



THE IMPORTANCE OF ASSESSMENT OF INTENDED LEARNER OUTCOMES

CENTER FOR TEACHING
EXCELLENCE SERIES

SPENCER R. BAKER

OVERVIEW

- Major Trends in Higher Education
- Focus on Student Learning
- How Assessment Works
- Planning Classroom Tests and Assessments
- Selecting Appropriate Types of Tests and Assessment Tasks

DEFINITIONS

- Mission Statement
 - Statements of purpose
 - A common vision
- Goals
 - Follow from mission statements
 - Tend to be general and global with regard to activities and products
- Objectives
 - Specific and precise; allows for measurement of progress toward achievement of a goal
 - Declare what will be accomplished by a certain date
 - Single aim and an end product or result that is easily verifiable
- Outcomes and Competencies
 - Controversial definitions

COMMISSION ON COLLEGES, SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

Expects institutions to dedicate themselves to enhancing the quality of their programs and services within the context of their missions, resources, and capacities, and to create an environment in which teaching, public service, research, and learning occur

COMMISSION ON COLLEGES, SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

The concept of quality enhancement is at the heart of the Commission's philosophy of accreditation; this presumes each member institution to be engaged in an ongoing program of improvement and able to demonstrate how well it fulfills its stated mission. Although evaluation of an institution's educational quality and its effectiveness in achieving its mission is a difficult task requiring careful analysis and professional judgment, an institution is expected to document quality and effectiveness in all its major aspects.

COMMISSION ON COLLEGES, SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

- 3.5.1 The institution identifies college-level competencies within the general education core and provides evidence that graduates have attained those competencies.
- 3.6.1 The institution's post-baccalaureate professional degree programs, and its master's and doctoral programs, are progressively more advanced in academic content than undergraduate programs.
- 3.6.2 The institution ensures that its graduate instruction and resources foster independent learning, enabling the graduate to contribute to a profession or field of study

MAJOR TRENDS IN HIGHER EDUCATION

- Assessment Movement
 - Evolved from efforts to improve the quality of educational outcomes by continually improving teaching and learning
 - Internal review for improving student learning
 - An iterative process for gathering, interpreting, and applying outcomes data from courses, programs, or entire curricula to improve program effectiveness, particularly as measured by student learning outcomes
 - Intricately associated with a “student-centered” or “learner-centered” model of institutional effectiveness

MAJOR TRENDS IN HIGHER EDUCATION

- Accountability Movement
 - Evolved primarily from the efforts to make higher education more cost-effective
 - External review for proving institutional effectiveness
 - Same iterative process as assessment except that it is aimed at external reporting and review of educational outcomes
 - A view that the primary output of higher education is learning

OUR JOURNEY: LEARNER OUTCOMES

- Embarked on determining student competencies Fall 2004
 - Linked course objectives to Departmental objectives
 - Linked learner activities to course objectives
 - Linked student competencies to learner activities
 - Linked evaluation measurement to student competencies

PROVOST'S GOAL AND OBJECTIVES

- Problem: How do we know that we are academically preparing students to meet Hampton University's mission?
- Goal: Determine student competencies in promoting learning, building of character, and preparation of promising students for positions of leadership and service

PROVOST'S GOAL AND OBJECTIVES

- Objective 1: Conduct external scan of other institution's programs and needs of marketplace
- Objective 2: Review and modify where necessary measurable student competencies for all courses taught during Spring 2006 semester by April 2006
- Objective 3: Review and modify where necessary measurable student competencies for all courses taught during Fall 2006 semester by November 2006

WHY MEASURE

- Current societal demands for accountability
 - Minimize subjectivity and maximize scientific credibility
 - In most cases, new assessments do not have to be accomplished
 - Schools must compete for the best students and their tuition dollars
- Program improvement
 - Determine if we are achieving objectives
 - Consider alternatives
- Internal Program Review (Assessment)
- Preparation for external accreditation (Accountability)

BEST PRACTICES IN TEACHING AND LEARNING

- Engage students in active learning experiences
- Set high, meaningful expectations
- Provide, receive, and use regular, timely, and specific feedback
- Become aware of values, beliefs, preconceptions
- Recognize and stretch student styles and developmental levels
- Seek and present real-world applications
- Understand and value criteria and methods of student assessment
- Create opportunities for student-faculty interactions
- Create opportunities for student-student interactions
- Promote student involvement through engaged time and quality effort

FOCUS ON STUDENT LEARNING

- College teachers are expected to be good teachers without formal training in teaching and learning
- Expertise in discipline is somehow generally considered adequate preparation
- Faculty teach generally in ways that worked best for them as students
- Over the last thirty years, research suggests we can do better

FOCUS ON STUDENT LEARNING

- Teacher-centered model
 - Focus has been on inputs: the credentials of faculty, the topics to be presented, the sequencing of presentations
- Student-centered or learner-centered model
 - Focus is on output: what knowledge have students actually acquired, and what abilities have the actually developed: what graduates actually know and are able to do
 - Competency-based: Learning objectives and learning outcomes are tied to the most important skills and knowledge in a program
 - Dedicated to continual improvement through ongoing assessment of student learning
 - Faculty takes on less responsibility for being sources of knowledge, and take on greater responsibilities as facilitators of a broad range of learning experiences
 - Students are called on to take more responsibility for their own learning

SUMMARY OF STEPS

- I. Stating the general instructional objectives
 1. State each as an intended learning outcome
 2. Begin each with a verb
 3. State each to include only one general learning outcome
 4. State each at the proper level of generality
 5. Keep each sufficiently free of course content so that it can be used with various units of study
 6. Minimize overlap with other general objectives

SUMMARY OF STEPS

II. Stating the specific learning outcomes

1. List beneath each general objective a representative sample of specific learning outcomes that describe the terminal performance students are expected to demonstrate
2. Begin each with an action verb that specifies observable behavior
3. Make sure that each is relevant to the general objective
4. Include enough to describe adequately the performance of students who have attained the objective
5. Keep them sufficiently free of course content
6. Consult reference material for the specific components of those complex outcomes that are difficult to define
7. Add a third level of specificity to the list of outcomes, if needed

INTENDED LEARNER OUTCOMES

- What types of learning outcomes do you expect from your teaching?
 - Knowledge
 - Understanding
 - Applications
 - Thinking skills
 - Performance skills
 - Attitudes

CHARACTERISTICS OF GOOD LEARNING OUTCOMES

1. The specified action by the learners must be observable
 2. The specified action by the learners must be measurable
 3. The specified action must be done by the learners
- The ultimate test when writing a learning outcome is whether or not the action taken by the participants can be assessed.

EXAMPLES OF LEARNING OUTCOMES

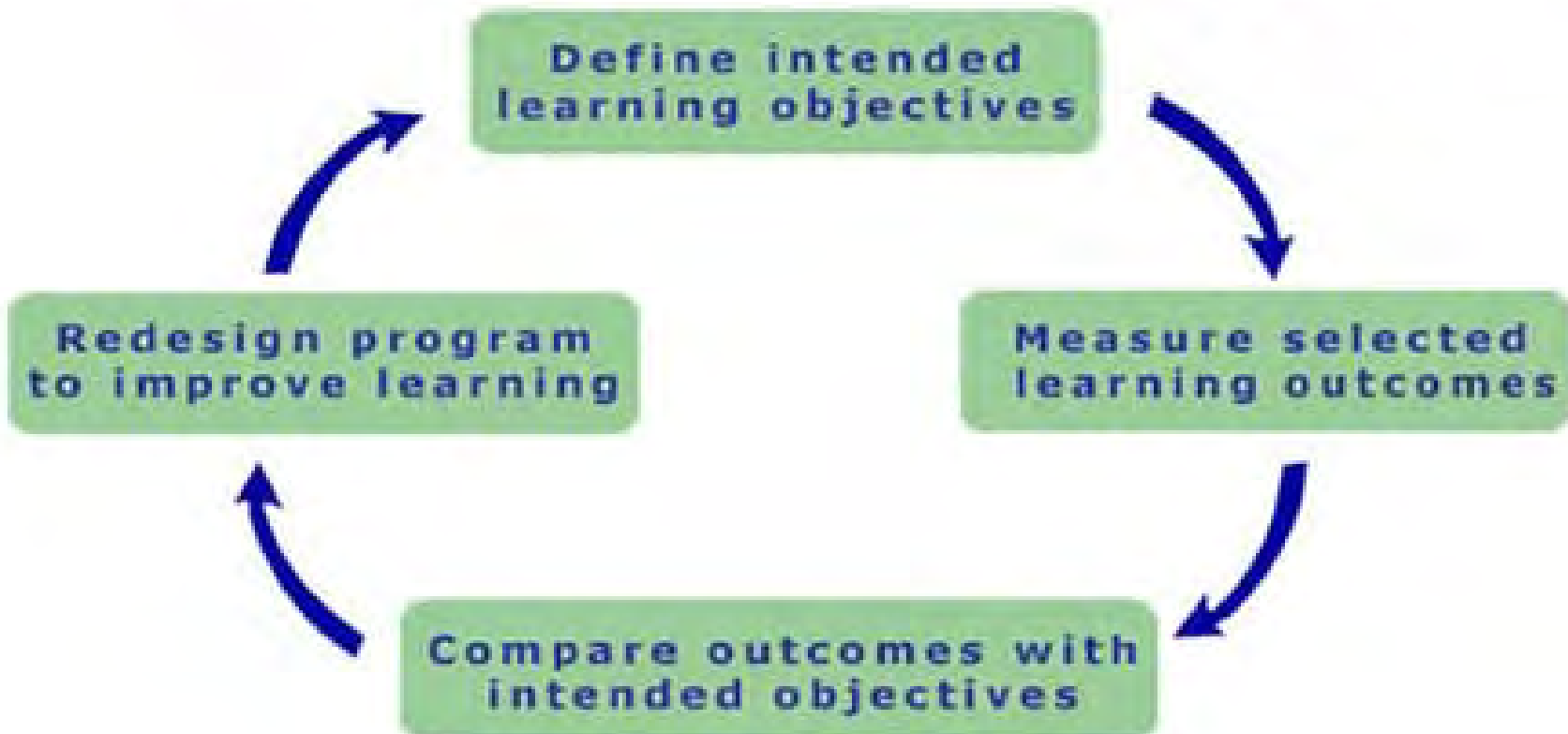
- Unclear outcomes:
 - Participants will understand the nine reasons for conducting a needs assessment
 - Participants will develop an appreciation of cultural diversity in the workplace
- Clear outcomes:
 - Participants will list nine reasons for conducting a needs assessment
 - Participants will summarize in writing their feelings about cultural diversity in the workplace

HOW ASSESSMENT WORKS

1. Define intended program learning objectives: specifically, what do we want our graduates to know and actually to be able to do?
2. Define measurable outcomes that will serve as evidence of how well each objective has been met, and then to actually measure them.
3. Compare actual observed outcomes to intended program objectives
4. Based on how well or how poorly achieved outcomes compare to intended outcomes, elements of the program are redesigned as appropriate, and a new assessment cycle begins.

WESTERN WASHINGTON UNIVERSITY

Assessment Learning Cycle



GOOD ASSESSMENT PRACTICE ASSUMPTIONS

1. First precept is to assess what is *most* important
2. Anything that can be taught or learned can be assessed
3. Assessment should be applied at course, program, and institutional levels
4. Every program and every course should be organized around clearly articulated learning goals and objectives, explicit assessment methods, and measurable outcomes
5. Assessment process should be logistically feasible and practically manageable to ensure that it is regular and ongoing

ASSESSMENT AND OUTCOMES

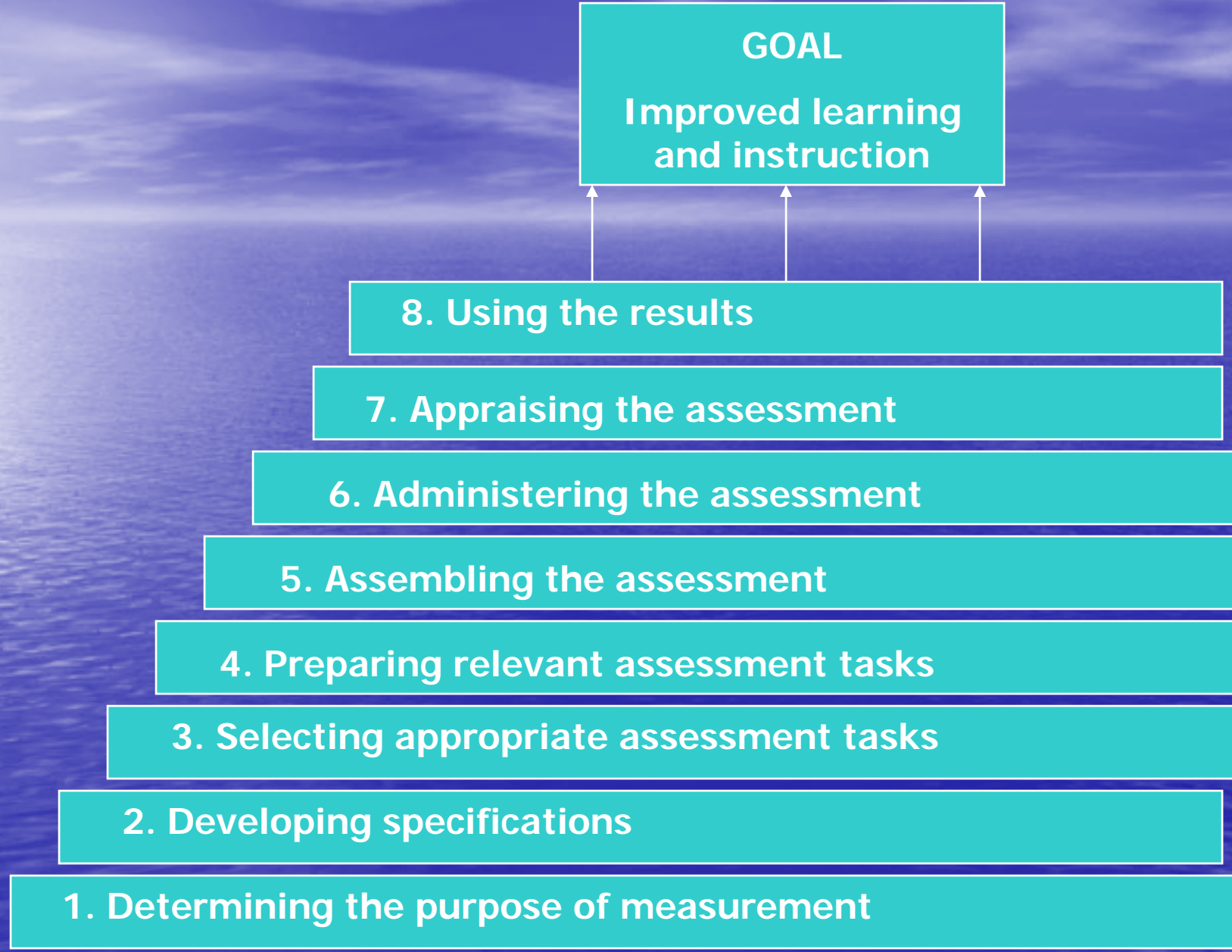
- For each learning objective, identify at least one (more are better) actual learning outcome which will be measured or observed to provide evidence of how well the objective has been met
- Organize the set of learning objectives around common themes; use these themes to define tentative program goals
- Integrate program goals into a tentative mission statement
- Integrate mission, goals, and objectives and make them congruent
- Close the loop by establishing procedures and assigning responsibilities for:
 - Measuring actual outcomes and comparing them with intended objectives
 - Implementing program changes based on assessment results
 - Assessing, documenting, and reporting the effectiveness of changes introduced during the previous assessment cycle

PLANNING CLASSROOM TESTS AND ASSESSMENTS

- Classroom tests and assessments
 - Play a central role in evaluation of student learning
 - Relevant measures of many important learning outcomes and indirect evidence concerning others
 - Make expected learning outcomes explicit
 - Show what type of performances are valued
- Main goal is to obtain valid, reliable, and useful information concerning student achievement
 - Determining what is to be measured and defining it precisely so that tasks can be constructed that require the intended knowledge and skills
 - Specifying the achievement domain that the sample of items and assessment tasks will represent the entire domain

PURPOSE OF CLASSROOM TESTING AND ASSESSMENT

- Location in the instructional process
 - Pretesting – determine whether students have the prerequisite skills needed for instruction and what extent students have already achieved the objectives of planned instruction
 - Testing and assessment during instruction – monitor learning process, detect misconceptions, encourage students to study, and provide feedback for students and instructors
 - End of instruction – measure the extent to which the intended learning outcomes and performance standards have been achieved



DEVELOPING SPECIFICATIONS

– TABLE OF SPECIFICATIONS

- Preparing list of instructional objectives with specific learning outcomes
 - Less complex specific learning outcomes for lower level classes
 - More complex specific learning outcomes for higher level classes
 - Objectives limited to outcomes that can be measured
- Outlining the instructional content
 - Detailed enough to ensure an adequate sampling of content
- Preparing the table of specifications (two- way chart or table of specifications)
 - Relates instructional objectives to instructional content
 - Several different formats
 - See Handout

TABLE OF SPECIFICATIONS

1. List general instructional objectives across the top of the table
2. List major content areas down the left of the table
3. Determine what proportion of the test items should be devoted to each objective and each content area

SELECTING APPROPRIATE TYPES OF ITEMS AND ASSESSMENT TASKS

- Objective test items
 - Highly structured and require students to supply a word or two or select the correct answer from a number of alternatives
 - Single right or best answer
- Performance assessments
 - Permit the student to organize and construct the answer (essay)
 - Use of equipment, generate hypotheses, make observations, construct something, or perform for an audience

OBJECTIVE ITEMS

- Supply
 - Short answer
 - Completion
- Selection
 - Matching
 - True-False or Alternative Response
 - Multiple Choice
- Highly structured task that limits the type of response
- Must demonstrate the specific knowledge, skill, or understanding
- Quick, easy, and accurate
- Weakness: inappropriate for measuring the ability to formulate problems and choose approach to solving them or the ability to select, organize, and integrate ideas

PERFORMANCE ASSESSMENTS

- Appropriate for measuring the ability to formulate problems and choose approach to solving them or the ability to select, organize, and integrate ideas
- Ability to engage in hands on activities
- Oral presentations; construction of graphs, diagrams, or models; use of equipment or scientific instruments; typing; and, playing a musical instrument
- Essays are the most commonly used form of performance assessment

Essay

- Extended-response essay – students decide which facts are more pertinent, select their own method of organization, and write as much as seems necessary
 - Weakness: inefficient for measuring knowledge of factual material; scoring criteria not as apparent to student; and scoring is difficult
- Restricted-response essay – easier to measure knowledge of factual material, scoring is clearer to the student, and reduces difficulty in scoring
- Other performance tasks can be identified as both extended and restricted

COMPARATIVE ADVANTAGES

- Learning outcomes measured
 - Objective – efficient for measuring knowledge of facts; some types can also measure understanding, thinking skills, and other complex outcomes; inefficient or inappropriate for measuring ability to select and organize ideas, writing abilities, and some types of problem solving skills
 - Performance – measure understanding, thinking skills, and other complex learning outcomes; measuring performance on tasks corresponding to important instructional objectives; inefficient for measuring knowledge of facts

COMPARATIVE ADVANTAGES

- Preparation of questions
 - Objective – relatively large number of questions are needed; difficult and time consuming
 - Performance – a few tasks are needed
- Sampling of course content
 - Objective – extensive sampling of course content
 - Performance – limited

COMPARATIVE ADVANTAGES

- Control of student response
 - Objective – complete structuring of task limits students; prevents bluffing and avoids influence of writing skills; guessing a problem
 - Performance – freedom to respond in own way enables students to display originality and guessing is minimized
- Scoring
 - Objective – objective scoring
 - Performance - judgmental

COMPARATIVE ADVANTAGES

- Scoring influence on learning
 - Objective – encourages students to develop a comprehensive knowledge of specific facts and the ability to make fine discriminations between them
 - Performance – encourage students to concentrate on larger units of subject matter, with special emphasis on the ability to organize, integrate, and express ideas effectively
- Reliability
 - Objective – high
 - Performance – low, because of inconsistent scoring

SELECTING THE MOST APPROPRIATE TYPES OF ITEMS AND TASKS

- Select the item type that provides the most direct measure of the intended learning outcome
- If outcome is writing, naming, listing, or speaking – supply
- If outcome is identifying – selection
- If outcome is not clear – selection because of greater control of the students' response and objectivity of scoring
 - Multiple choice – common practice; reduces guessing
 - Alternative Response – only two possible alternatives
 - Matching – specialized form of multiple-choice; series of homogeneous items
- Representative sample of items and tasks

POSSIBLE BARRIERS IN TEST ITEMS AND ASSESSMENT TASKS

- Ambiguous statements
- Excessive wordiness
- Difficult vocabulary
- Complex sentence structure
- Unclear instructions
- Unclear illustrative material
- Racial, ethnic, or gender bias
- Avoid unintended clues

GENERAL SUGGESTIONS

1. Use your test and assessment specifications as a guide
2. Write more items and tasks than needed
3. Write items and tasks well in advance
4. Write so that the task performed is clearly defined and calls forth the performance
5. Write at the appropriate reading level
6. Write so that it does not provide clues
7. Write so that the answer is one that would be agreed upon by experts
8. Whenever the item is revised, check its relevance

FOCUSING ON IMPROVING LEARNING AND INSTRUCTION

1. Tests and assessments can have a desirable influence on student learning if attention is paid to the breadth and depth of content and learning outcomes measured
2. Constructing tests and assessments that measure a variety of learning outcomes should also lead to improved teaching procedures and, thus, indirectly to improved student learning
3. Tests and assessments will contribute to improved instructor-student relations (with a beneficial effect on student learning) if students view the tests and assessments as fair and useful measure of their achievement

REFERENCES

- Linn, R. L. & Miller, M. D. (2005). Measurement and Assessment in Teaching, 9th ed. Upper Saddle, NJ: Pearson
- Several web sites of different universities embarking on outcome assessment