Thurgood Marshall School of Law Texas Southern University

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A Pedagogical Newsletter for Faculty to Exchange Ideas About Teaching

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Professor Anthony Palasota in Room 235, by e-mail at <u>apalas@tsulaw.edu</u>, or by telephone at 713/313-1022. **Editorial Note:** Law School Teaching Innovations/Tips No. 7 reports on a workshop about evaluating test data that was conducted in April 2005 for the faculty at the Thurgood Marshall School of Law by Professor Emiel W. Owens from the Department of Curriculum and Instruction in the College of Education at Texas Southern University. Law School Teaching Innovations/Tips No. 7 is divided into four parts: Part One provides background about learner-centered education and assessment. Part Two gives a selection of the slides from the presenter's workshop. Part Three presents some questions to guide an assessment of instructional activities. Part Four lists resources for additional information about evaluation and assessment.

### **Evaluating Test Data/Doing Assessments**

#### Part One – Learner-Centered Education & Evaluation/Assessment

Learning is a process that occurs best when what is being learned is relevant and meaningful to the learner and when the learner is actively engaged in creating his or her own knowledge and understanding by connecting what is being learned with prior knowledge and experience. From this perspective, learner-centered education involves the learner and learning in a teacher's instructional decisions. Indeed, for teaching to serve the needs of every learner, it is essential that a teacher's instructional decisions focus on the individual learner with an understanding of the learning process.

Assessment involves making instructional expectations explicit and public; setting appropriate criteria and high expectations for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well student performance matches those expectations and standards; and using resulting information to document, explain, and improve student performance.

From the perspective of learner-centered education, assessment should focus on improving student learning and teaching practices as well as informing planning decisions on what to do differently the next time an instructional activity is used. Common assessment questions include how the use of instructional activity increased student performance, improved attitude and confidence, facilitated content mastery, improved problem solving skills, or promoted student-centered learning.

Part Two – Evaluating Test Data: A Presentation by Emiel W. Owens, Visiting Associate Professor, College of Education, Texas Southern University.

#### Assessment

- Cognitive
- Affective

#### What Is A Test?

Method of Gathering Information that Is Part of An Assessment System

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#### What Is The Purpose of A Test?

- Provide Feedback
- Determine Mastery
- To Discriminate (Those Who Know vs. Those Who Don't Know)

#### **Two Major Concerns When Developing Tests**

- Reliability—Consistency in Measuring Whatever the Instrument Is Measuring.
- Content Validity—The Degree to Which the Items on the Test Reflect the Intended Domain.

#### **External Reliability**

- Stability Reliability—Consistency of Measurement Across Time.
- Test-Retest—Same Test Administered at Different Times.
- Equivalence Reliability—Parallel Forms of a Test Are Administered.

#### **Internal Reliability**

- Extent to Which the Parts of the Test Are Equivalent.
- Split-Half—Divides the Test into two Halves Whose Scores Are Correlated (Spearman-Brown).

#### **Determining Internal Reliability**

• KR-20, KR-21, and Cronback Alpha

#### **Content Validity**

For a C.R. (Conditional Re-Sampling) Test, the Degree the Test Items Reflect the Intended Domain.

#### Relationship between Reliability and Validity

Reliability Is a Prerequisite for Validity, but Validity Is Not a Prerequisite for Reliability. (This means a test can be reliable but not valid).

#### **Factors Affecting Test Outcomes**

- Personal Factors
- Test-Taking Skills
- Guessing
- True Variance—Due to Systematic Sources (i.e., ability, group differences)
- Error Variance—Unsystematic Sources (i.e., mistakes in scoring or grouping)
- Total Variance—Error Variance + True Variance

#### **Evaluating the Test**

- Item Analysis
- Discrimination Index

#### **Item Analysis**

Analysis of Student Performance on Each Item Helps to Understand How Each Item Contributes to the Total Score. Based on Item Difficulty (the Percent of the Group Tested that Answered the Item Correctly, the Difficulty Index=P (the Number of Correct Responses to an Item/Number of Persons Responding). A Good Standard Test Should Aspire to Have a Correct Rate of 50%.

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#### **Item Difficulty**

- Provides Information of Mastery of Objectives.
- Provides Information on Effective Teaching.
- Provides Information to Students on Learning Objectives

#### **Creating Tests**

- Table of Specifications
- Type of Test
- Test Length
- Item Formats

#### Test Bias

- Test Bias—The Systematic Error Usually Evidenced by Different Performance on the Test by Two or More Groups of Individuals.
- Performance Bias—When Test Scores Are Consistently Inaccurate for an Individual or a Group.
- Item Bias—Group of Examinees Are Drawn to Certain Distractors.

#### What To Do about Bias

Sensitivity Review

#### Legal Aspects

- Appropriate and Adequate Test
- Consistent and Fair Manner
- Confdentiality

#### Part Three - Questions to Guide the Assessment of Instructional Activities

Instructors often may use an instructional activity in their classroom without making a significant connection between their teaching and student learning, because most simply assume that using the instruction will automatically improve the students' learning. Without assessing activity's appropriateness and effectiveness, however, it is not possible to know whether the activity is helping students learn better or improving instruction.

The following guidelines are helpful when assessing the appropriateness and effectiveness of instructional activities:

• Assessment should be driven by instructional purposes.

When assessing, instructors should focus on the stated instructional objectives and learning outcomes. The best objectives and outcomes are both specific and measurable.

• Assessment should reflect a comprehensive concept of learning.

Because learning is a complex process, involving values and attitudes as well as content knowledge, assessment may also include other aspects of the instructional experience such as student acquisition of learning strategies or confidence levels.

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• Assessment should focus on learning processes as well as learning outcomes.

Identifying the types of students who benefit most from the use of instructional activity is also appropriate which students learn best under what conditions should be assessed as well as how they organize and learn the content.

• Assessment should be an ongoing process.

Assessment is not just a one-time event to perform at the end of a course or instructional program. It should be conducted continuously to keep track of instructional effectiveness and student progress over time.

To make reasonable judgments about the impact of instruction, instructors should have clearly set of criteria for assessment. The decision to use an instructional activity should be based on the degree to which it supports instructional objectives and learning outcomes. The following questions should be considered to help clearly set criteria when assessing an instructional activity:

- What skills/knowledge have students gained as a result of the instructional activity?
- How have students benefited from the skills/knowledge gained from the instructional activity?
- Did the instructional activity/approach help to attain the learning objectives?
- What were the outcomes of the instructional activity/approach?
- Did the instructional activity/approach meet established instructional expectations?
- Did the instruction help students master a concept that is hard to learn?
- Did students develop new kinds of skills or knowledge from the instruction?

#### Part Four - Resources for Additional Information about Evaluation and Assessment.

Angelo, T.A. and K.P. Cross. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers, 2nd ed.* San Francisco: Jossey-Bass.

Brown, S. & Glasner, A. (1999). *Assessment matters in higher education: Choosing and using diverse approaches*. Buckingham: The Society for Research into Higher Education & Open University Press.

*Course evaluations for Lawyering Process I, Fall 2004.* Retrieved February, 25, 2005 from the University of Denver, Sturm College of Law Web site: <u>http://www.law.du.edu/thomson/Downloads/Eval-uation results - Fall 2004 - 101D.htm</u>

Munro, G. (2000). *Outcomes Assessment for Law Schools*. Institute for Law School Teaching, Gonzaga University School of Law.

Palomba, C.A. & Banta, T.W. (1999). Assessment Essentials: *Planning, implementing, and improving assessment in higher education*. San Francisco, CA: Jossey-Bass.