Chapter 6: Constructing and Grading Tests

Chapter Six Objectives

After completing chapter 6, students should be able to do the following:

1. Given the purpose of the test, correctly determine the best type of test for that purpose.
2. Compare and contrast standardized tests and teacher-made tests.
3. Compare and contrast the different types of teacher-made test items and the advantages and disadvantages associated with each.
4. Construct the different types of items that can be included in teacher-made tests.
5. List the purposes for assigning grades.
6. Assign letter grades for participating students and provide a valid rationale for this assignment.

Standardized Tests

Standardized Tests:

- Constructed by Experts w/ Explicit Instructions for Administrations.
- **Standard** Scoring Procedures.
- Tables of Norms for Interpretation.
- Measure Individual Performance on a Group-Administered and Group-Normed Test.
- Examinees Attempt the Same Questions Under Same Conditions—Directions, Time Limit, and Results are Scored w/Same Detailed Procedure.

Standardized Tests—Continued

- Standardized Tests are Constructed as follows:
  - Experts write a Test for a Subject Field Answerable by the Average, Well-Informed Student at the Targeted Grade Level.
  - Test is Tried Out on a Representative Sample of Students from all Schools at the Targeted Grade Level.
  - Test is Revised Based on the Feedback from this Test Administration.
  - Test is Administered to a Larger Sample—this becomes the **Norming** Group which Subsequent Scores will be Compared.
  - Test Manual is Written that Provides Clear Directions for Administration , Scoring and Information about Test Characteristics and its Interpretation.

Standardized Tests—Continued

- Purpose of Standardized Tests is to **Compare:**
  - The Performance of One Individual w/Another.
  - An Individual Against a Group.
  - One Group with Another Group.
- Types of Standardized Tests are:
  - Test Batteries and Single-Subject Tests.
  - Personality Assessment.
  - Specific Subject Tests—English, social studies or chemistry.

Achievement Tests

Standardized Tests—Continued

- Types of Standardized Tests—Continued
  - Measure Aptitudes for Performing/Potential for Certain Activities
    - **Examples:** Journalism, Mathematics, Law, Teaching/Auto Mechanics.
    - These Tests are Called: General Ability Tests, Intelligence Tests/Scholastic Aptitude Tests.
- Standardized Test Results Include:
  - Percentile Norm.
  - Age Norm.
  - Grade Level Norm.
  - Combination of Norms.

Standardized Tests—Continued

Standardized Tests are Used to **Make Decisions** about:

- Placement in Differentiated *Tracks*.
- Individualized Instruction.
- Diagnosing Strength and Weakness.
- Determining Effectiveness Curriculums.
- Evaluating the Extent of Student Progress.
- Determining Teaching Emphasis and Effectiveness.

Standardized Tests—Continued

- Limitations of Standardized Tests:
  - Questionable Validity.
  - Social and Cultural Bias.
  - Discriminates Against Certain Social and Cultural Groups.
- Standardized Tests vs. Teacher-Made Tests:
  - Standardized Tests Cover Broader Range of Content Area.
  - Teacher-Made Tests Designed to Measure Achievement of a Particular Unit of Work.

Teacher-Made Tests

- Three Reasons for *Teacher-Made Tests*:
  1. They are Consistent w/Classroom Goals and Objectives.
  2. They Present Same Questions to All Students Under Nearly Identical Conditions.
  3. They Generate a Product that Can be Evaluated and Stored for Later Use—for example, Parent Conferences.

Teacher-Made Tests—Continued

- Three Alternatives/Types of Teacher-Made Tests:
  1. Objective Test—alternative, multiple choice, matching, and completion test.
  2. Essay Test—brief or extended.
  3. Combination of the Two.

Teacher-Made Tests—Continued

- Points to Consider about Testing:
  - Tests should be Written at the **Taxonomical Level** of the Objectives Covered by the Exam.
  - Instructional Objectives Suggest the best Type of Test Item.
  - Purpose of Tests is Check Student Mastery of Stated Objectives.
  - Every Test Item Should Separate those who have Mastered the Objectives from those who have not—prevent Guessing/Offset *test wiseness*.

Teacher-Made Tests—Continued

1. Alternate-Choice Items are:
   - True/False.
   - Yes/No.
   - Right/Wrong.
   - Agree/Disagree.
- Key Points about Alternative-Choice Items:
   - Use Simple Declarative Sentences.
   - Must be Stated Clearly to Avoid Ambiguity.
   - Have Low Reliability and Validity.

Teacher-Made Tests—Continued

- **Guidelines for Creating Alternate-Choice Items:**
  - Avoid Using Negative Statement and Double Negatives.
  - Ask Something Important and Worth Remembering.
  - Don't Make False Items Longer than True Items.
  - Watch for Item Response Patterns.
  - Be Clear and Concise.
  - Limit Each Statement to Only One Central Idea.
  - Avoid using words—all, none, sometimes and usually—that Can Divulge the Correct Response.
  - Don't Use Exact Quotes from Textbooks—can have different meaning when Taken out of Context.

Teacher-Made Tests—Continued

2. Multiple-Choice Items:

- Can Cover Many Objectives.
- Measures Different Cognitive Behaviors—factual to the analysis of complex data.
- Extremely Versatile and Easy to Score.
- Must be Written in a Straightforward, Clear and Concise way.
- Can be Modified after being Adminsitered.
- Relatively Insensitive to Guessing—BUT more sensitive to Guessing than Supply Items.

Teacher-Made Tests—Continued

- **Parts of a Multiple-Choice Item**:

1. Who was president of the United States during the Civil War?

A. Jefferson Davis
B. Abraham Lincoln
C. Ulysses S. Grant
D. George Washington

Stem—Central Issue

Alternatives—on Same Page w/Stem

Teacher-Made Tests—Continued

- **Guidelines for Creating Multiple-Choice Items:**
  - Avoid Providing Grammatical/Contextual Clues to the Correct Answer.
  - Utilize Language that Even Most Unskilled Readers will Understand—write concise stems and precise choices.
  - Avoid Absolute Terms—always, never, and none—in the Stem and Alternatives.
  - Stem should Contain the Central Issue.
  - Alternatives Should be Grammatically Correct

Teacher-Made Tests—Continued

- **Guidelines for Creating Multiple-Choice Items, Continued:**
  - Avoid the Use of Negatives.
  - Avoid Giving Structural Clues.
  - Use *all of the above* and *none of the above* with care.
  - Avoid Pulling Statements Directly from the Textbook.
  - Alternatives Should be Plausible to Less Knowledgeable Students.

Teacher-Made Tests—Continued

3. Matching:

- Designed to Measure Students' Ability to Recall a Large Amount of Factual Information—verbal, associative knowledge.
- Two Lines of Items are Presented and Students to Select an Item from One List that Closely Relates to an Item from the Second List.
- Intended for Lower-Level Learning.

Teacher-Made Tests—Continued

- **Guidelines for Creating Matching Columns:**
  - Indicate Basis for Matching the Premises w/the Responses.
  - Matching Columns should be Contained on One Page.
  - Keep the Number of Items to be Matched Short.
  - Put Premises and Responses in Logical Order.
  - Premises and Responses should Fall in the Same General Topic/Category.
  - Make the Length of Statements Consistent.
  - Use Complete Names if Names are to be Matched.

Teacher-Made Tests—Continued

4. Completions:

- Require that Students Write Responses in their Own Handwriting Supplying a Recalled Word/Phrase.
- Difficult to Write.
- Excellent for Subjects that Require the Recall of Unambiguous Facts/Perform Certain Calculations.

Teacher-Made Tests—Continued

- **Guidelines for Creating Completions:**
  - Give Clear Directions.
  - Be Definite Enough so that Only One Correct Answer is Possible.
  - Do Not Utilize Direct Statements from Textbooks—it might Encourage Memorization.
  - Ensure that that all Blanks are of Equal Length and Correspond to the Lengths of Desired Responses.
  - Items should be Completed w/a Single Word/Brief Phrase.

Teacher-Made Tests—Continued

5. Essay:

- Permits Students to Formulate Answers to Questions in their Own Words.
- Measure what Students Know because They Utilize their Own Storehouse of Knowledge to answer a Question.
- Determines Students' ability to: analyze, Synthesize, Evaluate and Solve Problems.
- Two Basic Forms are:
  - **Brief**—requires a Short Answer Solution of a Problem.
  - **Extended—**requires several paragraphs of Writing.

Teacher-Made Tests—Continued

- **Guidelines for Creating Essays:**
  - Make Directions Clear and Specific.
  - Allow Ample Time for the Completion of Essays—suggest a time allotment for each question.
  - Provide a Choice of Questions.
  - The Worth of Each Question should be Identified in the Test Instructions.
  - Explain Scoring Technique to Students Before the Exam—it makes Explicit what you are Looking for.

Teacher-Made Tests—Continued

- **Guidelines for Offsetting Low Reliability and Validity of Essays:**
  - Before Exam—write a sample answer and assign points to the various components of the answer.
  - Skim the Exam and Identify a Model Paper—the anchor paper for grading.
  - Grade Each Question for All Students before Proceeding to the Next Question.
  - Grade Papers Blindly.
  - Establish Page Limit and Time Limit for Each Essay Item.
  - If possible—Read Student Responses Several Times.

Authentic Assessment

- Authentic Assessment Requires Students to:
  - Demonstrate Skills and Competencies Replicate Real-World Problems/ Situations.
  - Integrate Knowledge and Complete Tasks that have Real-Life Applications.
    - **Examples**: exhibitions, oral presentations, role-playing/oral readings recorded and portfolios.
  - Portfolios: documented history of learning & Documented and Organized History of Learning Accomplishment.

Authentic Assessment Continued

- **Guidelines for the Development** of **Authentic Assessment:**
  - Design Programs and Tasks that Match Outcomes and Content of Instruction.
  - Tasks Should Have Real-Life Applicability.
  - Emphasize Process and Product.
  - Provide Time for Student Reflection/Self-Evaluation.
  - Develop Scoring Procedures and their Application—rubrics can be utilized for this purpose.

Quizzes

- **Quizzes:**
  - Evaluates Student Progress.
  - Check Homework.
  - Measure whether Content from Immediate/Preceding Lessons was Understood.
  - Short in Length—three to five questions.
  - Limited to Material Taught in Immediate/Preceding Lessons.
  - Encourage Students to Keep w/their Work.
  - Provide Feedback for Teachers Related to their Effectiveness.
  - Serve as Warning Signal of Teaching/Learning Problems.

Advantages and Disadvantages Associated with Different Types of Test Items

TABLE 6.1 Advantages and Disadvantages Associated With the Different Types of Test Items

Type	Advantages	Disadvantages
Alternate Choice	Large sampling of content Easy to score	Guessing Writing clear items difficult Tends to test memorization
Multiple Choice	Large sampling of content Scoring simple and fast Measures wide range of cognitive levels Reduces guessing	Question construction time-consuming Often used to test trivial content
Matching	Large sampling of content Can test associations Easy to construct and score	Tests for recognition Guessing
Completion	Large sampling of content Easy to construct Limited guessing	Tests for memorization Writing good items difficult Difficult to score
Essay	Measures higher cognitive levels Less time needed to construct	Difficult to score Questions sometimes ambiguous

Published Test Banks

- Publishers Provide **Test Banks** for Teachers:
  - Geared to Factual Information.
  - Might Not Cover the Objectives Developed by the Teacher.
  - Test Bank Databases Allow Teachers to Order Customize Tests from a Publisher's Data Bank.
  - Test Bank Data Bases Require that Teachers Complete Advanced Planning.

Evaluative Instruments

TABLE 6.2 Evaluative Instruments

Type	Description
Standardized Test	A commercially developed test that samples behavior under uniform procedures
Teacher-Made Test	An evaluative instrument developed and scored by a teacher for classroom assessment
Alternate-Choice Item	A statement to which respondents react either positively or negatively
Multiple-Choice Item	A test question with a stem that poses a problem or asks a question to be answered by one of several alternative responses
Matching Item	An arranged series of premises, each of which is matched with a specific item from a second list of responses
Completing Item	A statement with a missing word or phrase, which must be supplied by the respondent
Brief-Essay Item	A question to which respondents formulate a short-answer response in their own words or solve a problem
Extended-Essay Item	A question to which respondents formulate responses of several paragraphs in their own words

Grading Systems

- Teachers Collect Relevant Data and then Must Interpret it and Assign Grades.
- There is No Way to Assign Grades that is Fair to All Students.
- There are Two Grading Systems:
  1. **Absolute** Grading Standards.
  2. **Relative** Grading Standards.

Absolute Grading Standards

Absolute Grading Standards:

- Grades Given Relative to Performance Against an Established Set of Grading Criteria.
- Each Student has the Potential to Achieve any Grade.
- Students Can Achieve High Grades in this System if they Put Forth the Effort—control of test scores is in the hands of students.
- Student Either Does Get an Established Percentage of the Responses Correct/Does Not.

Absolute Grading Standards—Continued

- Weaknesses of the Absolute Grading Standard are:
  - Establishment of a Standard for each Grade is Difficult.
  - Standard Established for Each Grade May Vary from Time to Time Based on Content Emphasized and Changes in Curriculum.
  - Level of Examination Difficulty May Vary.

Table 6.3 Examples of Absolute Standards of Grading

Percentage Grade	Correct		Percentage Correct
A	90 to 100		85 to 100
B	80 to 89		75 to 84
C	70 to 79	OR	65 to 74
D	60 to 69		55 to 64
F	less than 60		less than 55

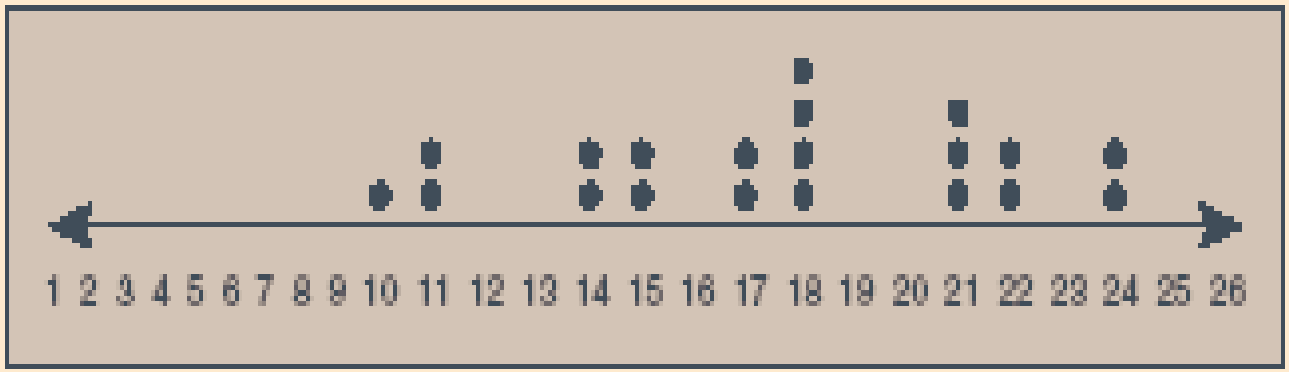
Relative Grading Standards

- Relative Grading Standards Grade Using Curves.
- There are Two Types of Methods Using Curves:
  1. **Ranking System—**the Teacher Establishes a Fixed Percentage for Each Grade.
  2. **Inspection Method—**the Teacher Sets a Frequency Distribution of Raw Scores on a Vertical/Horizontal Line
     - Grades are Assigned According to Natural Breaks in the Distribution.
- Relative Grading Standard **Does Not** Take into Account Differences in Overall Ability of Students.

The Inspection Method

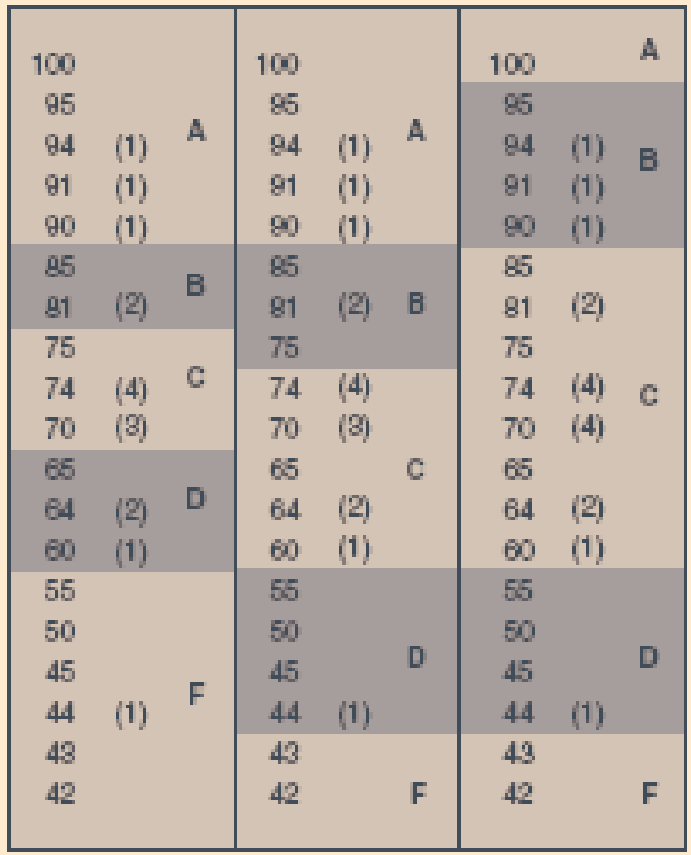
Figure 6.1

The Inspection Method



Examples of Inspection Grade Distributions

Figure 6.2
Examples of Inspection Grade Distributions



100			100			100		A
95			95			95		
94	(1)	A	94	(1)	A	94	(1)	B
91	(1)		91	(1)		91	(1)	
90	(1)		90	(1)		90	(1)	
85		B	85		B	85		
81	(2)		81	(2)		81	(2)	
75		C	75			75		
74	(4)		74	(4)	C	74	(4)	C
70	(3)		70	(3)		70	(4)	
65		D	65			65		
64	(2)		64	(2)		64	(2)	
60	(1)		60	(1)		60	(1)	
55		F	55		D	55		D
50			50			50		
45			45			45		
44	(1)		44	(1)		44	(1)	
43			43		F	43		F
42			42			42		

Assigning Final Grades

- The **Three Ways** to Assign Grades after Examining Students' Work are:
  1. **Point Grading System—**the Importance of Each Assignment, Quiz/Test is Reflected in the **Points** Allocated.
  2. **Weighted Grading System—**every Assignment is Given a Letter Grade and All Grades are Then Weighted to Arrive at a Final Grade.
  3. **Percentage Grading System—**relies on the Calculation of the Percentage Correct of the Responses Corrected.
     - Widely Used because of its Simplicity and Familiarity to Most Caregivers.
     - Weakness w/this System is All Exercises Carry the Same Weight.

Example of a Point Grading System

Figure 6.3
Example of a Point Grading System

Student Work	Points
Assignments	250 (25 × 10 pts.)
Quizzes	150 (6 × 25 pts.)
Tests	300 (3 × 100 pts.)

Total points possible = 700

Grade	Range
A	650 to 700
B	600 to 649
C	550 to 599
D	500 to 549
F	Less than 499

Example of a Weighted Grading System

Figure 6.4
Example of a Weighted Grading System

Student Work	Weight
Homework assignments	25%
Quizzes (6)	25%
Tests (3)	50%
Total	100%

Example of a Percentage Grading System

Percentage Grading System

Test Scores	Grade in Marking Book
1) 20 of 25 H.W.	80
2) 6 of 8 Quiz	75
3) 40 of 60 Exam	67
Average	74%

Each of these Grades was Averaged

Parents Like it Because of its Simplicity and their Ability to Understand it.

Simple to Use and Understand

Effective Instructional Strategies Chapter 6: Constructing and Grading Tests

Contracting for Grades

- **Contract System:**
  - Teacher Promises to Award a Specific Grade for Specified Performance.
  - Students Know What they Must Accomplish to Receive a Certain Grade.
- Procedures for a Contract System:
  - Develop Sets of Objectives that Correspond to Specific Letter Grades.
  - Decide the Activities and Assignments that are Required at Each Level.
  - Students Receive a *Copy* of the Objectives, Corresponding Letter Grades and Requirements.
  - Students Study this *Copy* and Decide on the Contract Grade.

Assigning Grades

TABLE 6.4 Assigning Grades

System	Description
Absolute Grading Standard	Performance compared with established set of criteria
Relative Grading Standard	Students' performance compared with that of classmates, including grading on the curve
Point Grading System	Student work is allocated points, and grades are assigned according to established grade range
Weighted Grading System	Assignments are given a letter grade, and all grades are weighted to determine final grade
Percentage Grading System	Percentage correct is recorded for each assignment, and an average is calculated to determine final grade
Grade Contract	Written agreement between student and teacher as to what students will do to earn a specific grade

Reflection

Student # 1 did well on the Test. Based on your reading of Chapter 6, how did the Teacher enable this Child to do well on the Test?

The End!