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Assessing Student Achievement in General Education

Edited by Trudy W. Banta

**Assessment
UPdate**
COLLECTIONS

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Systemwide Assessment of Utah's General Education Courses

Philip I. Kramer

Look for: A faculty-developed approach to statewide assessment of general education outcomes initiated by the Utah State Board of Regents. Following a failed experiment with a national standardized test, faculty groups designed item banks in economics, history, mathematics, and political science. Since faculty were free to choose their own items from the item banks, no institutional comparisons of scores were possible. From Assessment Update 17:2 (2005).

In 1998, the Utah State Board of Regents ordered a sample administration of American College Testing's Collegiate Assessment of Academic Proficiency (CAAP), a test of general knowledge, for Utah System of Higher Education (USHE) students. The pilot test was administered to 3,148 Utah college students who were completing their sophomore year at one of Utah's nine public colleges or universities.

Although Utah college and university students scored above the national average, the results of the CAAP were considered a disappointment. Faculty throughout the state believed that the CAAP was an inadequate test of general education because (1) the test was not aligned with course content or objectives; (2) the CAAP did not correlate with students' grade point averages; (3) the findings were too general and failed to offer any guidance to faculty; and (4) the CAAP was not administered to students who had taken any specific courses in common or completed similar degree requirements (Utah State Board of Regents, 2000, p. 11). Consequently, the Regents' Task Force for General Education, an ad hoc faculty committee charged by the regents with examining general education in the state, asked the regents to allow faculty members to create their own assessment instruments to measure the general education knowledge of Utah college and university students.

The regents agreed with members of the task force and authorized the group to create and administer course-relevant, content-embedded assess-

ment instruments. However, before assessment instruments were designed, the task force first had to determine the meaning of *general education*. After months of work, the faculty representatives from throughout the state agreed on a set of nine general education competences. This set established the minimum level of knowledge that students were required to attain after completing the second year of general education courses at any of the public institutions of higher education in the state. Nine competences were established in (1) quantitative literacy, (2) writing, (3) social sciences, (4) humanities, (5) life sciences, (6) physical sciences, (7) fine arts, (8) technology and computers, and (9) American institutions.¹

After agreeing on general education competences, statewide faculty began to develop the pilot assessment. Much of the organization and implementation of the pilot assessment emanated from faculty disciplinary subcommittees. In 2000, a request for proposals had been sent from the task force to the chief academic officers (CAOs) on the nine campuses, inviting the CAOs to participate in the assessment process and to nominate faculty representatives from four disciplines (economics, history, political science, and mathematics) to represent their respective campuses. Over a period of several months, nominated faculty met in small disciplinary groups and developed a bank of course-relevant, content-embedded test questions.

After coming to general agreement about the importance of measuring value-added knowledge, faculty in the disciplinary subcommittees decided to use multiple-choice pretest and posttest questions. Faculty were aware of the limitations of multiple-choice tests; however, creating other types of test questions—for example, essay questions—was not possible due to time and financial constraints.

The mathematics faculty committee refused to use multiple-choice questions. Instead, this committee elected to use a test comprising true-false and fill-in-the-blank questions. Perhaps justifiably differing from the other three disciplines, mathematics faculty insisted on the

¹Successfully completing an American Institutions course is a USHE graduation requirement that students may satisfy by completing either Economics 1740 (U.S. Economic History), History 1700 (American Civilization), or Political Science 1100 (U.S. National Government).

methodological ability to evaluate students' thought processes on the pilot assessment. Thus, students taking the mathematics portion of the pilot assessment test were administered questions on which they were required to show proof of their answers.

A bank of possible test questions was developed for each of the four pretests and posttests. The stated goal was to measure the value added to a student's knowledge base after successfully completing a course in the discipline. Faculty in each discipline at each institution were free to select the test questions from the bank of questions developed for their area by the disciplinary subcommittee. Thus, although all of the disciplinary tests were similar at the different institutions, they were not the same.

The general education pilot assessment was administered to 2,141 students at the nine USHE institutions at the beginning and the end of the spring 2001 semester. Pretest and posttest scores were analyzed from 699 College Algebra (Mathematics 1050) students, 164 U.S. Economic History (Economics 1740) students, 1,207 American Civilization (History 1700) students, and 71 U.S. National Government (Political Science 1100) students. There were dramatic improvements in student learning between the beginning and the end of the semester. Improvement in scores from pretest to posttest ranged from a low of 36 percent in American Civilization to a high of 169 percent in mathematics.

A subsequent study was conducted to examine the purposes of the pilot assessment, how the pilot assessment was organized and implemented, what methodological issues were involved in creating the pilot assessment, and what recommendations participants in the study had for future assessment endeavors. This study used purposeful sampling of participants. In purposeful samples, the participants who are selected have intimate knowledge of the phenomenon being studied. In addition, in this study, participants were chosen who were "considered to be influential, prominent and/or well-informed people," in accordance with guidelines by Marshall and Rossman (1999, p. 113) for designing effective qualitative studies. They were selected as research participants because of their knowledge of and, in some cases, even their expertise in the creation of the pilot assessment that occurred in the spring 2001 semester.

Data collection methods included in-depth interviews of fourteen faculty participants, field note analysis, and analysis of public documents. The analyses of public documents and field notes were used to triangulate the analysis of the participant interviews. Data analysis combined the three separate but concurrent activities of data reduction, data display, and conclusion drawing and verification (Miles and Huberman, 1994). The following highlights characterize the major findings of the study.

Purposes of the General Education Pilot Assessment

The major purposes for the pilot assessment were found to be the following:

- To demonstrate accountability
- To improve teaching and learning
- To compare USHE institutions
- To demonstrate student, faculty, institution, or system performance
- To measure and report the gain in student academic growth
- To articulate or accredit curricula, courses, degrees, or programs for student transfer or matriculation
- To respond to the concern that competence-based assessment conducted at other institutions (for example, Western Governors University) could adversely affect how USHE teaching and learning are measured

Organization and Implementation of Pilot Assessment

The following were identified as major features in organizing and implementing the pilot assessment:

- A standardized, norm-referenced national assessment instrument was rejected by statewide faculty.
- The faculty designed a pilot assessment that was related to the USHE general education curriculum, linked to the curricular goals of the USHE, and embedded in regular course examinations.

- Four faculty disciplinary subcommittees were asked to design the assessment instruments.
- The task force decided to report only aggregated systemwide assessment data because members believed that anonymity would increase participation, and they were concerned that faculty, academic departments, or institutions could be punished for poor assessment results.
- Senior scholars took an active role in the design of the pilot assessment.
- The faculty of the ad hoc Regents' Task Force for General Education and faculty in general took the lead in designing and conducting the pilot assessment.

Methodological Issues of the Pilot Assessment

Some of the major methodological issues included the following:

- Developing a bank of mostly multiple-choice test questions from which individual faculty could select test questions for use in pretests and posttests
- Using course commonalities in the pilot assessment
- Using pretests and posttests in the pilot assessment
- Deciding to embed the pilot assessment posttest in regular final examinations
- Addressing concerns about the possible effect that students' knowledge of pretest results would have on their test-taking ability during the pilot posttest
- Addressing student participation issues in taking the test
- Addressing concerns about test validity and reliability

Recommendations for Future Assessment

Participants were asked to offer recommendations for future general education assessment in the USHE. Participant recommendations included the following:

- Recognize that assessment is important in demonstrating accountability, demonstrating the improvement of teaching and learning, and augmenting institutional accreditation.
- Bring faculty together to communicate about goals, objectives, curriculum, and assessment.
- Provide funding for assessment.
- Clarify assessment goals and objectives.
- Link assessment to faculty development, accountability, and the USHE master plan for higher education.
- Include all stakeholders in the design and implementation of assessment.
- Report assessment results to all stakeholders.

Recommendations for Future Research

Based on the results of this study, the following recommendations for research were made:

- Investigate the effects of the control that various stakeholder groups have in planning, designing, implementing, and reporting on assessment. Specifically, examine how control is exercised and shared and to what extent being in control or having power influences inter-stakeholder relationships and assessment outcomes.
- Examine the issues of stakeholder anonymity and faculty fear of punishment.

Recommendations for Practice

Based on the results of this study, the following recommendations for practitioners were made:

- Although linking accountability with the improvement of teaching and learning has many advantages, the current distrust and misunderstanding among some assessment stakeholders in Utah are such that postponing the link is recommended for the immediate

future. Before a link can be established, Utah's assessment stakeholders need to discuss assessment issues, including the responsibility and consequences of teaching and learning; assessment purpose, design, implementation, and reporting; and stakeholder participation and control.

- An assessment advisory board of stakeholder representatives should be created. A major goal of the board should be to guide future assessment efforts in Utah. Specifically, the board would be charged with determining the overall design of an assessment by establishing the purpose of the assessment, appointing individuals and groups to design and implement the assessment, and determining how and to whom the assessment results would be reported. An external consultant would be recruited and hired by the Utah State Board of Regents to serve as an independent analyst of the assessment process and to certify the assessment results.
- Faculty should be in charge of the design of the assessment instrument but not the entire assessment process. Faculty know the curriculum, curricular goals, course content, and how to measure curricular outcomes better than any other stakeholder group. Thus, faculty can best design what is to be measured and how it should be measured.
- Multiple assessment measures should be used. The validity, reliability, and credibility of Utah's systemwide assessment will increase when multiple measures are used. Measures could include multiple-choice examinations, essay examinations, portfolios, faculty-student interviews, and national standardized examinations. A case has been made for using both criterion-referenced and norm-referenced examinations and randomly selecting students from each USHE institution to take them.
- Systemwide assessment should report not only the aggregated system results but also the disaggregated institutional and academic department results. However, before assessment results are disaggregated, the advisory board should address concerns about anonymity, punishment, and faculty resistance. Academic integrity and quality and the need for a transparent system demand that results be reported at several levels.

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