Test Checklist

Definition

Tests are structured oral or written evaluation of student achievement. For purposes here, test refers to those developed by the instructor or program faculty, in house. This does not refer to standardized tests (norm-referenced tests).

First, determine if a using a test is the best choice for data collection

- Who will develop the test? Do these persons have time to develop and ensure content validity of this test?
- Is the test and its questions clearly connected to the learning outcome(s) to be assessed? Do the faculty or members of the program agree that this test and its test questions are connected to the outcome(s)?
- Does the test need scoring key? Does the scoring relate to the outcomes?
- Are the faculty (or members of the program) in the courses/events from which the test is obtained, willing to share info about their students' performance with other faculty members?
- Will the results of the test performance allow the faculty (or members of the program) to know where and what improvements/enhancement to make for the course, event or program?
- Is the test and scores on individual questions for each student easily obtained?
- Do you know who will evaluate the students' performance on the test questions? How easy will that process be? How much time and cost is involved in having the test assessed?
- Do the test questions allow for assessment of higher cognitive abilities such as synthesis and evaluation of knowledge; assessment of in-depth knowledge, creativity or integration of learning? If yes, this is a good reason to choose this method.
- Is this a high-stakes test? If yes, it may produce student anxiety that may result in assessment reflecting lesser ability than actual ability.

Consider your sample

- See Sampling Procedure "how to" document?

Structuring your questions

Types of questions:

- The easiest to score are multiple-choice questions.
- Open-ended or problem solving scenarios may provide better assessment results. A rubric or scoring guide will need to be developed for these types of questions.

Wording

- Avoid leading or biased questions
- Consider Bloom's taxonomy to achieve the appropriate level of knowledge for the test question.
- Make the wording clear and unambiguous

- For multiple choice questions have one clear answer. (four or five choices are enough)
- The distracters should be close to the topic, and could be an answer for students who do not know the material. Consider using common errors students make as a distracter.
- To ensure that the question is not getting rote memory, do not use the same wording or phrases used in the textbook or class materials.
- Use "none of the above" or "all of the above" infrequently.

Pretest with students and other professionals in the field to determine if the questions are clear, unambiguous and have one clear answer. Ideally, then pilot test with a small number of students.

Data Analysis

- When analyzing data you should have an open mind. Use the test questions scores as the assessment data; use the average of the students' scores, not individual student scores.
- An alternative way to use test scores: instead of using the actual score of the question or set of questions, you can score each question using 1/0 for right /wrong.

For example, the test could have 3 questions on 2 topic areas that relate to your outcome. The test scores are used to assess the whole class on the topics, not to judge individual students.

	Topic 1				**Topic 2**			
Students:	**Question 1**	**Question 2**	**Question 3**	**Total topic 1**	**Question 4**	**Question 5**	**Question 6**	**Total topic 2**
a	1	0	1	**2**	0	1	0	1
b	1	0	1	**2**	1	1	0	2
c	1	1	1	**3**	1	1	1	3
d	1	1	1	**3**	1	0	1	2
e	0	1	1	**2**	0	1	0	1

% of students who got 2 or 3 questions correct:		100%	60%
	Standard:	**Excellent**	**Poor**

1= correct

0 = incorrect

Department Standard:

Excellent: 90% of the students get 2 or more questions correct on topics
Average: 70% of students get 2 or more questions correct on the topics
Poor: less than 70% of students get 2 or more questions correct on the topic

Tips to Ensure Quality

- After administering exam as pilot, run statistics on each test question, including percentage of students who answered each stem,. If more than 80% of students got the question correct, improve on the answer choices/distracter choices.
- Use item-discrimination indices and item to total score correlations to determine how well the test questions fit together. If question correlates with the total score less than .2, then redo that question.
- By examining the range of scores on the exam, then other changes can be made. If the range of scores on the exam is narrow, then replace some test questions with more difficult questions. If the range of scores is too wide or scores are skewed, replace items with easier questions or a different selection of difficult and easy questions.

References and Additional Information

For additional information about developing and using multiple choice question tests for assessment,

see the following websites:

Assessment of Higher Education: http://ahe.cqu.edu.au/MCQ.htm

JMU website: http://www.jmu.edu/assessment/resources/Tips_MC.htm

Penn State website: http://tlt.its.psu.edu/suggestions/questionwriting/index.shtml

For additional information, see these books or articles:

Haladyna, T. M., & Downing, S. M. (1989). A taxonomy of multiple-choice item-writing rules. Applied Measurement in Education, 2, 37-50.

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Jacobs, L. C., & Chase, C. (1992). Developing and using tests effectively: A guide for faculty. San Francisco: Jossey Bass.

Morris, L. L., Fitz-Gibbons, C. T., Lindheim, E. (1987). How to measure performance and use tests. Beverly Hills: SAGE Publications.

Ory, J., & Ryan, K. E. (1993). Tips for improving testing and grading. Beverly Hills: SAGE Publications.