

Effective Assessment Examples

These sites provide some background assessment information, along with specific examples of question or activity types that go beyond knowledge recall to knowledge application.

1. <http://www.fctl.ucf.edu/TeachingAndLearningResources/CourseDesign/Assessment/>
The Faculty Center for Teaching and Learning at UCF provides information related to classroom, course, and program assessment along with a look at institutional effectiveness planning. Some good tips are provided as well as some background information to address the question, “Why measure?” Some specific examples can be found under “Formative Classroom Assessment”:
 - Minute Papers
 - Reflective Writings
 - Jigsaw
 - Peer Reviews
 - Interactive Teaching Techniques – this link provides numerous (172 at last count!) methods to engage students in learning course material which might also be used for assessment purposes.

2. <http://testing.byu.edu/info/handbooks/betteritems.pdf>

How to Prepare Better Multiple-Choice Test Items

- Site provides a useful checklist

Objective: Identifies the correct application of principle (problem solving).

In the diagram above, parallel light rays pass through a convex lens and converge to a focus. They can be made parallel again by placing a:

- a. Concave lens at point B.
- b. Concave lens at point C.
- c. Second convex lens at point A.
- d. Second convex lens at point B.
- *e. Second convex lens at point C.

3. http://www.indiana.edu/~best/write_better_tests.shtml
http://www.indiana.edu/~best/write_better_tests.shtml#V-4

Suggestions for Writing Multiple-Choice Items Which Measure Higher Objectives

It is difficult and time-consuming to write multiple-choice items that measure the higher thinking skills. The item writer has to be creative in order to develop challenging questions. The following suggestions may provide some ideas for writing these kinds of questions.

- Present practical or real-world situations to the students. These problems may use short paragraphs describing a problem in a practical situation. Items can be written which call for the application of principles to the solution of these practical problems, or the evaluation of several alternative procedures.
 - Present the student with a diagram of equipment and ask for application, analysis, or evaluations, e.g., "What happens at point A if .?," "How is A related to B?"
 - Present actual quotations taken from newspapers or other published sources or contrived quotations that could have come from such sources. Ask for the interpretation or evaluation of these quotations.
 - Use pictorial materials that require students to apply principles and concepts.
 - Use charts, tables or figures that require interpretation.
4. <http://www.utexas.edu/academic/mec/research/pdf/writingmceexamshandout.pdf>
 - Site provides useful examples and activities

Application - (This question tests for the application of previously acquired knowledge (the various memory systems):

Which one of the following memory systems does a piano-tuner mainly use in his occupation?

- A. Echoic memory**
- B. Short-term memory
- C. Long-term memory
- D. Mono-auditory memory
- E. None of the above

5. <http://www.facultyfocus.com/articles/educational-assessment/short-answer-questions-a-great-middle-ground/>
New **Faculty Focus** article on writing short answer questions as a "middle ground" between MC and essay types. Examples and construction pro/con advice are given. Some highlighted points follow:

- Are a paragraph or less
 - Should always ask one clear question, rather than confusing the issue with multiple queries
 - Easier to develop than multiple choice
 - (Arguably) generate a more in-depth answer [than multiple choice]
 - Easier to grade [than essay]
6. <http://www.uiowa.edu/~c07p385/lecturenotes/testsppt.pdf>
A pdf view of PowerPoint notes from a University of Iowa course. While it takes awhile to interpret the slides, there are some nuggets (if not "gems") to be found.
- Addresses pros/cons of essay v. multiple choice item types
 - Pitfalls to avoid in multiple choice item construction
 - Alternative multiple choice item types (e.g., analogy; premise -> conclusion; classification; etc.)
 - Provides a few multiple choice item examples (including a good premise-> conclusion math item)
7. <http://people.ucalgary.ca/~dmjacobs/portage/>
"Multiple Choice Item Construction" is a substantive online PowerPoint presentation from University of Calgary faculty member Dr. Michele Jacobsen with easy-to-follow navigation. This is a much clearer alternative to #2 above (even though #2 might have some unique points). Some highlights:
- Very good, straightforward advice on multiple choice (and other assessment type) item writing
 - Some guidance in creating a test blueprint cued to specified cognitive levels
 - Slide 45: "items can be constructed to address various levels of cognitive complexity"
 - Addresses challenges to writing solid multiple choice items (especially at higher levels)
8. http://www.pearsonassessments.com/hai/images/NES_Publications/1996_12Berk_368_1.pdf
This link provides an informative (and often humorous) article written by Johns Hopkins Nursing professor Ronald Berk and distributed by Pearson Assessments. There is quite a bit of technical detail, but there are some practical guidelines to be found regarding writing multiple choice items at higher cognitive levels. Some highlights:
- p 114: "key operative words in the stem that can elicit different levels of thought processes.... This approximation... is the acid test of whether an item measures recall or higher level behaviors."

- Specification of "prediction and evaluation" as two types of "complex cognitive behaviors" (i.e., "predict the consequences of a particular action or situation based on certain principles and to evaluate the most effective, appropriate, or best course of action according to one or more criteria.").
- Table 2 and Table 3 are rich with practical examples
- Good treatment of "context-dependent" items (i.e., scenario/vignette-based MC items), but this is mainly conceptual since once you "get the idea," you should be able to do it.
- Robust reference list

9. http://tryout.questionmark.com/learningcafe/413645802/Writing_Good_Test_Questions.ppt

“Writing Good Test Questions” is a corporate PowerPoint presentation with a focus on providing test construction education and services for their clients. The presentation has some tips for constructing effective test items, as well as some examples from various perspectives and disciplines. If you go to the parent site, <http://tryout.questionmark.com>, you can also find some examples of question types for disciplines specifically in academia. Look for the “Tryout and Downloads” button at the top of the screen; then select “Try Sample Assessments” from the dropdown menu. Several areas will be displayed from which to choose, i.e., Business/Government, Academic, Test Publishers.

Item Writing Guidelines (example)

Content Alignment and Focus

Test objective: Identify the content of the Declaration of Independence and the factors that led to its creation.

The quartering of large numbers of British soldiers in the American colonies mentioned in the Declaration of Independence means that the colonists had to pay their wages. (T/F)

+ While this item is related to the stated objective, it focuses on what quartering is rather than on its role as a factor leading to the Declaration of Independence.

Improved

The Declaration of Independence contains a complaint against the king about the quartering of large numbers of British soldiers in private homes in the American colonies. (T/F)

10. <http://www.avln.org/resources/webct/level2/2cheatnot.htm>

- **Question types**
 - Smaller question amounts with time limits
 - Example: 1 – 2 essays or short answers with 10 minute time limit

- Discipline-specific analogies
 - Different for each student or groups of students
- **Expound on word or concept**
 - Use random selection of assigned concepts
 - Example: Out of numerous course concepts, randomly assign a few concepts to students or groups about which to write
 - 200 course concepts available, select 50 to be assessed, then randomly assign 4 concepts to students
 - Limits identical assignments in small classes
 - Provides diffusion in large classes

11. <http://www.cedma-europe.org/newsletter%20articles/misc/Proof%20of%20Learning%20-%20Assessment%20in%20Serious%20games%20%28Oct%2005%29.pdf>

- **Defend answer choice**
 - Based on serious interactive games design in use by corporations, military, and some educational institutions
 - Part of the appeal of serious games is that they provide a familiar environment for the latest generation of students
 - Simulations are fun and offer engagement of the player, with self-motivated progress through the material
 - Instead of one correct answer, the goal is to teach students how to quickly choose a good way to improve a situation and explain their choices – Examples:
 - Medicine - students correctly label specific anatomical parts
 - Theatre - students survey a digital stage and choose locations for lighting and stage props
 - Social Work – students prepare for an upcoming clinical home visit using a detailed simulation of home studies
 - Political Science – students manage the political campaign of Abe Lincoln as he tries to beat out Rudy Giuliani in the presidential elections of 2008

12. <http://www.accessola2.com/superconference2007/thurs/415/kick.ppt>

Site provides some background assessment information, along with specific examples of question or activity types that go beyond knowledge recall to knowledge application. This presentation is focused on the K-12 environment, but the concepts are easily extrapolated to the university setting. The information on slides 26 – 29 is very good, along with examples provided on slides 66 – 74.

- **Change point of view**
 - Focus on time
 - Examples: Write an obituary for a civilization
 - Change a historical decision and predict consequences
 - Change format
 - Examples: Editorials
 - Newspapers
 - Role plays
- **Incorporate technology**
 - Examples: TV talk show
 - Political pundit blogs
 - Web sites
- **Create a Web quest**
 - Example: Internet scavenger hunt
- **Create visual products** (very useful ideas provided for disciplines which require original artistic work)
 - Examples: Diorama
 - Photographs
 - Artwork
 - Video