

## **Constructing Assessments**

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Below is an outline of Assessment related topics developed by Greg Fletcher,  
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### **Evaluation of Student Achievement**

- Evaluation process usually includes the use of written tests and/or performance tests.
  - Written tests are typically prepared by the teacher to determine a student's cognitive gain.
  - Performance tests are prepared by the teacher to determine how well a student can perform the physical or manipulative activities detailed in the course objectives.
- Purposes of Testing – The basic purpose of testing is to determine how well the students have learned the subject matter of the course.
  - Grades
    - Teachers have to assign a final letter grade for a course at the end of a semester.
    - Test grades, along with other graded exercises as outlined in a course syllabus, are used to determine the final course grade.
  - Reteaching
    - An analysis of test grades can indicate that a student or the whole class is weak in a specific area and the material may have to be retaught.
  - Advancement
    - The test results may indicate that one or more students are not ready to advance to the next unit. As time permits, the students will need to be brought up to speed so that they can go on with a minimal amount of difficulty.
  - Reinforcement
    - Tests require students to remember and apply knowledge.
    - Tests and quizzes provide an incentive for studying course material.
- Qualities of Good Tests and Quizzes
  - Test Validity
    - Indicates the degree to which a test or an item on a test measures what it is supposed to measure.
    - Validity is considered to be the most important characteristic of a good test or quiz.
  - Reliability
    - Indicates the degree to which a test gives consistent results each time it is given under similar circumstances.
  - Objectivity

- Indicates the degree to which a test or quiz can be scored without the personal opinion of the scorer affecting the grade.
  - A test or quiz is considered to be objectively graded if a person with little or no knowledge of the subject matter can easily score the test or quiz using an answer key.
- Practicability
  - Indicates the extent to which a test or quiz is practical.
  - Includes readability, ease of administration, scoring, time, material, money and personnel required.
- Objective Tests
  - Learning occurs in three domains
    - The cognitive
    - The affective
    - The psychomotor
  - Written tests and quizzes help determine learning in the cognitive domain.
  - Some learning in the affective domain can be determined from written tests but is usually determined by observing student behavior over a period of time.
  - Learning in the psychomotor domain must be determined with performance tests.
  - Common Types of Tests
    - True – False
      - Consist of a series of statements about a specific subject.
      - Easy to design, score and can easily cover a wide range of material.
      - Are often low in reliability and often measure a student's reading ability rather than their knowledge.
      - Students have a 50-50 chance of guessing the correct answer.
      - Rules to follow when constructing true or false items.
        - Never use the words 'never' or 'always' in the statements. They increase the guess factor.
        - To help eliminate the guess factor, have students underline the word or phrase that makes a statement true.
        - To help eliminate the guess factor, have students underline the word or phrase that makes a statement true.
        - To help eliminate the guess factor, if a statement is false, have students write in a word or phrase that will make the statement true.
    - Multiple-Choice
      - Consist of a statement or question followed by a list of possible answers, only one of which is correct

- Reduces the chance of guessing the correct answer.
- Relatively easy to score.
- Disadvantage is students are only required to recognize the correct answer, not recall it.
- Rules to follow when constructing multiple-choice items.
  - The introductory statement should have enough information to clearly indicate what the problem is before the student looks at the possible answers.
  - At least four, but not more than six, possible answers should be given.
  - All possible answers should relate to the subject matter of the question.
  - All possible answers should be plausible.
  - When possible answers consist of numbers, arrange them in numerical order, either descending or ascending.
- Completion
  - Consists of a statement with one or more key words missing and a blank left in its place.
  - Less chance of simply guessing the answer because none are given to choose from.
  - Tests a student's ability to recall information very well.
  - Often difficult to construct completion items that call for only one correct answer.
  - Rules to follow when constructing completion items.
    - Try to omit only one key word or phrase.
    - Avoid having the blank at the beginning of the statement.
    - For missing phrases, use a long blank rather than several short blanks.
    - Construct items that require thought.
- Identification
  - Requires students to recognize things like tools, materials, and parts of equipment and then identify them in writing.
  - Measure both recognition and recall.
  - Pictures or drawings are needed which sometimes makes this type of test hard put together.
- Matching
  - Consists of two lists of related words, symbols, or phrases.
  - Students are required to match the items.
  - Matching items are very objective but are not the best method for measuring complete understanding of a subject.
  - Rules to follow when constructing matching items.
    - Instruction must be very clear and concise.

- Items in the left list should be limited to a single subject category and the choices in the right list should also be limited to a single subject category.
- The choices should be arranged in order alphabetically or numerically.
- Items matched should be no less than five and no more than twelve.
- There should be more choices than there are items to be matched.
- Short Answer Essay
  - Consists of questions that require a written response.
  - Hard to grade objectively.
  - Also time consuming to correct.
  - Students often write a long response hoping to somehow hit upon the correct answer.
  - Rules to follow when constructing short answer essay items.
    - Make sure the question is clear and the students know exactly what you are looking for.
    - Require students to explain 'why' and to describe and give reasons for their answer.
- Performance Tests
  - Designed to measure a student's skill in performing a particular task in its entirety or a procedure that is part of a more complicated task.
  - Varies in form and content since every occupation presents a different skill-set to measure.
  - Usually conducted using a checklist or an examination of a finished product.
  - Rules to follow when constructing performance tests.
    - Select a skill that is essential to meeting the course objectives and can be accomplished with the available time, resources and equipment.
    - List the operation necessary to perform the task covered by the test.
    - List tools, materials, drawings, and equipment needed to do the performance test.
    - Make sure that all students taking the performance test have all of the required tools and materials and that they understand exactly what they are to do and how they will be graded.
    - Do not offer any assistance or intervene in any way during the test unless there is a safety concern.
- Test Construction
  - Objectives

- Select specific objectives to measure in the test.
  - Determine which kind of test will best measure whether a student has met the objectives.
- Outline
  - Develop an outline of the test.
- Construct Items
  - Write down the actual test items, including the answers.
  - Prepare 25 to 50 percent more items than you plan on using in the test in case you have some items you throw out.
- Assemble the test
  - Write clear and concise directions for each type of test item used on the test.
  - Group all test items by type. Keep all true/false together and all multiple-choice items together etc.
  - Make sure that the answers form a random pattern, especially for the multiple-choice items.
  - Try to not have a question or answer group extend from one page to the next in the final printout.
  - Multiple-choice answer possibilities should be arranged vertically.
  - Try to start out a test with a relatively easy item to help get the student off to a good start.
  - Use as many items as necessary to cover the subject.
  - It is OK to have a test or quiz with an odd number of items!
  - Do a final check to ensure that each item is realistic and practical.
- Administering the Test
  - Tests and quizzes should be given in well lighted, ventilated, and quiet surroundings.
  - All material needed to take the test should be provided.
  - All students should have the opportunity to take the test under the same conditions.
  - General Rules for Test Administration
    - Attitude
      - Teacher should have a cheerful and relaxed demeanor.
    - Distractions
      - Remove all possible distractions.
    - Cheating
      - Position students so cheating is less of a possibility.
      - Don't allow anything on the desk or table other than what is absolutely necessary for taking the test.

- Number tests or test booklets if possible and make sure that each student returns the test or quiz they were given.
- Instructions
  - Provide complete and clear oral instructions for taking the test.
  - If time permits, read out loud the instructions on the test.
- Supervision
  - Maintain supervision while the students are taking the test or quiz.
  - Rather than walk around the room during the test, position yourself so that you can see all of the students taking the test and move around only when absolutely necessary.
- Scoring the test
  - Use an answer key to score tests or quizzes.
  - Use a colored pen or pencil, or a felt tip marker to correct.
- Grading
  - KVCC uses letter grades that are based on some percentage of 100.