evaluation and also are more divergent in nature - without increasing the burden of marking.

Let's take a look at the types of assessments with some examples. Convergent types i.e. one correct answer include T/F, Multiple choice, multiple response, gap fill, matching & exception. However, if you are clever about the wording of questions you can increase the complexity.

1. This statement is quite complex with 2 conditions that require to be understood and a decision made (50/50 guess possible)
2. Basic multiple choice question testing knowledge - the 3 distracters need to be plausible
3. The wording of this MC question is more complex giving a scenario which can test application and synthesis of knowledge
4. Multiple response and also I think matching questions like the next example increase the level of difficulty because they require a number of correct answers although they tend to be knowledge recall
5. Gap fill again requires multiple correct answers in one question. Here I include a word bank - probably one of the drawbacks as for automatic marking it's important to limit the response options
6. Exception questions are interesting as it puts a different slant on a multiple choice - a comprehensive in knowledge is needed in order to identify the exception

Let's take a look at question types that a bit further along the convergent / divergent continuum -Gap fill with free text / rating / / Likert scales /assertion & reason / and best answer can all be used to increase the academic level of tests. The scoring needs to be considered with weighted points awarded when appropriate

1. In terms of eAssessment this is pretty difficult to mark automatically although there is great scope with free text to have a huge variety of correct answers. (I'm not sure now that this is type should be included as an effective eAssessment in the context of what we are looking at here.)
2. With ranking and sequencing type questions you are able to assess opinion, judgement with some scope for evaluation of elements
3. And this is the same using the Likert scale type question especially when you couple is with a scenario type stem and it gives you scope to assess opinion and judgment rather than simple knowledge and comprehension
4. Assertion / Reason is another way to assess higher order skills / quite a complex stem here but it is possible to automark these
5. Best answer types are interesting as all the answers are correct and I think this would work perhaps coupled with a weighted score

Using a CBM system was new concept for me. You mark the main question and then award marks from 1-3 on how certain they are but similarly you penalise say -1 - -3 depending on the certainty. This is not something I've used personally but It's something I think I might try.

Web 2.0 technologies provide new ways to assess higher order skills and to some extent are turning things on their head a bit. It really depends on your own definition of eAssessment as to whether these web 2.0 technologies qualify. The automatic marking of the products of these technologies is problematic although in terms of assessing divergent & reflective or collaborative work they present great opportunities.