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ABSTRACT

The use of national and campus tests/measures to assess student academic achievement is discussed, along with measurement of student attitudes and behavior, with attention to specific tests and testing programs. It is important for faculty to develop goals for student achievement and to determine whether a test fits a given college program or course. Standardized, objective tests have been used extensively for selection purposes, and external tests are useful for assessing basic skills and deficits for purposes of placement or remediation. A few external tests assess outcomes of general education. When using outcomes assessment to improve instruction, faculty should be involved directly in evaluating student performance. National tests are also used to assess knowledge and skill in major fields of study. Assessment procedures on campus include course examinations, tests to assess major field proficiency, using examiners other than the student's primary instructor, and senior comprehensives. For various fields of study, externally-validated instruments are identified for the assessment of student performance in associate and baccalaureate degree programs. New ideas in the field of assessment are listed, and the concept of the assessment center is mentioned. The innovative approach of Alverno College (Wisconsin) is described. Publications, testing programs, and sources of information are also identified. (SW)

Assessing Outcomes in Higher Education:

Practical Suggestions For Getting Started

John Harris

David Lipscomb College

Nashville, Tennessee

Prepared for the American Association of Higher Education under contract to the National Institute of Education in preparation for the National Conference on Assessment in Higher Education at the University of South Carolina, Columbia, South Carolina, October 13-15, 1985.

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John Harris
For the American Association
for Higher Education
One Dupont Circle
Suite 600
Washington, D.C. 20036

Dr. Dubious Scholaris
Dean of Faculty and Vice President
for Academic Affairs
Everyone University
Oxbridge, USA

Dear Dub:

I was surprised to get your letter asking me about assessment of college outcomes. You have been very skeptical about the whole "outcomes" business.

Given the heavy jargon and the ideological stridency of some of the pushers of the "outcomes" approach, your skepticism is understandable. But, as you now sense, solid instructional improvement begins with assessments of what students are or are not achieving. If instructional improvement does not begin with assessment, we become vulnerable to the latest instructional fad.

As you asked, I have prepared advice for you about assessment. The attached paper combines practical information about conceptual and technical issues with suggestions about tests, references, and people to help you further.

Let me know if you find what I've written for you helpful.

Sincerely yours,

John Harris
David Lipscomb College
Nashville, TN 37203
(615) 385-3855, ext. 428

Suggestions on Assessment of Outcomes

John Harris

Besides being dubious about this outcomes business, I know you don't like educational and psychometric jargon. So I will do my best to write in plain English about a relatively technical subject. Furthermore, I will point you to sources you may wish to explore in depth.

You can save yourself some reading time if you choose to skip the next section on "Goals." You don't need it if you already have fairly specific statements of expected student achievements or outcomes for majors, general education, and student development. Neither will you need it if you don't see the need for goals. Perhaps you are interested only in finding tests or instruments relevant to your various programs; if so, begin on page 9. On the other hand, use the next section if you want to sharpen your institution's goals, then use them to select tests or inventories or to write local tests.

Goals

You can compare your students to other students nationally on standardized tests without having definite educational goals, stated expectancies, or outcomes. But without such goals, you can't be sure the tests reflect your curriculum.

You and your colleagues at Everyone University are also probably interested in how your students change in terms of their beliefs, interests, attitudes, values, and behaviors. There are various commercially available inventories for these things. Again without relatively clear student development goals, you won't know how to select the inventories that fit your institution. Nevertheless, as with the tests, you could administer various inventories just to see how your students compare. Later on, I'll suggest some tests and inventories you may wish to consider.

Responsibilities

If you are without clear goals for student academic achievement and personal development, I hope you will seriously consider developing some. If you decide to develop student achievement goals, the first step is to decide who decides. In the area of academic achievement, most institutions place responsibility for proficient majors in departments. General education (courses required of all students regardless of major) is also the usual responsibility of a few departments, often through "service courses," i.e., the English Department handles composition, the History Department, western civilization.

While respective departments should propose goals, they should be reviewed, possibly modified, and eventually owned by a committee or council representative of the whole institution.

There is the constant dilemma of "specificity" versus "consensus." The more specific your goals the better it is for instructional clarity and for the conduct of assessment. Yet, the greater the specificity the greater the difficulty in reaching campus or departmental consensus. There is no easy answer for this dilemma. Expect this dilemma and work with it. Realize from the beginning that the articulation of specific educational goals by faculty consensus will require a great deal of patience and diplomacy.

Specificity

"How specific should the general education and major achievement goals be?", you may ask. They have to be specific enough for two different faculty members independently writing test items from them or designing exercises or projects to reflect them to come up with roughly the same type items, exercises, or projects. Basically, goals ought to describe things that can be observed. The verbs in goal statements tell one a great deal. The better goal statements use verbs such as "paraphrase," "compute," "describe," and "construct." The poorer ones use vaguer verbs such as "appreciate" and "understand."

A Beginning

At this point, I am tempted to give you a watered down version of the typical "Educational Objectives" course. To your relief, I'll resist the urge and suggest a strategy for developing goals.

1. What are you already implicity expecting of all students and graduates in terms of knowledge, skill, attitude, and behavior?
2. What achievements are you already implicity expecting of each graduate in a major field?
3. What profiles do you have or can you develop of your alumni in terms of such things as career accomplishments, life styles, citizenship activities, and aesthetic and intellectual involvements?

Item #1 can be answered by identifying common proficiencies required in the assignments and examinations of the general education courses. Similarly, Item #2 can be answered by identifying the knowledge and skills usually reflected in the examinations and assignments in major courses. You might ask an expert in test development in your psychology or education departments to develop a simple two-dimensional table for a "content" and "mental process" analysis of test items. Make sure the test expert develops a form that is understandable and useful to his or her colleagues. With his or her help, faculty in the respective disciplines can sort their test items by level of thought process and area of content.

The extra-class, personal development goals related to Item #3 are usually difficult to define. While they should reflect the corporate values of the institution and its constiuencies, our increasing intra-institutional pluralism makes agreement on specific personal goals very difficult. Nevertheless, most campuses will agree to such goals as sensitivity to and awareness of civic responsibilities, preference for democracy over autocracy, and vocational suc-

cess. These developmental goals often blend with general or liberal educational goals.

Outsiders

Academics, as any professionals, need the perspective of outsiders. That is, when they are developing general education goals, they need to think seriously of what the larger world expects of college graduates. You might include some people from outside in developing and reviewing goals. Try to find outsiders who are not intimidated by academia by its parlance, rites-of-passage, or bureauracy. For example, business executives, foresters, elementary school teachers, artists, and others not employed in higher education can have a keen sense of the common skills needed by college graduates.

Pump Primers

Rarely will a university or college group need any pump-priming to state what they hope will be the outcomes of undergraduate education. If your faculty should, I suggest three lists of goals. These lists are offered with two reservations: 1) They do not state goals that are as specific as necessary to assist directly in the development or selection of assessment techniques; and 2) They reflect the wide disparity in our culture of what's expected of the college.

The Competent College Student states in brief, direct prose three levels of knowledge and skill associated with undergraduate education:

1. "Indispensable Skills" are those a student should bring with him or her to college, but which the college must make sure he or she gains at some early point.
2. "Basic Understandings" are those that all college graduates should possess in some measure.
3. "Special Attributes" are those "qualities of mind and character" that should ideally characterize every college graduate.

This little booklet was written by four seasoned academics through a Ford Foundation grant to the Tennessee Higher Education Commission and is available from:

Tennessee Higher Education Commission
501 Union Building
Suite 330
Nashville, TN 37219

Paul Dressel in College and University Curriculum (pages 209-214) proposed seven competencies for any college graduate. This list provides a general frame of reference in which more specific outcomes could be formulated.

Winter, McClelland, and Stewart in A New Case For The Liberal Arts summarize education goals and suggested means of assessing them (page 50).

You will also find the "nine experiences" in the chapter "Minimum Required Curriculum" (pages 15-26) of Integrity in the College Curriculum: A Report to the Academic Community by the Association of American Colleges helpful.

Educational Testing Service (ETS) has three questionnaires for assessing goals--Institutional Goals Inventory, Community College Goals Inventory, and Small College Goals Inventory. These questionnaires allow various constituencies--students, faculty, alumni, board members, etc.--to compare their perceptions of current, actual goals to what ought to be the institution's goals. The ETS tabulation of responses shows a ranking of the perceived importance of both current and "should be" goals. You can also compare various constituencies' perceptions of he institution's goals--where do they agree and disagree? These goals inventories are empirical bases from which you may begin an articulation or reaffirmation of Everyone University goals.

Other Uses

By the way, if you are at all interested in "strategic planning," you will find clear, widely accepted goals essential. (See George Keller's Academic Strategy: The Management Revolution in American Higher Education. Baltimore: The

Johns Hopkins University Press. In cooperation with the American Association for Higher Education, 1983.) The development of such goals is a difficult and sometimes even discouraging task. Yet goals provide the base for documenting institutional outcomes, focusing planning, and evaluating the effects of policies, organization, and administration.

Summary

1. Purpose of goals: Guide the organization and conduct of instruction and the selection of tests, inventories, and other instruments to assess its outcomes.
2. Specific goals: Make the verbs in the goal statements indicate observable performances or products
3. Current implicit goals: Analyze examinations and student assignments to identify the current, implicit goals in general education and major fields.
4. Suggested pump-primers:
   a. The Competent College Student
   b. Dressel. College and University Curriculum
   c. Winter, McClelland, and Stewart. A New Case for the Liberal Arts
   d. AAC's Integrity in the College Curriculum
   e. ETS--Goals Inventories

A special Note: "Goals" sections always seem to come first in letters or papers like this one. But putting them last would probably be more realistic. Generally we can be clearer about "course" goals after we have taught the course two or three times; we often don't know where we are going until we get there. You will definitely be clearer about the attainable goals of Everyone after you have tried to assess them several times.

Outside Tests

I understand you are dubious about the heavy reliance on multiple choice tests. You should be for several reasons. First, to handle the large numbers of students, particularly in lower-division courses, many students for much of their work only have to recognize a correct answer. They rarely have to produce one. Based on my teaching experience, students consider multiple choice and other objective type tests easier to study for than essay tests. McKeachie (page 156) cites evidence that students study more for essay than for objective tests.

Second, extensive use of national tests can over time shape the general education and major curriculums of a campus. Faculty and students want to look good on national tests and may shape what they teach and learn to that end. You are right to be concerned about anything that could distort your academic integrity and freedom. The freedom and independence gained through elaborate governance and tenure structures could be lost indirectly in the name of "quality assurance."

Vulnerability of "Bundling"

The American academy is quite vulnerable on the issue of quality assurance. O'Neill in "The Crisis of Integrity" argues forcefully the integrity crisis is rooted in the arrangement that the same individual who instructs a student also tests and certifies learning. Wang in 1975 nipped at the academy's heels for "bundling" its services of imparting information, accreditation, coercion, and club membership. If colleges and unviersities were commercial institutions, they would be in violation of the Sherman Antitrust Act for "bundling" these services. I pressed this same point in "Baccalaureate Requirements: Attainments or Exposures?" Troutt, argued that some separation in services within the institution could improve them.

The point is this--unlike British or European institutions, our certification of student achievement is done by the person who teaches the student. Related to this linkage, we have also chosen to report educational progress in time rather than achievement units.

As a result, the system is very vulnerable to the compromise of standards by grade inflation and consequent devaluation of degrees. Because of this fault in the system, the beginning use of outside examinations to check on quality is a small unbundling and could presage more to come. By Flordia State Statute and Rules of the State Board of Education, all candidates for community college A.A. degrees and for admission to university upper division status and all recipients of state financial aid must take and pass all four tests of the College Level Academic Skills Project. All undergraduate students in University System of Georgia by Regents policy are expected to take and pass the Reading Test and the Essay Test of the Regents Testing Program before completing 105 hours of degree credit. Both Florida and Georgia require external tests and common, specified minimal passing scores. In the California State University System, each campus must develop its own means of assessing writing and require all candidates for undergraduate and graduate degrees to demonstrate writing proficiency.

If you are interested in these testing programs, you could write or call the following offices:

Kenneth A. Sims, Assistant Dean
Academic Program Improvement
The California State University
Office of the Chancellor
400 Golden Shore
Post Office Box 1590
Long Beach, CA 90801-1590
(213) 590-5480

Cornelia S. Orr, Measurement Consultant/CLASP
Department of Education
State of Florida
Tallahassee, FL 32301
(904) 488-0325

Kathleen Burk
Regents Testing Program
The University System of Georgia
Box 868
Georgia State University
University Plaza
Atlanta, GA 30303
(404) 658-4240

For a more in-depth review of state developments in assessing undergraduate achievement, you might contact James R. Mingle about his January, 1985, paper--"Measuring the Educational Achievement of Undergraduates: State and National Developments." His address and phone number are:

James R. Mingle, Executive Secretary
State Higher Education Executive Officers
Suite 310
1860 Lincoln Street
Denver, CO 80295
(303) 830-3685

I went into detail about the unbundling issue and developments for several reasons:

1. You may be interested in the instruments that have been developed in Florida and Georgia and what has been learned through their use.
2. In my judgment, if we do not do a better job of assuring minimal quality within our institutions, we will have more externally imposed, quality-assurance measures.
3. At a later point in the paper, I will suggest ways we could unbundle to some degree internally, which in my opinion would help improve instruction as well as evaluation.

Test Selection

Before considering some national tests, you may find a suggested technique of analyzing tests helpful. Specific student-learning goals for general education and majors become very helpful at this point. Morris and Fitz-Gibbon have developed a procedure a faculty committee could use to determine if a given

test fits particular programs. This procedure is described in a step-by-step fashion in their book, How to Measure Achievement (Sage Publication, Inc., 275 South Beverly Drive, Beverly Hills, CA 90219) pages 47-68. It includes how to request examination copies of tests, how to "refine and organize programs objectives," and how to "estimate the relative match of the test items to program objectives."

Using this procedure, your faculty can determine if a particular test fits that program. On the other hand, you might ask someone on your campus competent in testing to develop a system of comparing tests to programs. For example, they might analyze an American history examination by placing items in the appropriate cells of a table similar to the one below.

Early American History

Content: Historical Periods

		Exploration	Colonization	Revolution
Process: Levels of Thought	Apply Facts and Concepts			
	Compre-hend Concepts			
	Recall Facts			

Through a table with course or program "content" on one dimension and mental "process" on the other, individual test items may be placed in the appropriate cells. Once all items are distributed in such a table, it becomes obvious if the test fits a given course or program. For more information on how to construct such a table, see Scannell's and Tracy's Testing and Measurement in the Classroom pages 49-69. (This book focuses on the original writing of tests beginning with objectives, but the same procedure can be used in reverse to analyze national tests in terms of local objectives.)

Note of Caution

The United States has led the world in the production and use of standardized, objective tests for selection purposes. The focus of selection tests has not been to compare an individual to an absolute standard of knowledge or skill but to the relative performance of others. Selection tests are intended to spread individuals out to maximize individual differences for comparison purposes.

In contrast the historic intent of educational tests is to determine how much of a body of knowledge one knows or how skillful one is compared to some pre-set standard. In more recent years psychologists refer to these as criterion referenced tests.

The two types of tests are developed differently. Ideally, the selection test excludes items that are very frequently answered correctly or incorrectly. The ideal selection-test item is one that 50% of the students answer correctly. Let's assume a given item accurately reflects a critical skill but no one answers it correctly; following the selection test approach, it would be deleted. Conversely if everyone answered it correctly, it would still be deleted.

Now let's say a teacher developed a very effective instructional program in general biology and the students were all able and motivated. Further assume the teacher taught well and the students studied effectively so that all of them answered every item on the final correctly. Using the selection-test, item-analysis-approach, the test is at fault because it does not discriminate among the students. The instructor should continue developing items until significant percentages of students miss each item. By the selection-test standard, 50 percent of the class should miss each item. By the time our hypothetical biology instructor using the selection test approach has reached this point, he or she is assessing individual native intelligence differences more than mastery of what has been taught or learned.

The selection-test approach works well when the purpose is to spread individuals over a continum to select the most able. But it is awkward, to say the least, when the purpose is to certify a level of competence. It is also questionable when the purpose is to assess the impact of instruction on a group of students. Its difficulty lies in its emphasis on ability difference among individuals in the instructional group rather than differences between an instructed group and an uninstructed one. This is one of the basic reasons so little difference is found between different instructional approaches when students are tested with nationally standardized achievement tests built on the selection-test model. The selection-test approach emphasizes so strongly individual ability variation the differences of individuals' scores within the instructed group will often be greater than the distinctions between instructed and uninstructed groups. The same is true for individuals' differences within groups which have been instructed in various manners, i.e. lecture, discussion, or structured independent study.

To the best of my knowledge Joseph Hammock now at the University of Georgia first brought attention to this problem at the American Psychological Association 1960 annual meeting in an unpublished paper--"Criterion Measures: Instruction vs. Selection Research." In the last 25 years, many articles discussing criterion-referenced tests have been published, techniques have been refined for developing them, and a few such tests have been developed along with criterion-referenced interpretations of conventional standardized tests. Nevertheless, for the most part the commercially available achievement tests you will come across will typically have been built on the selection model. In practical terms, this means you will be working against the odds to show significant gains in scores over time. You will encounter the same problem in showing differences between different instructional approaches. On the other

hand, if your primary purpose is to compare your institution's typical student to the performance of students in similar programs nationally, then nationally normed standardized tests built on the selection model can be helpful.

If you use a typical standardized test to compare possible gains in knowledge or skill or to compare different instructional approaches, consider the following suggestions:

1. Ask the test publisher if the scores can be interpreted in a criterion-referenced way.
2. If it is not, be prepared for the differences not to be great; and do not assume that the lack of significant differences is completely attributable to ineffective instruction. The measures themselves, if built on and interpreted by the selection model, will not be especially sensitive to differences in instructional treatments.

Basic Skills

Since this advice is on how to assess outcomes to improve instruction, some assessments are suggested for use at the input stage of general education as well as at the outcome point.

A useful summary of the skills and knowledge needed by entering college students is Academic Preparation for College: What Students Need to Know and Be Able to Do. New York: The College Board, 1983.

The College Board Publications
888 Seventh Avenue
New York, NY 10106
(212) 582-6210

It describes the basic academic competencies of reading, writing, speaking and listening, mathematics, reasoning, and studying. Computer competency is included as an emerging need. Then it describes the basic academic subjects of English, the arts, mathematics, science, social studies, and foreign language.

Obviously the ACT with its four parts (English, Mathematics, Social Science, and Natural Science) can be used to identify general deficiencies in four broad areas of preparatory education. Particularly low ACT and SAT composite scores should cause someone in your institution to review diagnostically the weaknesses of such entering students.

The College Board's MAPS (Multiple Assessment Programs and Services) tests appear to be a useful and efficient means of diagnosing academic preparation weaknesses of entering students. The six tests are: Reading (25 minutes), Written English Expression (25 minutes), Computation (20 minutes), Applied Arithmetic (20 minutes), Elementary Algebra (20 minutes), and Intermediate Algebra (20 minutes). For complete information on MAPS, write or call:

MAPS
The College Board
888 Seventh Avenue
New York, NY 10106
(212) 582-6210

Components of MAPS are being used in various configurations in Florida, New Jersey, and California. The State University and Community College System of Tennesee has developed a comprehensive and specific screening and placement system using MAPS tests. Any entering student with an ACT composite below 16 will be tested with MAPS tests. Given the student's MAPS performance, he or she will be placed in certain remedial or developmental courses. For more information on this screening and placement procedure, you may contact:

Bert C. Bach
Vice Chancellor for Academic Affairs
The State University and Community
College System of Tennessee
1161 Murfreesboro Road
Nashville, TN 37217
(615) 741-4821

In addition to these test batteries specifically designed to assess basic collegiate skills, there are other tests of general school achievement you might

use to assess general knowledge and basic skills. References you could use in search for such tests are listed and described in Morris and Fitz-Gibbon on pages 39-44. This list will also be helpful in considering tests to assess outcomes of general education and major fields of study. Some of the references are as follows:

O. K. Buros. Mental Measurements Yearbooks. I-VIII. Highland Park, New Jersey: Gryphon Press, 1938-1978.

R. Hoepfner, et al. The CSE Test Evaluation Series. Los Angeles: Center for the Study of Evaluation, UCLA Graduate School of Education, 1971-1976.

D. H. Nafziger, et al. Tests of Functional Literacy: An Evaluation of Currently Available Instruments. Northwest Regional Educational Laboratory, Portland, Oregon, 1975.

R. Sumner and T. S. Robertson, Criterion-Referenced Measurement and Criterion-Referenced Tests. Windsor, Berkshire, UK: National Foundation for Educational Research, 1977.

Two other later references which will be very helpful are:

James V. Mitchell, Jr., Ed. Tests in Print III: An Index To Tests, Test Reviews, and the Literature on Specific Tests. The Buros Institute of Mental Measurements. Lincoln: The University of Nebraska Press, 1983.

Richard C. Sweetland and Daniel J. Keyser. Tests: A Comprehensive Reference for Assessments in Psychology, Education, and Business. Kansas City: Test Corporation of America, 1983.

General Education

There are a few external tests to assess outcomes of general education. As they are described below, be reminded of the importance of comparing these tests with the goals of your particular general education program.

One approach to assessing general education is a second administration of the ACT at the end of the sophomore year. Northeast Missouri State University readministers the ACT to about one-half of the sophomores who entered with ACT scores two years before. This allows for comparison of entering freshman and rising junior average scores on each of the four parts of the ACT.

Perhaps the most widely used general education battery is ACT's College Outcomes Measures Program's (COMP) Assessment. Over 250 colleges and universities have used COMP. There are three options in COMP:

1. The COMP Composite Examination covers three "process" and three "content" areas. The process areas are oral and written communication, problem solving, and values clarification. The three content areas are "functioning within social institutions," "using science and technology," and "using the arts." The examination includes multiple choice response questions, questions requiring brief written responses, exercises of writing letters and memos, and exercises requiring brief oral speeches. About four hours are required for a student to complete all of the examination. The evaluation of written and oral responses takes about 50 minutes per student tested by a four-faculty member evaluation team. The examination is modular so that you can select the parts you particularly wish to use. (See Aubrey Forrest and Joe M. Steele, "Defining and Measuring General Education Knowledge and Skills--COMP": Technical Report 1976-81, The American College Testing Program, 1982.)

2. The COMP Objective Test covers the same "process" and "content" areas as the Composite Examination except the "communications" area is not divided into oral and written sections. The items are all four option multiple choice questions, therefore requiring no faculty evaluation of responses. This test takes about two hours of a student's time to complete.

3. With the COMP Activity Inventory students report activities and perceptions in the same three process and content areas assessed on the Composite and Objective Examinations. This inventory is not

timed; but according to Forrest and Steele, students usually take about 90 minutes to complete it. The intended purpose of the Activity Inventory is to obtain a report from students or alumni of what use they make of their general education.

A friend of mine used to talk about the "candy store test." By that he meant you can best determine the impact of general eduction by observing what students do in free choice situations. That is, what actual use would a graduate make of his or her general education literature courses in selecting a novel in a large bookstore?

The Activity Inventory is a simulated "candy store" test of general education effects in--

1. Communicating about social institutions
2. Solving social problems
3. Clarifying social values
4. Communicating about science and technology
5. Solving scientific and technological problems
6. Clarifying scientific and technological values
7. Communicating about the arts
8. Solving artistic problems
9. Clarifying artistic values

The Activity Inventory asks the respondent to indicate what he or she usually rather than ideally does. Typical or usual behavior is greatly influenced by the immediate circumstances and pressures and only indirectly by the perspective or insights of past formal instruction. That is, one's involvements with "artistic" things will be greatly influenced by environmental factors such as location, circle of friends, and work and family circumstances.

If the items constituting the COMP options reflect your general education program's goals, it would be a useful way to compare your students to a national

sample. I favor assessments that involve your faculty in evaluating student responses such as the Composite Examination does. Nevertheless, I realize how demanding of student and faculty time this is, especially when such testing and grading are done outside usual credit, classroom testing. Most institutions are, therefore, using the Objective Examination.

As you explore ways to evaluate your general education program, you will probably want to review COMP. You should ask Aubrey Forrest to send you the Technical Report as well as sample copies of the three instruments:

COMP
The American College Testing Program
Post Office Box 168
Iowa City, Iowa 52243

ETS at one time offered the Undergraduate Assessment Program (UAP). The UAP tests were derived from Graduate Record Examination (GRE) Subject Tests. Out of the original program, three general education area tests and one major field test survive. The available General Education Area Tests are Humanities, Social Science, and Natural Science; each one is 60 minutes. The one major field test is a general test of Business requiring two hours. ETS will loan these tests to an institution for a year. The institution must score its own answer sheets. Obviously, without ETS scoring there are no current national norms. If you wish to explore the use of these tests, call or write:

Nancy Beck, Program Director
ETS College and University Programs
Educational Testing Service
Princeton, NJ 08541
(609) 734-1162

ETS does offer the General Examinations in the College-Level Examination Program (CLEP). The General Examinations are in English Composition, Mathematics, Humanities, Natural Sciences, and Social Sciences and History. This program was structured for individual high school students to take the examinations at ETS testing centers for college credit. These General Exami-

nations have current national norms and would, therefore, allow you to compare your students against wider groups. If you are interested in exploring the use of CLEP General Examinations to assess your students' general education, contact someone in--

College-Level Examination Program
The College Board
888 Seventh Avenue
New York, NY 10106
(212) 582-6210

The California State University System's Graduation Writing Assessment Requirement (GWAR) is implemented on the 19 campuses differently. All upper-division and graduate students must demonstrate writing proficiency. Each campus reports how it certifies writing ability and the number of students who pass. Some campuses require students to take designated upper-division or graduate courses requiring a large amount of writing. Others allow students to demonstrate proficiency on a writing test. Your faculty may want to review some of the tests developed on different campuses. You could contact--

Kenneth A. Sims
Office of the Chancellor
The California State University
400 Golden Shore
Post Office Box 1590
Long Beach, CA 90801-1590
(213) 590-5480

Of particular interest is the Regents' Testing Program of The University System of Georgia. All rising juniors in all state community colleges, four-year colleges, and universities must take and pass the Reading and Essay Tests before they can graduate. The Reading Test is ten reading passages with five to eight questions on each to test comprehension in terms of vocabulary, literal comprehension, inferential comprehension, and analysis. The reading passages are selected from materials college graduates should understand. It is a one-hour test of 60 items.

The Georgia Essay Test is interesting because students have to produce acceptable essays. I also applaud its use of multiple faculty evaluators with a very consistent scoring procedure. If you are interested in assessing your students' abilities to compose essays and in having your own faculty reliably evaluate them, I urge you to review the Georgia Essay Test. You might request a copy of "Regents' Testing Program: Description and Documentation" from--

Kathleen Burk
Regents' Testing Program
The University System of Georgia
Box 868
Georgia State University
University Plaza
Atlanta, GA 30303
(404) 658-4240

I favor assessments that directly involve two or more faculty in judging student work. Also, there are several advantages in having some faculty judge students' work who are not directly involved in teaching them. First, it forces faculty to look directly at what students can do. Second, by having to explain their judgment to a second or third reader, they will begin to develop a collective sense of what they expect. In my opinion, faculty rarely identify with an off-campus, machine-scored examination. So if you are interested in outcomes assessment serving as a catalyst for instructional improvement, look for reliable ways to involve your faculty in directly evaluating students' performances and products.

By Florida State statute and Department of Education rules, every community college and state university student has to take and pass all four tests of the College Level Academic Skills Project (CLASP). Every community college student must take it to receive an A.A., and all state university students must take it to be admitted to upper division status. CLASP assesses the communications skills of reading, listening, writing, and speaking. In mathematics, it assesses competence in algorithms, concepts, generalizations, and

problem solving. This test battery was developed by faculty from the Florida community colleges and state universities. It is a secure battery not for use outside its designated testing centers and for Florida students only. Nevertheless, you may wish to have your faculty review its content and techniques of development and administration. To do this, ask for CLASP Technical Report 1982-83 and CLASP Test Administration Plan 1984-85. Write or call--

Myron R. Blee or Cornelia S. Orr
College-Level Academic Skills Project
Department of Education
State of Florida
Tallahassee, FL 32301
(904) 488-0325

In checking around after you asked me to write you, I was struck by how much attention is being given to writing. As one dubious about all the new fads in education, this ought to warm your scholar's heart. The California State University System, the Florida Department of Education, and The University System of Georgia all require a demonstration of writing proficiency of college students. This confirms the general impression that the only common component of general education left within and among many institutions is a required course in composition.

Major Fields

Beyond general-education tests, you asked about nationally developed tests to assess knowledge and skill of major fields of study. Before getting into the various tests, let me urge you again to compare tests systematically with the objectives of your major programs. A given national test may not reflect what a particular department is trying to do.

Also, departments often already have outcomes information: the scores of graduates who take professional license and certificate examinations or examinations for admission to professional and graduate schools. A post-graduation examination frequently taken by graduates from a given department will have

obvious leverage with the department's faculty. Departments often develop "batting averages" out of such information.

You may know that state colleges and universities in Tennessee operate under a "performance funding" formula, with significant attention to the performance of students in majors. This has forced the University of Tennessee System, the State Board of Regents, and the Tennessee Higher Education Commission to agree on examinations that can be used to assess the performance of majors. The first list below for baccalaureate majors gives "Program Taxonomy Name" and the names of tests under "Externally Validated Instruments." The second list is for associate degree programs, and it includes national associations affiliated with respective examinations. These tests have been reviewed by relevant faculty and governing and coordinating board staffs. You might find the lists useful as you search for possible tests for major fields.

EXTERNALLY VALIDATED INSTRUMENTS FOR THE ASSESSMENT OF STUDENT PERFORMANCE IN BACCALAUREATE DEGREE PROGRAMS

Program Taxonomy Name	Externally Validated Instruments
Architecture	Uniform Architect Registration Examination.
Biology, General	ETS GRE Advanced Biology Test.
Business and Commerce, General	ETS UP Field Test in Business.
Accounting	American Institute of Certified Public Accountants Achievement Test: Level II.
Finance	ETS UP Field Test in Business.
Business Administration	ETS UP Field Test in Business.
Management	ETS UP Field Test in Business.
Marketing	ETS UP Field Test in Business.
Real Estate	ETS UP Field Test in Business.
Insurance	ETS UP Field Test in Business.
International Business	ETS UP Field Test in Business.

Program Taxonomy Name	Externally Validated Instruments
Computer & Information Sciences	ETS GRE Advanced Test in Computer Science.
Education, General	National Teacher Examinations.
Elementary Education	National Teacher Examinations.
Secondary Education	National Teacher Examinations.
Special Education, General	National Teacher Examinations.
Pre-Elementary Education	National Teacher Examinations.
Art Education	National Teacher Examinations.
Instrumental Music Education	National Teacher Examinations.
Public School Music Education	National Teacher Examinations.
Music Education	National Teacher Examinations.
Health and Physical Education	National Teacher Examinations.
Physical Education, K-9	National Teacher Examinations.
Physical Education, 7-12	National Teacher Examinations.
Physical Education	National Teacher Examinations.
Health Education	National Teacher Examinations.
Business Education	National Teacher Examinations.
Distributive Education	National Teacher Examinations.
Home Economics Education	National Teacher Examinations.
Vocational Home Economics Education	National Teacher Examinations.
Engineering, General	Engineer In-Training Examination.
Architectural Engineering	Engineer In-Training Examination.
Chemical Engineering	Engineer In-Training Examination.
Civil Engineering	Engineer In-Training Examination.
Electrical Engineering	Engineer In-Training Examination.
Mechanical Engineering	Engineer In-Training Examination.

Program Taxonomy Name	Externally Validated Instruments
Industrial Engineering	Engineer In-Training Examination.
Engineering Science & Mechanics	Engineer In-Training Examination.
Music	National Teacher Examinations for Music Education. ETS GRE Advanced Test in Music.
Foreign Languages, General	ETS GRE Advanced Tests (French, German, Spanish) Deutsches Zertifikut (German), from the Goethe Institut.
Nursing	National Council Licensing Examination ACT-PEP (Proficiency Examination Program). National Leage for Nursing Achievement Tests.
Dental Hygiene	National Board of Dental Hygiene Examination.
Medical Record Librarianship	American Medical Record Association National Registry Examination.
Environmental Health	Registered Professional Environmentalist Examination.
English, General	ETS Literature Assessment Test. ETS languages Skills Test, College Board.
Philosophy	ETS GRE Advanced Test in Philosophy.
Mathematics, General	Mathematics Association of America Putnam Examination. ETS GRE Advanced Test in Mathematics.
Physics	ETS GRE Advanced Test in Physics.
Chemistry	American Chemical Society Examinations. ETS GRE Advanced Test in Chemistry.
Geology	ETS GRE Advanced Test in Geology.
Earth Sciences, General	ETS GRE Advanced Test in Geology.
Psychology, General	ETS GRE Advanced Test in Psychology.
Social Work	Montana Social Work Competence Scales.

Program Taxonomy Name	Externally Validated Instruments
History	ETS GRE Advanced Test in History.
Political Science	ETS GRE Advanced Test in Political Science.
Sociology	ETS GRE Advanced Test in Sociology.

EXTERNALLY VALIDATED INSTRUMENTS FOR THE ASSESSMENT OF STUDENT PERFORMANCE IN ASSOCIATE DEGREE PROGRAMS

Program Taxonomy Name	Externally Validated Instruments
Accounting Technologies	Accreditation Council for Accountancy Examination.
Dental Hygiene Technology	National Board of Dental Hygiene Examination.
Dental Laboratory Technology	Recognized Graduate Examination of the National Board for Certification in Dental Technology.
Medical Laboratory Technician	Committee on Allied Health Education Certification Examination. National Certification Agency for Medical Laboratory Personnel Examination for Registry. American Society of Clinical Pathologist, Board of Registry Examination for Registry. American Medical Technologists; Examination for Registry. International Society of Clinical Laboratory Technologist Examination for Registry. State of Tennessee, Department of Public Health, Laboratory Licensing Service Examination for Licensing.
Multiple Competency Clinical Technician	American Occupational Therapy Association Certification Examination.
Animal Laboratory Assistant Technology	American Veterinary Association Certification Examination.
Radiologic Technology	American Registry of Radiologic Technologists Certification Examination.
Nursing, R.N.	Tennessee State Board Examination National League for Nursing Achievement Tests.

Program Taxonomy Name	Externally Validated Instruments
Occupational Therapy Technology	American Occupational Therapy Association Certification Examination.
Medical Record Technologies	American Medical Record Association Certification Examination.
Medical Assistant Technology	American Association of Medical Assistants Certification Examination.
Inhalation Therapy	American Association of Respiratory Therapist Registration Examination.
Electroencephalographic Technician	American Board of Registration of Electroencephalographic Technologists Certification Examination.
Physical Therapy	American Physical Therapy Association Certification Examination.
Orthotic/Prosthetics Technology	American Orthotics/Prosthetics Association Certification Examination.
Emergency Medical Technology	State of Tennessee Proficiency Certification Tests.
Engineering Design Technology	Institute for Certification of Engineering Technicians Examinations.
Civil Technology	Institute for Certification of Engineering Technicians Examinations.
Electronics & Machine Technology	Institute for Certification of Engineering Technicians Examination.
Food Services Technologies	American Dietetic Association Certification Examination.
Interpreter (Deaf) Training	National Registry for Interpreter Training Certification Tests.

*A survey of program evaluation activities within Tennessee State Board of Regents institutions was conducted during the summer of 1981 (for a discussion of survey rationale, procedures and principal findings, see Richard G. Dumont, "Preliminary Report on the Results of the Survey of Program Evaluation Activities within The State University and Community College System of Tennessee, August, 1981). A list of externally validated instruments of actual or potential use was compiled and subsequently distributed among all SBR institutions for further review and modification. The present compilation is the result of systematic research with substantial institutional input and representation.

If you want more information on how these lists were developed and how they are used, contact:

Bob Appleson
Tennessee Higher Education Commission
501 Union Building
Suite 300
Nashville, TN 37219-5380
(615) 741-3605

The Test Collection of ETS has extensive and detailed listings of college level achievement tests, dated 1984. This list includes equivalency tests, entrance examinations, certification tests, and achievement tests. This listing includes the following information on tests:

1. Six-digit identification number assigned by the Test Collection.
2. Names of the instrument (test).
3. Components within the overall test which assess particular skills or factors.
4. Personal or institutional author.
5. Publication or copyright year.
6. The organization which sells or distributes the test.
7. Grades for which the test is suitable.
8. Ages for which the test is suitable.
9. Abstract description of the test and its purpose.

You could request a copy of "Achievement Tests--College Level, December, 1984" from:

Test Collection
Educational Testing Service
Princeton, NJ 08541

In writing to you about assessment, I have assumed your primary interest is program evaluation for instructional improvement, and not primarily the award of credit by examination. Nevertheless, the American Council On Education's Guide to Credit by Examination will obviously help on the credit-by exam issue

and incidentally provide you with useful descriptions of college achievement tests. To get a copy of this Guide write or call:

Henry Spille or Douglas R. Whitney
Office on Educational Credit and Credentials
American Council On Education
One Dupont Circle
Washington, D.C. 20036

Northeast Missouri State University has reviewed and adopted many tests to assess the performance of majors. You may want to look at a list of tests they are using; contact:

Charles McClain, President
Northeast Missouri State University
Kirksville, MO 63501

The GRE Subject Tests are being used in a number of places to assess knowledge and skill of majors. According to the GRE 1984-85 Subject Tests Descriptive Booklet the subject test primary purpose is:

> . . .to help graduate school admission committees and fellowship sponsors assess the qualifications of applicants in their subject fields. The tests also provide students with a means of assessing their own qualifications.
>
> Scores on the tests are intended to indicate students' mastery of the subject matter emphasized in many undergraduate programs as preparation for graduate study. (page 3)

As pointed out earlier, tests designed to emphasize individual differences, as most prediction-selection tests are, present difficulties for use in program evaluation. Nevertheless, student scores on such tests are frequently used, whether formally or informally, to evaluate majors. Again, your respective departmental faculties will have to determine how the items of individual tests reflect major programs. Given the usual fee of $29.00 per test, it would be relatively expensive to have a significant number of students take this test for program assessment purposes.

Subject Tests are offered in the following areas: Biology, Chemistry, Computer Science, Economics, Education, Engineering, French, Geology,

History, Literature in English, Mathematics, Music, Physics, Political Science, Psychology, Sociology, and Spanish. To consider these tests you should get a copy of GRE Subject Tests Descriptive Booklet as well as GRE: Guide to the Use of the Graduate Record Examinations Program 1984-85. Write:

Graduate Records Examinations
CN 6000
Princeton, NJ 08541-6000

Or call: Princeton, NJ (609) 771-7670
Berkeley, CA (415) 849-0950

Another set of examinations in which you may be interested is the ACT Proficiency Examination Program Examinations (PEP). These examinations were originally designed for the External Degree Program of the Board of Regents of The University of the State of New York. Outside of New York State they are administered by ACT. These examinations are designed to assess proficiency in specific academic areas for the award of college credit; they range in testing time from three to seven hours and in cost from $40.00 to $235.00 each. There are examinations in the following areas:

Arts and Sciences (11 subjects)
Business (18 subjects)
Education (4 subjects)
Nursing--Associate level (8 subjects)
Nursing--Baccalaureate level (8 subjects)

The PEP Examinations are designed to reflect the content of individual courses rather than programs. Therefore, they will be of limited value in overall assessment of major programs. It would be administratively awkward and expensive to use these examinations for program assessment.

Earlier I mentioned the CLEP General Examinations, but there also are 33 Subject Examinations in CLEP. The basic purpose of the Subject Examinations is to assess proficiency in lower-division college courses for the purpose of awarding credit. Each examination requires 90 minutes. Some of the examinations have optional free-response or essay tests. The usual fee for each test is

$30.00. Again, without exceptional circumstances, the CLEP Subject Examinations will be administratively and financially difficult to administer to groups of students for program evaluation purposes. They are not designed to reflect the comprehensive proficiency expected of a graduating senior in a major field.

ETS offers the DANTES achievement tests to colleges and universities for use with civilian students. DANTES is an acronym for Defense Activity for Non-Traditional Education Support. DANTES and CLEP cover different subject areas; for example, DANTES offers technological tests. Generally, the DANTES tests cover only the equivalent of one semester's work. Institutions can order DANTES tests and administer them at their convenience; the cost is $25.00 per test. The tests are untimed and take about 90 minutes each to administer. ETS scores the answer sheets. DANTES tests cover the following areas:

Science (9 subject tests)
Social Science (11 subject tests)
Business (7 subject tests)
Applied Technology (14 subject tests)
Languages (4 subject tests)
Mathematics (7 subject tests)

ETS provides brief fact sheets on each DANTES tests that include:

1. Content Description
2. Characteristics of Sample Population
3. Credit Recommendations
4. Reference Publications
5. Special conditions, i.e. "No Slide Rule Or Calculator Allowed" on the College Algebra test.

If you are interested in reviewing the DANTES program, contact:

DANTES Program Office
P-166
Educational Testing Service
Princeton, NJ 08541
(609) 734-5212

Local Assessments

After this discussion of externally available tests, we need to discuss the development of assessment procedures and tests on your campus. While there have been serious efforts to improve instruction and to develop faculty as more effective teachers, little has been done to improve evaluation and testing. Heywood, 1977, from his British experience, says:

> Examinations are the great afterthought of the educational process. Most new courses are set up without one thought being given to the methods of examining (page 2).

Course Examinations

One place to begin a renewed concern for assessment is course examinations. One might begin with asking that a final examination or some other course assessment such as a paper be included in new course proposals. I personally favor comprehensive final examinations for most undergraduate courses. In any case, most faculty can write final examinations more easily than they can write specific course objectives. By asking that tests or other means of assessment be included in proposals for new courses, faculty will have operationally defined the outcomes of courses. I would also suggest another step--send new course proposals to two or three faculty members at other universities. Ask them to comment on the content and level of performance required of students in the proposed test or the alternative means of assessment.

One of the surest routes to improving instruction is improving testing within courses. Good tests reflect course goals and content and give students feedback on their achievement. One among many who has written well about practical improvement of tests in courses is Jonathan Warren. If you want to request his papers or seek his advice, contact him as follows:

Jonathan Warren
Research in Higher Learning
2360 Eunice Street
Berkley, CA 94708
(415) 528-8414

Jonathan wrote about faculty developing tests collaboratively in "Quality in the classroom" a chapter in Meeting the New Demand for Standards. (This book was number 43 in the Jossey-Bass series New Directions in Higher Education.)

There are two chapters in McKeachie's Teaching Tips which I strongly recommend because they are so practical and readable--"Examinations" (pages 151-173 and "The ABC's of Assigning Grades" pages 174-186).

Milton's and Edgerly's booklet, The Testing and Grading of Students is also easy to read and quite practical. Hopefully, your library or some of your faculty have a copy because I understand it is now out or print.

Program Tests

You may decide in some cases to develop your own tests to assess certain areas of general education or major fields. In many cases, you and your faculty will not be able to find tests which reflect the particular emphases of your curriculum.

As you consider this possibility, you should consider the experience and achievements of Trudy Banta at the University of Tennessee, Knoxville. Banta is helping faculty in several departments develop tests to assess major field proficiency when suitable national tests cannot be found. Banta uses the following "Plan for Comprehensive Test Development" to manage the on-campus construction of examinations to assess major program.

Name of Program_____

Contact Person(s)_____

_____

Campus Phone: 974-_____

PLAN FOR COMPREHENSIVE TEST DEVELOPMENT

Target date for reporting scores: 198__

I. Briefly describe what you plan to do, addressing the following questions:
   A. How will faculty be involved initially in determining terminal objectives or learning outcomes for graduates?
   B. Will one or more faculty be given released time to provide leadership for test development?
   C. How will the item pool for the test be generated--by all faculty, small group, outside source?
   D. How will items be selected for the first draft of the test?

II. Will you use (A) two external consultants in your field to review the test, or (B) one content specialist off-campus and a measurement specialist on-campus or in Tennessee, or (C) another university department like yours that will assist in test development?
Give names of consultants and institutions, if possible.

III. Please indicate how you plan to use financial resources offered by the Learning Research Center (all categories are optional):
   A. Faculty released time - (Identify faculty) $_____
   B. Payment of consultants - $_____
   C. Computer analyses of test characteristics - $_____
   D. Other (please specify) - $_____

TOTAL $_____

IV. Please list target dates for each of the following activities:
   A. Send vitae of consultant(s) to Trudy Banta _____
   B. Complete first draft of exam for field testing and review _____
   C. Send reviewers' comments and revised copy of exam to Trudy Banta for THEC approval _____
   D. Administer final copy to sample of program graduates _____

HOW CAN THE LEARNING RESEARCH CENTER HELP?

You can contact Banta as follows:

Trudy Banta
Learning Research Center
University of Tennessee, Knoxville
1819 Andy Holt Avenue
Knoxville, TN 37996-4350
(615)974-2459

If you anticipate developing several tests on your campus, consider doing the following things:

1. Develop a common procedure by which they are developed, reviewed, and approved.
2. Identify a test design consultant from your faculty who can develop the above procedure and who can work with faculty groups as they write and field test the examinations.
3. Have the test reviewed for content by at least two off-campus faculty and for psychometric quality by someone competent in development of tests or other assessment procedures.
4. Provide test security.

Other Examiners

O'Neill in "The Crisis of Integrity," cited earlier, goes to the heart of the problem: The same person who teaches the student tests and certifies the student. In this, American higher education is different from European and British education. Eliot in the late 1800's tried to use external examiners at Harvard as they are used at Oxford. There are features of the British examining system we would not want to adopt, and there are differences between the two systems of higher education that would make it difficult to make a complete transfer.

Nevertheless, there are some ways we could use other examiners in addition to the student's primary instructor. If for example, a senior comprehensive in each major is required, more than one faculty member could be

involved in evaluating student papers, projects, or examinations. Alumni with some graduate work or demonstrated professional expertise related to a particular major could be used on a team to evaluate performances or products in senior comprehensives.

Improvement of instruction is tied to re-establishing a sense of pride-in-craftsmanship in instructors. Craftsmen identify with their products, and craftsmanship is reinforced by the response of purchasers and informed observers. It is difficult for one faculty member to take direct pride in a biology graduate when he taught him only once in elementary statistics. On the other hand, when a faculty member presents the work of a senior in his department to two or more colleagues from within or without the campus, there is opportunity to receive the type of evaluation that engenders pride of craftsmanship.

Senior Comprehensives

Of all the things one might do to encourage assessment of outcomes, I would begin with senior comprehensives. Sometime in the senior year each major would have to complete a major paper or product under the guidance of a faculty member in that department. That paper or project would be judged in some pre-determined, systematic way by two or more persons deemed by the department faculty as competent to appraise such senior work.

Such comprehensive papers and projects should directly or indirectly cause a student to demonstrate not only knowledge and skill of his major but much of his general education. Senior comprehensives are not as common as they once were, but a number of institutions still have them at least in some departments. I hope they will again become rather common and that regional accreditation agencies would have members of visiting committees review student work produced in them.

Passing Fad

Much of the rhetoric and many of the techniques currently in rogue in "outcomes assessment" will pass. But a renewed emphasis on assessment in the most basic sense will, in my judgment, steadily grow. Nevertheless, for the most part, outcomes assessment is now an "add on." After the usual general education or major instruction and testing are done within courses, a few tests are administered by a central campus office. The results usually come back to faculty on computer print out sheets. When students take the tests, they know the tests did not affect their grades; the faculty are usually more concerned about their publication records or student evaluations of teaching.

There are, I am sure, many exceptions to these generalizations. Two significant exceptions of which I am aware are Northeast Missouri State University (NMSU) and Alverno College, Milwaukee. At NMSU, the assessments are still external to course credit instruction and testing, but they are taken seriously for annual departmental planning and budgeting. Perhaps even more importantly, they are taken very seriously by the president, chief academic officer, and deans. These officials provide continuing personal encouragement, support, and reinforcement to department chairs and faculty in the use of their outcomes assessment information.

Ewell has described NMSU's approach to assessment as follows:

> Rather than developing an assessment process from the ground up, NMSU has chosen instead to commit limited resources in an attempt to match existing assessment instruments with a more traditional set of program offerings. While the scope of the effort has been limited, the impact on the campus has been considerable. p. 64

NMSU has made excellent use of assessment information without changing basic course curricular, instructional, and testing patterns. This is due in my judgment (based on a three-day campus visit) to extraordinary campus leadership, to relating assessments consistently to annual planning and budgeting, and

to making a concern for quality a clear, unifying campus goal. (Alverno is discussed at some length in the "Assessment Center" section.)

An Ideal Goal

As one primarily interested in the systematic improvement of instruction, I believe some "unbundling" of testing from instruction would be helpful. To be improved, instruction in any subject must be judged in terms of its--(1) effects (how much and how well have students learned), (2) costs (in terms of effort, time, and resources compared to learning), and (3) acceptance (students' identification with particular instructional approaches). (From personal communication with Joseph Hammock, University of Georgia.) By separating asessment of student achievement from instruction, we are more likely to compare modes of instruction in terms of their effectiveness, efficiency, and acceptance.

The self-contained course and our time-based method of accounting for educational attainment in American higher education work against such separation. There are inherent difficulties in evaluating instruction where credit for a degree is counted directly in time units (credit hours) and only indirectly in amount learned. Furthermore, with instructional goals and testing patterns being almost as different as the teachers in different courses, there is no common standard by which to evaluate instruction.

An increase in external assessments will likely continue until there is some operational separation between instruction and assessment within our institutions. There are at least two things you might do at Everyone University to connect instruction as a means with assessed achievement as an end:

> First, institute or reinstitute the senior comprehensive as suggested earlier. Arrange for the faculty member who directs and instructs in the comprehensive to present his or her students to a panel of examiners. Perhaps the examiners panel could be composed of other faculty members from on or off campus. In some areas, involve off-campus, practicing professionals where the major leads directly to a professional or technical vocation.

> Second, require common, comprehensive examinations or papers for the basic general education courses expected of all students. Ask the faculty teaching those courses to work together and possibly with a test development specialist to construct comprehensive examinations or assessment procedures. If there are essay responses or student performances or products which have to be graded subjectively, ask the faculty to develop a system for at least two grades independently to assess each student's work.

Senior comprehensives with multiple evaluators and common assessments of general education skills and knowledge will inevitably stimulate a strong catalyst for instructional improvement. Furthermore, both of these are consistent with academic traditions with which most faculty can identify.

In addition to seniors doing major papers and projects in their comprehensives, you may wish to administer occasionally a nationally standardized test in each major field to seniors if appropriate ones are available. Despite my emphasis on the senior paper or project, faculties need to know how their students compare nationally.

Attitudes and Behaviors

While the primary focus in outcomes assessment is on achievement, we remain interested in the attitudes and behaviors affected by campus experience. So in this section is a very brief overview of some ways to observe or assess student attitudes and behaviors.

We are accustomed to opinion surveys and questionnaires in every area of our society. Knowing what people think, believe, value, and perceive is critical to the operation of democratic societies and institutions. Consequently, we have become very adept at questioning small, representative samples of people to generalize accurately about populations.

Questionnaires can provide self-report information about student values, interests, beliefs, and behaviors. If your institution is seriously and operationally involved in affecting student attitudes and behaviors, you will need ways to collect reliable and valid data about them. There are two basic ways to get such data:

1. Observe behaviors and infer attitudes from the observations.
2. Ask the students, alumni, or others to report on their own attitudes and behaviors.

Typical Performance Measures

Cronback, 1960, referred to questionnaires and inventories of attitudes and behaviors as "tests of typical performance" pages 31-35. The purpose of typical performance assessments is to determine what one usually feels, believes, or does. They contrast with tests of ability and achievement designed to reflect maximum performance (see Cronback, pages 29-31). In maximum performance tests, one is supposed to do his best.

A maximum performance test of composition would require writing an essay to be judged for punctuation, grammar, and organization. A typical performance assessment would be reviewing the punctuation, grammar, and organization of a sample of the letters randomly selected from the rountine correspondence of an office.

In assessing beliefs, values, and attitudes, we want to know how one does feel not how one believes he or she should feel. Responses to most typical performance assessments such as opinion polls and questionnaires are vulnerable to being influenced in one direction or another. Therefore, the questions must be worded to minimize influencing responses. Usually people respond more candidly if responses are anonymous.

Finally to observe typical behavior or to elicit a person's usual attitude on a questionnaire, the person should be free to respond without consequences riding on individual responses. Practically, knowledge and skill achievement tests may focus on individual as well as group performance. In contrast, reports of responses to inventories and behaviors should focus only on groups.

Pace

One self report inventory is the College Student Experiences questionnaire developed by Robert Pace. For the most, this questionnaire asks students about things they have actually done related to their higher education, i.e. use of libraries, interaction with faculty beyond the classroom, involvement in the arts, etc. You may want to review this inventory along an in-depth discussion of it by Pace in Measuring The Quality of College Student Experiences. Contact:

C. Robert Pace
Higher Education Research Institute
Graduate School of Education
UCLA
Los Angeles, CA 90024

As you consider using questionnaires and observations to determine what effects your institution is having on students, I suggest you also review Pace's Measuring Outcomes of College published by Jossey-Bass in 1979. Pace has designed and conducted many surveys of alumni, so you will find the chapter "Achievement After College: Alumni" on pages 48-113 very helpful.

In 1975 Pace and associates produced a revised edition of his Higher Education Measurement and Evaluation Kit. This kit provided questionnaires that could be given to students in convenient, brief modules. Different modules may be given to different samples of a student body; when the different samples are all complete, they represent one comprehensive survey. If you are interested, you might request one from the UCLA Higher Education Research Institute at the address just mentioned above.

ACT

ACT currently offers the following eleven surveys to assist institutions in evaluation:

1. Adult Learner Needs Survey
2. Alumni Survey

3. - Alumni Survey (2-year College Form)
4. Entering Student Survey
5. Student Opinion Survey
6. Student Opinion Survey (2-year College Form)
7. Survey of Academic Advising
8. Survey of Current Activities and Plans
9. Survey of Postsecondary Plans
10. Withdrawing/Nonreturning Student Survey
11. Withdrawing/Nonreturning Student Survey (Short Form)

I have recently used two of these instruments in an accreditation self-study, "Alumni Survey" and "Student Opinion Survey." The Alumni Survey elicits information about the respondents' background, continuing education, college experiences, and employment history along with space for thirty additional local questions. The Student Opinion Survey covers the respondent's background, evaluation of college services, and satisfaction with college environment as well as providing thirty spaces for additional question and write-in spaces for comments and suggestions. They are easy to administer, and the scored responses are reported in an easily understood format. If you are interested in these surveys, contact:

Michael J. Valiga
Institutional Services Area
ACT
2201 North Dodge Street
Post Office Box 168
Iowa City, Iowa 52243
(319) 337-1102

ETS

ETS also offers eight surveys for institutional evaluation:

1. Institutional Goals Inventory
2. Community College Goals Inventory

3. Small College Goals Inventory (Also there are a Canadian Institutional Goals Inventory and a Spanish/English Institutional Goals Inventory.)
4. Student Instructional Report
5. Institutional Functioning Inventory
6. Student Reaction to College
7. Program Self-Assessment Service
8. Graduate Program Self-Assessment Service for Master's Level Programs

In an institutional self-study, I have used the Small College Goals Inventory (SCGI) and the Graduate Program Self-Assessment Service (GPSAS) questionnaires along with the Program (undergraduate) Self-Assessment Service (PSAS) questionnaires. The SCGI allows a variety of constituents, students, faculty, alumni, board members, etc., to compare what are and what should be the institution's goals. The PSAS provides different questionnaires for enrolled students, alumni, and faculty to evaluate departmental programs. The PSAS elicits responses in sixteen areas including environment for learning, student accomplishment, and student satisfaction with the program. Space is provided for twenty additional local items. As with the ACT instruments, these surveys are easy to administer; and responses are reported so as to be easily interpreted by faculty. For more information or for examination copies, contact:

Nancy Beck
ETS College and University Programs
Princeton, NJ 08541
(609) 734-1162

Values' Inventories

Some institutions are particularly interested in detecting any consistent shift in values of their students during their campus experience. For a brief overview of research on the effects of college on student values, see Pace, pages 3-4 and Winter, McClelland, and Stewart, pages 15-21.

With value inventories you can make interesting comparisons:

1. Freshman to senior changes in values.
2. Students, faculty, administration, and staff similarities and differences in values.
3. Changes in the values of new freshman classes from year to year.

Two of the many values inventories you may wish to review are:

1. Study of Values
   Gordon W. Allport, Philip E. Vernon, and Gardiner Lindzey
   The Riverside Publishing Company
   Post Office Box 1970
   Iowa City, Iowa 52244
   (319) 354-5104

2. Rokeach Value Survey
   Milton Rokeach
   Halgren Tests
   873 Persimmon Avenue
   Sunnyvale, CA 94087
   (408) 738-1342

Observations

One can learn a great deal just by observing behavior. Campus bookstore staff can tell you about changes in pilferage and shoplifting rates from year to year as well as recreational reading choices. Building and grounds staff can report frequency and amount of property destruction and pilferage of supplies and materials. Tracking the percent of students who vote in student government campaigns from year to year can be informative.

You might ask anthropologists and sociologists on your campus to help you identify relatively unobtrusive and inexpensive ways to observe and record campus behaviors related to the campus's particular values. We can infer much about values and values' changes from students' entertainment choices, community service, campus religious life, dress patterns, fraternity and sorority activities, involvement in political issues and activities, etc. We may have overemphasized surveys in contrast to planned, systematic, and recorded observation

of social behaviors. Campus social scientists teamed with campus journalists could effectively keep your campus community informed about behavior patterns and their inferred meanings.

Institutional Use

Practically, what use can be made of questionnaire data? It provides a beginning point from which relevant groups of faculty, administrators, and students can discuss the effects of programs. That is, do not take the tabulation of survey results as "reality." They are no more reality for the institution than a vocational interest inventory is the reality of a given student's career goals. The individual student's responses to an interest inventory provide him or her and the counselor a basis for their discussions. Surveys are best used in organizational development as pump-primers for discussion and further investigation.

A number of campuses now plan major survey efforts over a period of several years. Obviously, longitudinal studies of changes in attitudes and behaviors must be planned to stretch over at least four and probably six years. If you are in a ten-year, re-accreditation self-study cycle, there are many advantages to planning major surveys across the nine intervening years.

Assessment Centers

I have dealt up to now with more and better use of tests, inventories, and other assessment procedures with which most of us have some awareness. At this point at Everyone, I realize you are just beginning to explore systematic assessment of program outcomes. So you are probably not immediately interested in arrangements for assessment that are radically different. Nevertheless, I believe you should anticipate nurturing a climate that will eventually support assessment as more than an add-on to the current intra-course, teaching-testing system. If approached sincerely and with the combination of following mutually supporting commitments and services, assessment can facilitate educational renewal at Everyone:

1. Granting of credit on the basis of demonstrated achievement.
2. Involving competent third-party examiners.
3. Stating clear, expected achievements in general education and majors.
4. Integrating as much as possible the roles of "instructor" and "academic adviser" into the one role of "mentor."
5. Developing a comprehensive and integrated student advising, testing, educational and career counseling service.

The five things listed above have been resisted effectively in American higher education because:

1. Time-spent remains a major part of accounting for educational attainment.
2. Rarely or never does anyone look at the accomplishments of the students in any given course other than its instructor.
3. While instructional objectives occasionally appear on course descriptions, they are often not used in actual teaching and testing.
4. Academic advising and classroom teaching remain distinct functions; only in doctoral education do faculty tend to become tutors or mentors in the British mode.
5. Testing, advising, and counseling services are rarely integrated and are usually staffed only to deal with relatively small proportions of the student body.

Alverno Adoption

In addition to persuading a campus to make these changes, one would also have to develop an assessment research, development, and service center to provide the operating mechanisms to support these changes. Alverno College, Milwaukee, has done this. Ewell on pages 60-62 described Alverno's very different and somewhat complex assessment-based program briefly and clearly. The Alverno approach is described in more detail in Assessment at Alverno College, written by the Alverno faculty.

The Alverno curriculum is designed to help each student demonstrate the following eight general abilities:

1. Effective communications ability
2. Analytical capability
3. Problem solving ability
4. Valuing in a decision-making context
5. Effective social interaction
6. Effectiveness in individual/environment relationships
7. Responsible involvement in the contemporary world
8. Aesthetic responsiveness.

Each student must demonstrate competence at six levels in each of these abilities. The types of required abilities and levels of performance are not classroom-bound nor are they all amenable to conventional paper-and-pencil tests. To develop relevant assessment procedures and an organizational unit to develop, refine, and administer the assessment procedures, Alverno had to look for help beyond the academy and the national testing agencies. They found a paradigm to adopt and adapt in the AT&T assessment center program.

Outside of Education

What is an assessment center in a business or non-profit institution? Thornton and Byham describe it as follows:

> An assessment center is a comprehensive, standardized procedure in which multiple assessment techniques such as situational exercises and job simulations (i.e., business games, discussion groups, reports, and presentations) are used to evaluate individual employees for various purposes. A number of trained management evaluators, who are not in a direct supervisory capacity over the participants, conduct the assessment and make recommendations regarding the management potential and developmental needs of the participants. The results of the assessment are communicated to higher management and can be used for personnel decisions involving such things as promotions, transfer, and career planning. When the results are communicated to the participants, they form the basis for self-insight and development planning. p. 1

Moses describes the assessment techniques commonly used as--

> . . .group exercises, business games, in-basket exercises, pencil-and-paper tests, and interviews. They may also include specially designed role-playing problems, phone calls, or simulated interviews. p. 4

Moses also identified three general characteristics of successful assessment centers:

1. ". . .assessors. . .were quite familiar with the job or duties they were assessing. . ."
2. Simulation exercises are used more than pencil-and-paper tests.
3. They made predictions about "specific outcomes rather than. . . personality traits or individual characteristics."

In contrast, the less successful centers "relied heavily on tests rather than simulations and made descriptions of personality traits rather than predictions of specific behaviors." p. 9

Alverno Assessment

The core purpose of assessment at Alverno is feedback for the individual development of students. In Assessment at Alverno College, the faculty say, ". . .the ultimate raison d'etre for assessment: to provide the student, at each of many steps in her development, with progressively fuller and more individual profiles of her emerging combination of gifts, skills, and styles, so that she can become an independent learner" (page 7). Marcia Mentkowski, Director of Alverno's Office of Research and Evaluation, describes the assessment center as the informing heart of the College. Mentkowski and Loaker describe that function as follows:

> Whether it is as simple as a series of one-paragraph respnses to questions about a film, or as complex as presenting a park-use plan to a neighborhood association, faculty try to use each assessment situation as a learning experience. Ideally, assessment should contribute to and culminate a process of working toward explicit, known goals, with frequent stops to find out "the state of the art" in the ability that the student is working to develop. (From the manuscript, "Assessing and Validating the Outcomes of College" which is to be the fourth chapter of New Directions for Institutional Research: Assessing Educational Outcomes edited by Peter Ewell.)

As I understand Alverno's assessment program, it has these distinctive characteristics:

1. The Assessment Center helps faculty develop assessment procedures for individual courses.
2. The Assessment Center develops and administers the assessments of the eight liberal arts abilities, i.e. communication, analysis, problem solving, valuing, social interaction, environment, contemporary world, and aesthetic response.
3. The assessment procedures or techniques are designed to reflect directly particular outcomes. Therefore, many of the assessments are not paper-and-pencil tests. For example, to assess whether a student can "deliver a complex spoken message to an uninitiated audience," a student gives a talk to eighth grade students about cardiovascular circulation. "Her physiology instructor and a communications instructor would join in judging such specific criteria as organization. . ., voice projection, . . ." (Assessment at Alverno College, page 8.)
4. In addition to the instructor who taught students, other faculty or qualified off-campus individuals are used as assessors.

Alverno is in a class of its own. In contrast to the pervasive fragmentation in most curricula, Alverno has functionally interlaced the disciplines with its eight liberal arts abilities. The content of the disciplines become grist for the demonstration of the abilities. Furthermore it has re-united academic advancement and student development. Given my interest in assessment, I am struck by Alverno having--

1. Common, campus-wide assessments.
2. Campus-wide review of course assessments and assistance in their improvement.

3. Peformance and product assessments linked to the espoused purposes of Alverno liberal arts education.

4. Use of assessors somewhat separate from the student's teachers.

If you want the Alverno documents to which I have referred, perhaps you could write or call:

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In my judgment, the Alverno faculty's accomplishments are very dependent on factors beyond their considerable knowledge and expertise in assessment. Alverno is a comparatively united, cohesive community where an individual can know all the other faculty and most of the students. Marcia Mentkowski believes a large and diverse institution will have to have an inter-disciplinary, inter-departmental assessment centers focused on general education. Having administered a relatively large, centralized instructional development and service organization in a large state university, I have some sense of what would be involved operationally. The disappointing results of efforts by President Eliot at Harvard in the late 1800's to have external examiners, of President Hutchins at Chicago in the 1930's to have central test development for general education courses, and of others with similar goals indicate deep resistance in the American academy to any separation of assessment from instruction.

Opportunity for Smaller Institutions

Relatively small institutions focused on the development of students rather than research and publication and bound together by a strong ethos have a great opportunity in assessment. Becoming clear in deed rather than in just rhetoric about what is expected of students and assessing those expectancies by multiple and sometimes external examiners severely tries the "community" within the campus.

Perhaps we could learn from Japanese success in management. Quality of products and services are linked in organizations to a sense of common purpose, to a family-like culture, and to small, intimate work groups. All of this is to say that you should be dubious of taking an Alverno assessment center "blue print" and setting it up in toto at Everyone if your campus culture is not characterized by:

1. Functionally common goals.
2. Familial-like organization.
3. Small, intimate sub-units within the institution with which individuals do identify.

Other Approaches

On the other hand, there are other approaches to campus assessment centers which do not require the "total" commitment of an Alverno. Some organizations have established instructional improvement centers to assist faculty in the systematic design and media support of course instruction. In similar fashion an island of test development expertise could be established at Everyone. It could assist faculty in practical ways such as building computerized test item banks and using media in testing.

As the assessment center establishes credibility through practical service, it will become involved in assisting faculty in the basic design of tests particularly for large enrollment, multi-section courses. I understand several institutions such as Syracuse University have assessment centers along these lines.

At Alverno the assessment center appears to be the integrating hub around which the total educational program revolves. While I see many advantages to this, there are less ambitious though very useful roles for assessment centers in most institutions.

I'm sure when assessment center discussions began in AT&T and the Federal Government many pushed the same excuses for why they would not work as you will hear at Everyone. But they are working in the Federal Government, AT&T, and many other large and complex organizations.

Your teacher education program is probably one of the places at Everyone where an assessment center is probably most needed. A driving reason to have assessment centers in business and industry is to assess individuals for further development and promotions. Fairness and profitability demand that the assessments be job related. So the assessments must be life like. Similarly, the abilities of future teachers to cope with a variety of real life teaching circumstances and dilemmas should be assessed in ways as closely approximating the real classrooms as possible. I believe many of the same techniques used in business and industrial assessment centers could be adapted for teacher education. The technology and hardware usually associated with instruction can be used effectively in assessment.

Dubious, you are good at patiently "growing out things" from small beginnings. Why don't you get a few interested faculty together to explore and discuss assessment centers? Help them look at the assessment center literature, arrange for some of them to visit business and industry assessment centers, and get some on the campuses of the colleges and universities with assessment centers. I believe you could "grow out" an Everyone Assessment Center which would reflect your particular curriculum and circumstances.

Conclusion

Hopefully, I have hit on some things about assessment you can use immediately and some that will mean more after you have been at it awhile. Already, I am aware of tests or procedures I did not have time or opportunity to look into for you. I trust you and your faculty understand that I realize my

vulnerability in trying to inform you about specific tests, programs, and individuals on so broad a topic. Any suggestions about things that should be added, deleted, or modified will be most appreciated. Call or write me--

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You can learn a great deal about your institution by systematically checking on the achievements and personal growth of students. I suggest that you not wait to start some institution-wide assessments until the "perfect" test or inventory is found or developed. Starting with something, realizing its imperfections, and being appropriately tentative with its results are far more productive than talking the issue to death.

My prime interests in assessment are--

1. Making sure students' achievements are commensurate with the credits and degrees we award them.
2. Getting information that will stimulate and guide the improvement of instruction and curricula as well as the personal development of students.

The integrity of the credentials we award are at stake in the first interest, and the integrity of our academic life in the second. The internationalization of trade has made Americans acutely conscious of quality in manufactured goods, and I believe it is also contributing to our consciousness of educational quality. What Sputnik did in the 50's to education, the trade deficit may do in the 80's.

American industry's eagerness to improve quality is intense and pervasive. There is more training in and attention to statistical quality control, a constant stream of seminars and books on leadership for excellence, and intense advertising based on assertions of quality.

The business and industrial world that provides the capital on which we exist and which hires most of our graduates is thinking quality assurance and will expect us to do the same. We should not use the walls of academic freedom to shield low standards and ineffective instruction. We should use the current national interest in quality as an opportunity to assure standards and improve instruction. This can be done consistent with the best of academic tradition and practice, particularly if we include the general procedures historically associated with "external or third party examiners."

As you move into assessment at Everyone, I suggest you find someone to observe and comment on the "organizational development" implications of what you want to do. My point is this: An emphasis on assessment will affect the way Everyone functions as an organization. You not only need help in the technical side of assessment but also in the nurturing of a climate characterized by:

1. Deep concern for "results" over "form."
2. Commitment to high standards.
3. Concomitant interest in helping students reach the standards.

In the last analysis an emphasis on assessment is more of an attitude than a collection of tests. Attitudes, as you know, cannot be mandated from the top down but nurtured from the bottom up.

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