

FACTORS THAT PROMOTE FACULTY INVOLVEMENT IN AND SATISFACTION WITH INSTITUTIONAL AND CLASSROOM STUDENT ASSESSMENT

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This study examines institutional factors that promote faculty satisfaction with their institution's approach to and support for student assessment and that are related to faculty involvement in their institution's support practices and in their own engagement with student assessment in the classroom. The study is based on a survey of faculty from 7 institutions that vary by type, control, and accrediting region. The institution's student assessment purposes, its administrative support patterns, and its faculty instructional impacts are significant predictors of faculty satisfaction with their institution's approach to and support for student assessment. External influences on, faculty uses, and perceived benefits of professional development practices for student assessment are significant predictors of faculty involvement with student assessment in their institution and their classes.

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KEY WORDS: student assessment; faculty involvement; institutional assessment.

INTRODUCTION

The importance and value of the faculty's role in student assessment both to the student and to the institution as a whole are ubiquitous in the assessment literature (Banta, 1999; Brookhart, 1999; Donald, 1997; Foley et al., 1996; Schilling and Schilling, 1998); however, involving faculty is not always an easy task. The American Association of Higher Education's (AAHE) principles of good practice suggested "assessment fosters wider improvement when representatives from across the educational community are involved" (AAHE, 1992). Many scholars have argued that faculty involvement is critical since they are the closest to students and have the most comprehensive knowledge about teach-

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ing and student learning (Foley et al., 1996; Morse and Santiago, 2000). Banta's article outlines the difficulty in involving faculty and reveals some of the key issues that fuel faculty resistance to assessment.

Our study addresses that issue and attempts to better understand the large divide between what the literature states about the importance of faculty involvement and the reluctance of faculty to become involved with student assessment. The goal of this study is to identify underlying institutional factors that predict faculty involvement in and satisfaction with institutional and classroom-based student assessment efforts. In doing so, institutional administrators, researchers, and faculty will be better equipped to emphasize those factors that have the strongest impact on faculty involvement and satisfaction.

The focus is on assessment of undergraduate students on an institution-wide basis; however, the study also examines faculty involvement at the classroom level. Student assessment is defined as those activities, other than traditional end-of-course grading, used to measure undergraduate student performance. Student performance includes students' academic, personal, and social development and their attitudes, behaviors, and perceptions related to their role as a student (Peterson, 2000).

RESEARCH QUESTION

The primary research question is: What institutional factors predict faculty involvement in and satisfaction with their own institution's student assessment activities and their efforts to support it?

Prior to predicting faculty involvement in and satisfaction with institutional and classroom assessment, this study proposed a conceptual model that was based on our literature review and on a previous extensive literature review conducted in an earlier project within the National Center for Postsecondary Improvement. This earlier literature review also identified institutional factors related to faculty involvement in and satisfaction with institutional and classroom-based student assessment (Peterson and Einarson, 2000; Peterson et al., 2002).

LITERATURE REVIEW

The literature review conducted for this study examines general theories of faculty involvement and satisfaction and the research related specifically to faculty involvement in and satisfaction with institutional and classroom-based assessment, the dependent variables in this study. This literature review is combined with a previously conducted literature review on organizational and administrative factors related to student assessment (Peterson and Einarson, 2000; Peterson et al., 1997), which focused on external influences, institutional approaches to and support for student assessment and uses and impacts of stu-

dent assessment (the previous literature review can be found at <http://www.umich.edu/ncpi/52/LitReview.html>).

Faculty Involvement

Gaining faculty involvement in campus activities outside of classroom teaching or regular committee service is not an easy task. Four major studies use slightly different theories to examine institutional patterns influencing faculty involvement.

Marcus (In Gilbert, 1995), in her empirically based study of faculty involvement in campus innovation, hypothesized that faculty involvement is a function of resources, perceived value of the innovation, and communication. Resources such as money, time, and administrative support are seen as essential to accomplish large tasks such as implementing institutional assessment efforts. She hypothesized that the perceived value of an innovation is shaped by the value that institutional culture places on the innovation and the faculty member's view of its potential personal value. These factors are likely to justify the time commitment necessary to implement the innovation. Communication with other faculty already involved in an innovation is seen as a key element to bolster motivation for involvement.

Miller, McCormack, and Pope (2000) extended Marcus' theory in their University of Alabama study of 713 faculty. The study supported the concept of improved communication and trust between faculty and administrators as key to faculty involvement. Administrative leadership styles, which focus on involving faculty and affecting the culture of the institution, were seen as the most successful at meeting institutional goals. They conclude that benefits to the institution include greater personal investment by faculty in their work, greater organizational commitment, more creative communication among faculty, and better teaching and learning.

Using Rogers' (1995) model, Gray (1997) proposes another theory of faculty involvement in innovation, which argues that faculty involvement is a function of five faculty held beliefs. Faculty are seen as more likely to adopt or become involved in an innovation if it is seen as having a relative advantage over what is currently in place, is compatible with existing values, is not too complex (i.e., is perceived as easy to implement), is "triable" (i.e., can be experimented with), and is observable (i.e., its impact is clear). This theory suggests that involvement is a multidimensional construct involving all five elements.

Faculty Involvement in Student Assessment

The literature on faculty involvement in assessment is primarily conceptual rather than research based but reflects these more general theories of faculty involvement. Palomba and Banta (1999) identify three Rs: responsibility, re-

sources, and rewards, which they believe are necessary to overcome the fourth R, faculty resistance. If we consider assessment an innovation, Palomba and Banta's concepts overlap with Marcus' (In Gilbert, 1995) model of resources, perceived benefits, and communication and with Gray's (1997) five factors.

Several authors have discussed faculty reluctance or resistance to student assessment. Peterson et al. (1997) propose that faculty resistance stems from disincentives for involvement, such as higher education's values and reward systems that give greater priority to research and publication activities rather than those related to teaching. Similarly, Kuh and Banta (2000) reiterate that, "if collaboration on assessment and other educational activities is an institutional priority, it must be concretely acknowledged in reward systems" (p. 10). Another key problem is the delineation between assessment for accountability and assessment for improvement (Baker, 1999; Cross 1999; Steadman, 1998). If assessment is linked to accountability, faculty are less likely to become involved.

Despite an absence of research, scholars of assessment also agree that faculty value using their time in ways that maximize their accomplishments. To engage them in assessment, "we must link it with work they are already engaged in" (Banta, 1999, p. 14) and "provide its advocates with evidence of its sustained impacts" (p. 11). Faculty involvement requires supportive administrative leaders who trust and communicate with faculty, cultivate an institutional culture of improvement, and do not send mixed signals to faculty about which behaviors are important in the institutional culture (Banta, 1997).

In summary, the involvement literature highlights that institutional resources, rewards (Palomba and Banta, 1999), communication (In Gilbert, 1995), and administrative leadership styles (Miller et al., 2000); external influences (Baker, 1999; Cross, 1999; Steadman, 1998) and institutional context (Banta, Lund, Black, and Oblander, 1996) may influence faculty involvement. These factors shape the conceptual framework in Fig. 1.

Faculty Satisfaction

Psychologists, organizational behaviorists, and higher education scholars have explored theories of faculty satisfaction. The research-based literature is far more extensive than that on involvement and suggests that faculty satisfaction is related to faculty, student, and institutional factors. Better student/faculty relations, increased motivation, decreased workloads, and increased productivity have been shown to impact faculty satisfaction (Blackburn and Lawrence, 1995).

Two general theories of faculty satisfaction are relevant. In the first, Hagedorn (2000) hypothesizes two types of constructs that affect faculty job satisfaction—triggers and mediators. Triggers are significant individual life events that may or may not be related to the faculty's job. Mediators moderate the relation-

ship between satisfaction and the context in which job satisfaction must be considered. She identifies six triggers: changes in life stage, in family-related circumstance, in rank or tenure, in institutional setting, in perceived justice, and in emotional state. The three types of mediators mentioned are motivators, demographics, and environmental conditions. In short, the triggers cause satisfaction to increase or decrease but they occur within a certain context (the mediator) that may add to or subtract from the magnitude of the effect of the trigger.

A second model for faculty's job satisfaction comes from a study of medical faculty by Nyquist, Hitchcock, and Teherani (2000). Their model suggests that organizational factors, job-related factors, and personal factors affect self-knowledge, social knowledge, and satisfaction. Of particular importance to this study are the organizational, job-related, and personal factors. Organizational factors include available resources, perceived opportunity for promotion and advancement, adequacy of mentoring, collegial relations among colleagues, decisionmaking abilities, and commitment to the organization. Job-related factors include autonomy and academic freedom, stimulation from work, clear and consistent job duties, resources available, work-related time pressures, workload, income, and job security. Personal factors include perceptions of role conflict and interference of work responsibilities with home.

Faculty Satisfaction with Student Assessment

We were unable to find empirical research studies that examined faculty satisfaction with institutional and classroom-based assessment. We believe, however, that it is not entirely unreasonable to assume that some of the factors related to overall satisfaction are also related to satisfaction with student assessment.

In summary then, the literature on faculty satisfaction highlights both personal and institutional factors as important predictors. Hagedorn's (2000) and Nyquist et al. (2000) models show that institutional context as well as individual characteristics affect faculty satisfaction. They are included in our model (Fig. 1) and serve as a starting point in uncovering the aspects of faculty satisfaction with their institutional and their own patterns of student assessment.

CONCEPTUAL FRAMEWORK AND RESEARCH QUESTIONS

Combining our literature review, which identified factors associated with faculty involvement in and satisfaction with student assessment with the previous literature review of organizational and administrative factors related to student assessment (Peterson and Einarson, 2000; Peterson et al., 1997), the model (Fig. 1), which guides this study, was developed.

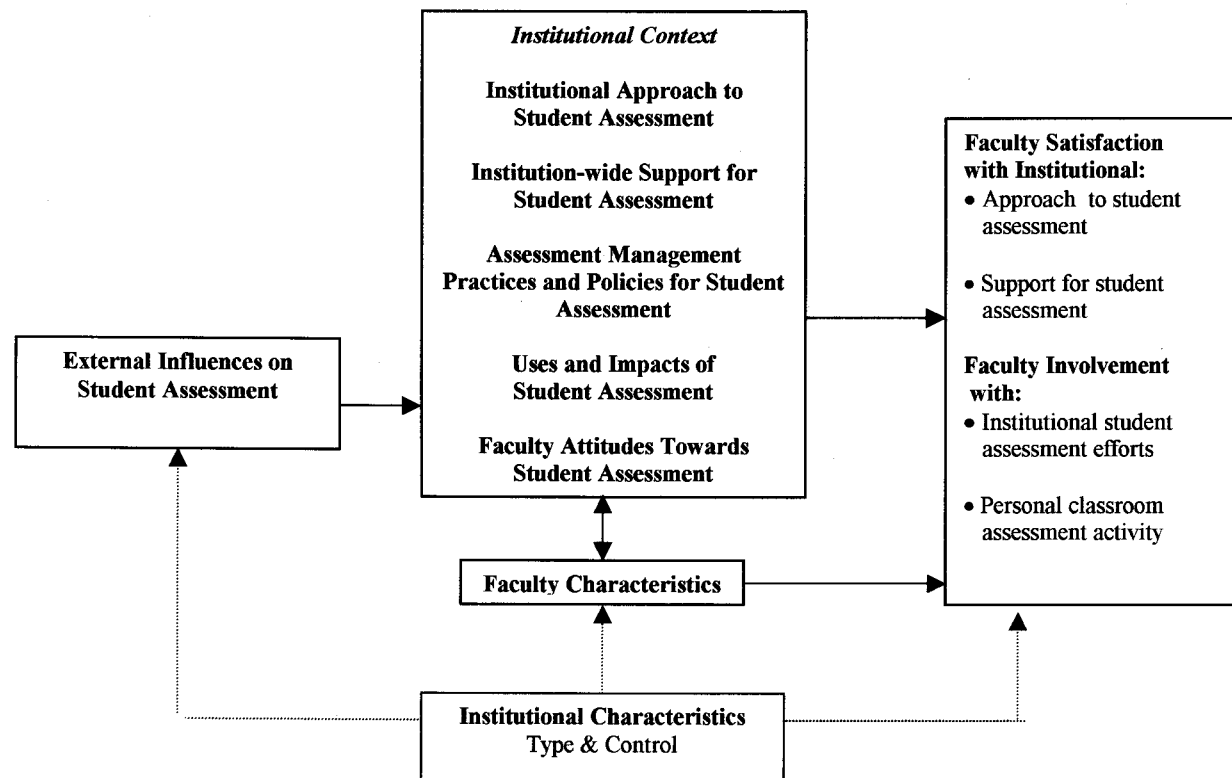


FIG. 1. The influence of external, institutional context, faculty characteristics, and institutional characteristics on faculty satisfaction with and involvement in student assessment.

Constructs of the Conceptual Map

The proposed model includes constructs and variables from four sources: external influences, institutional context (approach to and support for student assessment, management policies, uses and impacts of student assessment, and faculty attitudes toward student assessment), faculty characteristics, and institutional characteristics as possible predictors of faculty involvement in and satisfaction with institutional and classroom assessment. For the purposes of clarity and consistency, the boldfaced headings in the framework represent constructs, and the lightfaced headings represent variables. Note that institutional context includes five constructs. Only the four factor-derived dependent variables are shown in the model. Variables associated with the other constructs are discussed below and are presented in Table 3. The model and its components are described below from right to left.

Faculty Satisfaction and Involvement

There are four factor-derived dependent variables, which measure faculty satisfaction with and involvement in student assessment (see methodology section and Table 1 for details). These four outcomes include a broad range of possible ways in which faculty observe and are involved with student assessment at their institutions.

Institutional Context

The institutional context for student assessment includes five broad constructs: institutional approach to, institution-wide support for, assessment management practices and policies for, uses and impacts of, and faculty attitudes toward student assessment. Each construct includes factor-derived variables, which were conceptualized in the questionnaire and confirmed by a factor analysis of the survey data.

The institutional approach to student assessment construct focuses on how institutions define and measure student performance (e.g., social, affective, and cognitive development). It contains three variables (Table 3). It is hypothesized that content and methods will influence whether or not faculty engage in student assessment efforts as well as whether or not they are satisfied with what and how data are being collected.

Institution-wide support for student assessment examines broad institutional patterns designed to support student assessment (e.g., undergraduate priorities and administrative support for faculty and students). It contains 13 variables (Table 3). The literature suggests that institution-wide support patterns may be a key predictor in faculty involvement.

The assessment management practices and policies for student assessment construct examines assessment related policies and practices that exist at the respective institutions (e.g., institution-wide evaluation and rewards and faculty evaluation and rewards). It contains six variables (Table 3). These variables were identified in the literature as factors affecting faculty involvement with student assessment.

The uses and impacts of student assessment data construct examines the extent to which institutions use student assessment data in making academic decisions and the institutional impact of such data. It contains four variables (Table 3). The literature states that uses and impacts of student assessment data are likely to have a direct effect on whether or not faculty engage in student assessment activities and whether or not they believe they are worth the time trade-off to participate.

The final institutional construct is the faculty member's own attitudes toward student assessment. This construct includes seven variables (Table 3). It is hypothesized that faculty attitudes toward each of these variables will influence their satisfaction with and involvement in student assessment efforts at their institution.

External Influences

External influences on student assessment are those external groups or processes thought to have a direct impact on the institutional context and a direct or indirect effect on faculty involvement and satisfaction. The external influences construct is represented by a single factor-derived variable and includes items including state requirements for, regional and professional accreditation emphasis on, and professional associations promotion of student assessment. Regional accreditation and state reporting requirements are known predictors of the extent to which an institution is engaged in student assessment (Peterson and Augustine, 2000) and therefore may have an influence on faculty involvement and satisfaction.

Faculty Characteristics and Institutional Characteristics

The faculty characteristics construct includes six objective measures of gender, rank, tenure, and number of years worked in this institution and in higher education. These are often indicators of faculty satisfaction and involvement generally and are included as control variables.

It has been suggested in the literature that institutional characteristics may be related to how institutions engage in, provide support for, promote, and use student assessment (Peterson and Einarson, 2000). The dotted line in the model

suggests that institutional type and control have an affect on the other constructs and variables.

Research Questions

The research subquestions represented by the arrows in the model that are examined in this study are:

1. What are the patterns of faculty involvement and satisfaction? How are they related?
2. What external influences, institutional context, and faculty and institutional characteristics predict faculty satisfaction with their institution's approach to assessment?
3. What external influences, institutional context, and faculty and institutional characteristics predict faculty satisfaction with their institution's support for assessment?
4. What external influences, institutional context, and faculty and institutional characteristics predict faculty involvement in institution's student assessment activities?
5. What external influences, institutional context, and faculty and institutional characteristics predict faculty involvement with student assessment in their own classroom and instructional activities?

METHODOLOGY

Sample: Institutions and Respondents

This study uses data collected from the Institutional Support for Student Assessment research project undertaken at the University of Michigan for the National Center for Postsecondary Improvement. Initial phases of this project included an extensive literature review, development of a framework of organizational and administrative support for student assessment (Peterson and Einarson, 2000; Peterson et al., 1997) and a national population survey of all institutions offering undergraduate or associate's degrees. The survey identified external influences on, institutional approaches to, patterns of organizational and administrative support for, and uses and impacts of student assessment on each campus (Peterson, 1997). Based on this national survey, seven institutions that differed by type, control, and accrediting region, and which used multiple approaches to student assessment, had a wide array of activities supporting and promoting assessment and actively used the data for academic decision making were identified. The seven were: Iowa State, Western Washington University,

Sante Fe Community College, South Seattle Community College, Wake Forest University, Northwest Missouri State University, and Mercyhurst College. An intensive case study of each institution and comparative analysis was conducted (Peterson et al., 2001).

Within each institution, a random sample of 200 tenure-track faculty members, all academic and student affairs administrators involved with student assessment, and institutional research, evaluation, or assessment officers were surveyed using the Institutional Climate for Student Assessment (ICSA) instrument. The number of faculty surveyed was fewer for the institutions with less than 200 tenure-track faculty. This study focuses only on the faculty respondents since faculty and administrator responses were significantly different.

Survey Instrument

The ICSA survey instrument was designed to assess respondent perceptions of their institution's student assessment patterns and their own satisfaction with and involvement in student assessment efforts (Peterson, 2000). It was structured to parallel domains in the conceptual framework shown in Fig. 1. The questions required Likert-type responses except for the institutional context and faculty characteristics information. (The survey can be viewed at <http://www.stanford.edu/group/ncpi/> or refer to Table 1 and Table 3 for more details on items included on the survey.)

Respondent Data

The overall response rate for faculty in the seven institutions was approximately 30%. While the response rate was low, respondents were representative of faculty by rank, gender, and race at their institutions. Therefore, weights to correct for nonresponse biases were not calculated. The total number of faculty respondents for the survey was 182.

Analysis

Data analysis involved two steps. First, confirmatory factor analyses were conducted among all items within the various constructs of the survey instrument. A principal components extraction with an orthogonal rotation was used to create the factors, and questions were reverse coded when necessary. Individual items were included in a factor on which it had the highest loading (if that exceeded .40) and where the item appeared to have content validity. Occasionally, items that did not load on any factor that appeared important were retained as single-item variables. A reliability analysis was done for each factor using Cronbach's α . The resulting factor-derived variables were included in the fol-

lowing regression analyses. (Results of these factor analyses are shown in Tables 1 and 3.)

Second, satisfaction with institutional approach to student assessment, satisfaction with institutional support for student assessment, classroom/instructional involvement with student assessment, and institutional involvement with student assessment were regressed separately on the resulting factor-derived independent variables and all single item variables. Faculty and institutional characteristics were used as control variables. All models included only main effects due to the large number of possible independent variables. In the four regressions, variables were included in three blocks. The first block included the individual faculty characteristics, the second institutional characteristics, and the third, the remaining external and institutional context variables. No adjustments were made to correct the standard errors for the clustering of faculty within institutions because institutional differences were limited and there were not enough faculty members per institution to support a hierarchical analysis.

Factor-Derived Dependent Variable Indexes

Factor analysis of the items in the faculty satisfaction and involvement constructs yielded four outcome measures as originally conceptualized. Index scores were calculated by summing individual items and dividing by the number of items in the factor (i.e., an average summative index). These indices, which serve as dependent variables, are: faculty satisfaction with institutional approach to assessment, faculty satisfaction with institutional support for assessment, faculty involvement in classroom/instructional assessment, and faculty involvement in institutional assessment.

Faculty satisfaction with their institution's approach to student assessment is a rating of their personal satisfaction with the institution's assessment methods, plans, policies, administrative leadership support, and decision-making patterns for student assessment. Faculty satisfaction with their institution's support for student assessment is a measure of faculty satisfaction with the evaluation and rewards system, the professional development opportunities, student assessment data use, faculty leadership, and student support for student assessment.

Faculty involvement with institutional student assessment efforts is a self-reported measure of how often faculty engage in institution-wide committees, policy setting, program and curricular evaluations, institutional workshops, and departmental activities related to student assessment. Lastly, faculty involvement in classroom instructional assessment activities is based on their personal involvement with student assessment and their use of active assessment techniques such as student portfolios, performances evaluations, and observations in the classroom. Table 1 identifies all indices with their individual items, factor loadings, and reliability coefficients.

TABLE 1. Satisfaction and Involvement (factor-derived) Variables, Items, Loadings, and Reliabilities

Satisfaction and Involvement Factors	Factor Loading	Alpha
<i>Please rate your personal satisfaction with the following statements about student assessment at your institution. (1 = very dissatisfied, 2 = Not satisfied, 3 = Neutral, 4 = Satisfied, 5 = Very Satisfied).</i>		
Satisfaction with institutional approach		.91
Institution's approach to assessment (content and methods)	.85	
Institution-wide plan or policy on student assessment	.81	
Opportunities to participate in policymaking about student assessment	.77	
Administrative leadership support for student assessment	.72	
Satisfaction with institutional support		.83
Evaluation and rewards based on student assessment data or involvement	.71	
Professional development for student assessment	.67	
Student support for student assessment	.65	
Use of student assessment data in making academic decisions	.58	
Faculty leadership support for student assessment	.54	
<i>Please rate your personal involvement in the following activities related to student assessment at your institution. (1 = Not involved, 2 = Somewhat involved, 3 = Moderately involved, 4 = Highly involved, 5 = Very highly involved).</i>		
Classroom/instructional involvement		.91
Revision of my course or instructional methods based on student assessment results	.87	
Use of student assessment in my instruction	.83	
Evaluating the success of my classroom assessment activities	.83	
Use of active assessment techniques (student portfolios, performances, observations) in my classroom	.79	
Institutional involvement		.87
Service on school-wide or institution-wide committee or task force on student assessment	.81	
Setting assessment policy for institution	.66	
Interpreting the results of studies of student assessment in my institution	.64	
Participation in program review, curricular evaluation, or planning activities using student assessment results	.58	
Participation in institutional workshops or seminars to learn about student assessment	.56	
Creating new assessment techniques	.55	
Participation in departmental activities related to student assessment	.53	

Table 2 presents descriptive statistics for the four dependent variables. Since the items for involvement were measured on a 1–5 Likert-type scale (1 = not involved, 2 = somewhat involved, 3 = moderately involved, 4 = highly involved, 5 = very highly involved), it is apparent that institutional involvement is lowest (2.09) and classroom involvement is highest (3.03) but only moderately involved. The two satisfaction measures (1 = very dissatisfied, 2 = not satisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied) were just slightly below the midpoint of neutral (2.65, 2.68). Thus, faculty involvement in student assessment is modest and faculty satisfaction with it is neutral.

A correlation analysis of the four dependent variables shows a high correlation between the two satisfaction variables (.68) and a slightly lower correlation between the two involvement variables (.46). The measure of association between the two satisfaction and the two involvement variables is much lower (from .17 to .21), indicating that satisfaction and involvement are indeed two distinct constructs.

Factor-Derived Independent Variable Indices

Factor analyses were conducted on items within external influences and each of the four institutional context constructs (Institutional Approach, Institution-wide Support, Assessment Management Policies and Practices and Uses and Impacts). Table 3 presents the factor-derived independent variables, factor loadings, and reliability coefficients.

Institutional approach includes three variables: content or type of student assessment measures collected (e.g., social, affective and cognitive development, and postcollege measures), the methods by which institutions carry out student assessment (interviews, focus groups, surveys, measurement, etc.), and transcript analysis.

Institution-wide support for student assessment includes 13 variables derived from individual item related to student assessment. They are educational mission

TABLE 2. Descriptive Statistics for the Satisfaction and Involvement Variables

	Mean	SD	n
Satisfaction with institutional approach ^a	2.68	0.96	162
Satisfaction with institutional support ^a	2.65	0.79	157
Classroom-instructional involvement ^b	3.03	1.15	159
Institutional involvement ^b	2.09	0.90	155

^a1 = very dissatisfied, 2 = not satisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied.

^b1 = not involved, 2 = somewhat involved, 3 = moderately involved, 4 = highly involved, 5 = very highly involved.

TABLE 3. External and Institutional (factor-derived) Variables, Item Loadings, and Reliabilities

Factor and Individual Item Measures	Loading	Alpha
External Influences on Student Assessment		
<i>How influential have the following external factors been on your institution's level of involvement in undergraduate student assessment? (1 = Not influential/Unknown, 2 = Hardly influential, 3 = Somewhat influential, 4 = Influential, 5 = Very influential)</i>		
External influences		0.80
Professional (program/field) accreditation requirements or review	0.87	
Professional associations promoting student assessment (institutional, disciplinary, or administrative)	0.74	
Regional (institutional) accreditation requirements or review	0.73	
State requirements for or review of my institution's student assessment efforts	0.63	
Private foundations or corporate groups	0.39	
Institutional Approach to Student Assessment		
<i>Please rate the emphasis placed by your institution on the following content areas of student assessment. (1 = None/Unknown, 2 = Little, 3 = Moderate, 4 = Strong, 5 = Very Strong)</i>		
Content of student assessment		0.79
Social development (political, social or community involvement)	0.77	
Affective development (values, attitudes, personal growth, etc.)	0.73	
Student academic plans, intentions, and progress	0.69	
Cognitive development (higher order skills, general education, competencies)	0.64	
Student satisfaction and involvement with the institution	0.50	
Basic college readiness	0.44	
Vocational or professional skills or competence	0.41	
<i>In its student assessment efforts, to what extent does your institution emphasize the following methods of collecting student assessment data? (1 = None/Unknown, 2 = Little, 3 = Moderate, 4 = Strong, 5 = Very Strong)</i>		
Methods of student assessment		0.76
Employer interviews, focus groups, and surveys	0.87	
External examination of students (licensure exams, external reviewers)	0.73	
Student-performance methods (observations of student performance or demonstrations, portfolios)	0.71	
Student or alumni interviews, focus groups, and surveys	0.69	
Commercial instruments or tests	0.45	
Institutional or state developed instruments or tests	0.44	
Transcript Analysis		NA
Transcript analysis	0.87	

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
Institution-wide Support for Student Assessment		
<i>To what extent are the following components priorities in your institution's mission? (1 = Very Low/Unknown, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high)</i>		
Educational mission and priorities		0.78
Innovative instructional methods (peer teaching, cooperative learning)	0.75	
Alternative delivery systems (distance learning, experiential learning, learning communities)	0.71	
Identifying clear educational outcomes expected of students	0.63	
Student diversity	0.55	
Assessment of undergraduate student learning	0.52	
Interdisciplinary teaching or research	0.45	
Undergraduate priorities		0.83
Excellence in undergraduate education	0.87	
Teaching undergraduates	0.79	
Service priorities		0.50
Service to institution (serving on committees)	0.72	
Service to the external community	0.44	
Research		NA
Research	0.63	
<i>How important to your institution is each of the following purposes for pursuing undergraduate student assessment? (1 = Very unimportant/Unknown, 2 = Not important, 3 = Somewhat important, 4 = Important, 5 = Very important)</i>		
Improvement purposes		0.88
Guiding undergraduate academic program improvement	0.88	
Improving the achievement of undergraduate students	0.86	
Improving faculty instructional performance	0.76	
External purposes		0.60
Preparing institutional self-study for accreditation	0.68	
Meeting state reporting requirements	0.60	
Allocation purposes		
Guiding internal resource allocation decisions		
<i>How important are the following influences on student assessment at your institution? (1 = Very unimportant/Unknown, 2 = Not important, 3 = Somewhat important, 4 = Important, 5 = Very important)</i>		
Institution-wide influences		0.65
An institution-wide formal plan that all academic administrators and faculty are required to follow	0.66	

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
Senior-level administrators (e.g., Vice President of Academic Affairs, Deans, etc).	0.60	
An institution-wide informal policy that all academic administrators and faculty are encouraged to follow	0.60	
Unit influences		0.61
Individual faculty members who champion assessment	0.69	
Individual departments who assess their own students	0.64	
Detractors		NA
Vocal detractors of student assessment	0.63	
<i>How important is each of the following administrative or governance activities in promoting undergraduate student assessment at your institution? (1 = Very unimportant/Unknown, 2 = Not important, 3 = Somewhat important, 4 = Important, 5 = Very important)</i>		
Institution-wide activities		0.86
Institution-wide steering committee or task force on student assessment	0.77	
Planning for student assessment	0.75	
Student representation on student assessment committees	0.75	
Faculty governance committee that addresses student assessment issues	0.74	
Annual presidential or other institution-wide initiative, forums, or seminars on student assessment	0.65	
Board of trustee committee that addresses student assessment	0.58	
<i>How supportive are the following groups or individuals of undergraduate student assessment activities in your institution? (1 = Very unsupportive/Unknown, 2 = Somewhat unsupportive, 3 = Neutral, 4 = Somewhat supportive, 5 = Very supportive)</i>		
Administrative support		0.90
Chief executive officer	0.87	
Chief academic officer	0.86	
Chief student affairs officer	0.76	
Academic administrators	0.67	
Student affairs administrators	0.66	
Board of trustees	0.62	
Faculty governance body	0.53	
Institutional research, academic review, and student assessment office	0.52	
Student/faculty support		0.74
Students	0.84	
Student government	0.77	
Faculty	0.43	

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
Assessment Management Practices and Policies		
<i>From your perspective, how important does your institution consider the following policies/practices in encouraging student assessment activities? (1 = Very unimportant/Unknown, 2 = Not important, 3 = Somewhat important, 4 = Important, 5 = Very important)</i>		
Student information systems		0.78
Access to student assessment data on individual students for advisors and academic units	0.88	
Computerized student information system	0.71	
Dissemination of student assessment reports and studies	0.64	
Student policies		0.79
Incentives encouraging students to participate in student assessment activities	0.82	
Requiring student participation in student assessment activities	0.75	
Student assessment activities scheduled in the academic calendar	0.70	
Individual feedback provided to students regarding their own student performance results	0.57	
Professional development		0.88
Support for faculty to attend professional conferences on student assessment	0.80	
Assistance for faculty (paid leaves, stipends, mini grants, or course reduction) to improve their use of student assessment	0.78	
Internal or external consultant services for faculty on the use of student assessment	0.73	
Student assessment workshops for deans, department chairs, and other academic administrators	0.73	
Faculty workshops on student assessment	0.69	
Student assessment workshops for student affairs staff and administrators	0.69	
Institutional evaluation and rewards		0.84
Incentives for academic units to use student assessment information in their evaluation and improvement efforts	0.81	
Rewards or incentives for academic and student affairs administrators who promote use of student assessment in their unit	0.71	
Experience or skill in student assessment considered in faculty hiring process	0.66	
Public recognition or awards for faculty for innovative or effective use of student assessment	0.58	
Faculty evaluation and rewards		0.86
Evidence of student performance considered in faculty evaluation for annual salary or merit increase	0.77	

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
Faculty scholarship on or participation in student assessment activities considered in salary reviews or merit increases	0.73	
Evidence of student performance (not just student teaching evaluation) considered in faculty evaluation for promotion or tenure	0.72	
Faculty scholarship on or participation in student assessment activities considered in promotion or tenure reviews	0.70	
Academic management		0.89
General education or core curriculum review using student assessment data	0.83	
Course review and development using student assessment data	0.82	
Evaluation of the student assessment process	0.79	
Review and planning for student academic support services based on student assessment data	0.76	
Academic department or program planning/review using student assessment data	0.73	
Annual budget allocation to academic units to support student assessment	0.68	
Uses and Impacts of Student Assessment		
<i>To what extent does your institution use undergraduate student assessment information in making decisions or changes in the following areas? (1 = None, 2 = Low, 3 = Moderate, 4 = High, 5 = Very high)</i>		
Educational uses		0.92
Undergraduate academic mission or goals	0.79	
General education curriculum	0.75	
Student assessment plans, policies or processes	0.75	
Academic programs or majors	0.74	
Student academic support services (e.g., advising tutoring)	0.70	
Student affairs activities or organizations	0.70	
Student out-of-class learning experiences (e.g., internships, service learning)	0.69	
Distance learning initiatives	0.62	
Pattern of resource allocation to academic units	0.57	
Faculty uses		0.89
Faculty promotion and tenure policies	0.95	
Faculty salary increases or rewards (release time, travel funds, etc.)	0.75	
<i>What impact has student assessment information had on the following indicators of your institution's performance? (1 = Very negative, 2 = Somewhat negative, 3 = None or unknown, 4 = Somewhat positive, 5 = Very positive)</i>		

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
Institutional impacts		0.93
Student retention or graduation rates	0.81	
Student achievement on external exams (professional licensure)	0.79	
Student applications or acceptance rates	0.78	
Student grade performance	0.75	
Student satisfaction	0.68	
Institutional reputation or image	0.67	
Institutional evaluation from regional accreditation agency	0.55	
Success on grant applications	0.55	
Private fund raising results	0.54	
Allocation or share of state funding	0.53	
Faculty instructional impacts		0.87
Faculty interest in teaching	0.89	
Faculty satisfaction	0.74	
Changes in instructional or teaching methods used	0.65	
Attitudes Toward Student Assessment		
<i>Please describe how you feel about the following statements regarding student assessment at your institution. (1 = Disagree strongly, 2 = Disagree somewhat, 3 = Agree somewhat, 4 = Agree somewhat, 5 = Agree strongly)</i>		
Benefits of student assessment		0.89
Students today are learning more due to an institutional focus on the assessment of student learning	0.73	
Student assessment has improved the quality of education at this institution	0.70	
Faculty use student assessment information to modify how or what they teach	0.65	
Assessing students has resulted in the development of learning experiences that better meet diverse learning styles	0.65	
Faculty enjoy participating in student assessment activities	0.64	
Faculty use more student assessment techniques than they did 5 years ago	0.64	
Faculty frequently communicate with colleagues on how to improve their students assessment practices	0.59	
Faculty update their in-class assessment techniques on a regular basis	0.58	
Faculty and administrators agree on the value of assessing student learning	0.54	
The effectiveness of teaching is enhanced when faculty regularly engage in student assessment	0.53	
Student assessment techniques accurately measure students learning	0.49	

TABLE 3. (Continued)

Factor and Individual Item Measures	Loading	Alpha
State or federally mandated assessment requirements improve quality of education	0.41	
Understanding student assessment		0.87
Administrators have a common understanding of the meaning of the term student assessment	0.89	
Faculty have a common understanding of the term student assessment	0.85	
Faculty control of student assessment		0.62
Mandated student assessment limits the academic freedom of faculty	0.68	
Student assessment is more effective when determined by the faculty member rather than by the institution	0.60	
Faculty reluctance		NA
Faculty are reluctant to engage in student assessment for fear that student assessment results will be used in evaluations		
Teaching influence on student assessment		NA
Results of student evaluations of teaching influence how faculty assess students		
Faculty freedom		NA
Faculty are free to implement their own approaches to student assessment	0.36	
External involvement		0.88
Presentation at state, regional or national workshops or conferences on student assessment	0.84	
Publishing articles, reports, or other writings on student assessment	0.82	
Attendance at state, regional, or national workshops or conferences on student assessment	0.70	

and priorities, undergraduate priorities, service priorities, research, improvement purposes, external purposes, allocation purposes, institution-wide influences, unit influences, vocal detractors (e.g., faculty and/or administrators who publicly disclaim student assessment efforts, a negative type of support), institution-wide activities, and administrative and student/faculty support.

Assessment management practices and policies related to student assessment includes six factor-derived variables describing the institutions' student information systems, student policies, professional development opportunities, institution-wide evaluation and rewards, faculty evaluation and rewards, and academic management practices related to student assessment.

Factor analysis of the uses and impacts of student assessment construct re-

sulted in four variables. The first is use for educational decisions, which focuses on use of student assessment data for decisions about undergraduate mission or goals, general education curriculum, student plans, academic programs, student academic support, student affairs activities out of class, distance learning initiatives, and academic resource allocation. The second is use of student assessment data for faculty promotion and tenure decisions and faculty salary increases. The third is institutional impacts of student assessment information, which includes an array of institutional, student, faculty, and instructional impacts. The fourth is institution-wide impacts on faculty interest in teaching, instructional methods, and overall satisfaction.

Factor analysis of the external influences including regional and professional accreditation emphasis on, and professional associations' promotion of, student assessment yielded a single factor-derived variable for this construct.

RESULTS

Table 4 presents the β coefficients, p values, and adjusted R^2 for the final regression models of satisfaction with institutional approach to student assessment and satisfaction with institutional support for student assessment outcomes.

Satisfaction with Institutional Approach to Student Assessment

The total variance explained for satisfaction with institutional approach to student assessment was 39%. There were significant predictors within both the faculty characteristics and institutional context constructs but none in the external influences and institutional characteristics constructs. In the faculty characteristics construct both years worked in the institution ($\beta = .51, p < .05, \Delta R^2 = .011$) and years worked in higher education were significant ($\beta = -.44, p < .05, \Delta R^2 = .008$). This indicates that as faculty work at their institution longer, their satisfaction with their institution's approach to student assessment increases. On the contrary, as faculty work in higher education longer, their satisfaction with their institution's approach to student assessment decreases. Perhaps there is a point in time whereby faculty become cynical even though they have loyalties to their institution. However, these two accounted for less than 2% of the variance.

Significant predictors from the institutional context included three variables from the construct of institutional support for student assessment and one from uses and impacts of student assessment. The institutional support variables included improvement purposes ($\beta = .43, p < .01, \Delta R^2 = .290$), vocal detractors ($\beta = -.18, p < .05, \Delta R^2 = .015$), and institution-wide influences ($\beta = -.20, p < .05, \Delta R^2 = .004$). Using student assessment for improvement purposes was the strongest predictor in the model (accounting for 29% of the variance) and included items indicating student assessment is central to guiding undergraduate

TABLE 4. Predictors of Satisfaction with Institutional Approach to and Institutional Support for Student Assessment

	Satisfaction with Institutional Approach to Student Assessment <i>n</i> = 104		Satisfaction with Institutional Support for Student Assessment <i>n</i> = 95	
	Beta	ΔR^2	Beta	ΔR^2
<i>Adjusted R</i> ²		.39		.46
<i>Institutional characteristics</i>				
<i>Faculty characteristics</i>				
Years worked in the institution	.51*	.011	.39	.013
Years worked in higher education	-.44*	.008	-.40	.001
Sex			-.03	.003
<i>External influences</i>				
External involvement	.15	.033		
<i>Institutional factors</i>				
Institutional support for SA				
Improvement purposes	.43**	.290		
Vocal detractors	-.18*	.015	-.11	.006
Institution-wide activities	.12	.043	.28*	.039
Institution-wide influences	-.20*	.004	-.11	.000
Unit influences	-.003	.007		
External influences			-.16	.005
Administrative support			.23	.013
Student-faculty support			.09	.024
Assessment policies/procedures				
Student information system			.11	.007
Uses and impacts of SA				
Faculty instructional impacts			.51**	.177
Institutional impacts	.21*	.033		
Educational uses	.04	.019	-.30*	.036
Attitudes toward SA				
Faculty freedom			.12	.036
Understanding student assessment			.10	.103

Note: All dimensions in this table appear in the final model of one of the above dependent variables.
p* < .05; *p* < .01.

academic program improvement, improving the achievement of undergraduates, and improving faculty instructional performance. As faculty perceive that the importance of these items increases in their institution's purpose for assessment, their satisfaction with their institution's approach to student assessment increases. Vocal detractors to student assessment, a single-item variable, is nega-

tive, suggesting that as vocal detractors of student assessment become more visible, faculty satisfaction with their institution's approach to student assessment decreases. The institution-wide influences variable includes items suggesting student assessment is addressed by an institution-wide plan, that it is of central concern to key governance groups, and it is the focus of institution-wide initiatives. As faculty perceive the importance of these influences on student assessment increases, their satisfaction with their institution's approach to student assessment decreases.

The only significant predictor from the uses and impacts of student assessment construct was institutional impacts ($\beta = .21, p < .05, \Delta R^2 = .033$). Items in this variable indicated student assessment had an impact on areas such as student retention or graduation rates, student achievement on external exams, student applications or acceptance rates, student grade performance, student satisfaction, institutional reputation or image, institutional evaluation from regional accreditation agencies, success on grant applications, private funding results, and allocation or share of state funding. As faculty perception of the impact of student assessment on these items increases, their satisfaction with their institution's approach to student assessment increases.

Satisfaction with Institutional Support for Student Assessment

The total variance explained for satisfaction with institutional support for student assessment was 46% and was the highest of the four models. Constructs with significant predictors include institutional support for student assessment and uses and impacts of student assessment. Institutional and faculty characteristics and external influences constructs had no significant predictors.

Within the institutional support for student assessment construct, only institution-wide activities was a significant predictor ($\beta = .28, p < .05, \Delta R^2 = .039$). This variable includes individual items indicating there is an institution-wide steering committee or task force on student assessment, planning for student assessment, student representation on student assessment committees, faculty governance committee that addresses student assessment, annual presidential or other institution-wide initiative, and a board of trustee committee that addresses student assessment. As faculty perception of the importance of these items at their institution increases, their satisfaction with their institution's support for student assessment increases.

Within the construct uses and impacts of student assessment, faculty instructional impact was the most powerful significant predictor of satisfaction with institutional support for student assessment ($\beta = .51, p < .01, \Delta R^2 = .177$). This variable accounts for 18% of the variance and includes items suggesting faculty interest in teaching, faculty satisfaction in general, and changes in instructional or teaching methods used. As faculty perception of the impact of student assess-

ment on these items increases, their satisfaction with their institution's approach to student assessment also increases.

The other significant predictor of satisfaction with institutional support for student assessment from the uses and impacts construct was educational uses ($\beta = -.30, p < .05, \Delta R^2 = .036$). This variable includes items that suggest student assessment data are used for decisions about undergraduate academic mission/goals, general education curriculum, student assessment plans, academic programs, student academic support services, student affairs activities, student out-of-class experiences, distance learning initiatives, and patterns of resource allocation to academic units. As faculty perception of the extent to which student assessment affects decision making in these areas increases, their satisfaction with their institution's approach to student assessment decreases.

Classroom/Instructional Involvement in Student Assessment

Table 5 presents the β coefficients, p values, and adjusted R^2 for the final regression models on classroom/instructional involvement with student assessment and institutional involvement with student assessment outcomes.

Total variance explained for classroom/instructional involvement, 29%, was the lowest of the four models. There were only two significant predictors in this model—both from the institutional context construct. Faculty uses, a variable in the uses and impacts construct, was significant ($\beta = .25, p < .05, \Delta R^2 = .031$). Items in this variable indicate student assessment is used for decisions regarding faculty promotion and tenure policies and faculty salary increases or rewards (release time, travel funds, etc.). The positive coefficient here implies that the more faculty perceive their institution uses student assessment information to make decisions about faculty tenure and promotion and/or faculty salary increases or rewards, the more likely faculty are to use student assessment in their own classroom.

The second and strongest significant predictor, benefits to student assessment, accounts for 20% of the variance and comes from the construct of faculty attitudes toward student assessment ($\beta = .47, p < .01, \Delta R^2 = .202$). Benefits to student assessment includes a diverse set of items suggesting that faculty believe that student assessment at their institution leads to: more student learning, improved quality of education, faculty use of student assessment information to modify how or what they teach, more experiences that better meet diverse learning styles, faculty enjoyment in participating in student assessment activities, faculty use of more student assessment techniques than they did 5 years ago, more faculty communication with colleagues on how to improve their students assessment practices, faculty updating their in-class assessment techniques on a regular basis, greater faculty and administrators agreement on the value of assessing student learning, the enhanced effectiveness of teaching, student assess-

TABLE 5. Predictors of Involvement in Classroom/Instructional Student Assessment and Involvement in Institutional Student Assessment

	Involvement with Classroom/Instructional Student Assessment <i>n</i> = 93		Involvement in Institutional Student Assessment <i>n</i> = 113	
	Beta	ΔR^2	Beta	ΔR^2
<i>Adjusted R²</i>		0.29		0.39
<i>Institutional characteristics</i>				
<i>Faculty characteristics</i>				
Years worked in the institution	-.28	.001		
Years worked in higher education	.29	.008	.099	.008
Sex	.09	.017		
<i>External influences</i>				
External involvement			.35**	.235
<i>Institutional factors</i>				
Institutional approach to SA				
Content of student assessment	.13	.029		
Institutional support for SA				
Administrative support	-.14	.013		
Assessment policies/procedures				
Professional development			.25**	.112
Faculty evaluation and rewards	-.07	.008		
Uses and impacts of SA				
Faculty uses	.25*	.031		
Attitudes toward SA				
Understanding student assessment	-.01	.051		
Benefits of student assessment	.47**	.202	.27**	.059

Note: All dimensions in this table appear in the final model of one of the above dependent variables. **p* < .05; ***p* < .01.

ment techniques that accurately measure students learning, and state or federally mandated assessment requirements that improve the quality of undergraduate education. The large positive coefficient of .47 indicates, not surprisingly, that the more faculty perceive student assessment to be beneficial, the more likely they are to use student assessment in their own classroom.

Institutional Involvement in Student Assessment

Total variance explained for faculty members’ institutional involvement in institutional student assessment efforts was 39%. The constructs external influences and institutional context had three significant predictors.

External involvement ($\beta = .35, p < .01, \Delta R^2 = .235$) from the external influences construct was a significant predictor. This variable accounted for 23.5% of the variance and included items suggesting that the following are influences on faculty involvement with institutional student assessment efforts: professional accreditation requirements and review, professional associations promoting student assessment, regional accreditation requirements and review, state requirements for or review of my institution's student assessment efforts, and private foundations or corporate groups. This variable is the strongest predictor of institutional involvement with student assessment with a large positive coefficient of .35 indicating that the more faculty perceive the external influences to be important, the more likely the faculty member is to be involved with institutional student assessment efforts.

The second significant predictor, professional development ($\beta = .25, p < .01, \Delta R^2 = .112$), is from the assessment policies/procedures construct. It consists of items indicating their institution promotes student assessment by supporting faculty attendance at professional conferences, assisting faculty (paid leaves, stipends, mini grants or course reduction) to improve their use of student assessment, using internal or external consultant services for faculty on student assessment, offering student assessment workshops for faculty, deans, department chairs, academic administrators, and for student affairs staff and administrators. The large positive coefficient implies that the more faculty believe that their institution provides these opportunities, the more likely the faculty member is to be involved with institutional student assessment efforts.

Lastly, benefits of student assessment ($\beta = .27, p < .01, \Delta R^2 = .059$), from the attitudes toward student assessment construct, is a significant predictor of institutional involvement in student assessment. The more favorable faculty perceive student assessment to have a broad array of benefits, the more likely they are to be involved with institutional student assessment.

DISCUSSION

The regression results indicate that the models do predict faculty involvement and satisfaction, that there are a variety of predictors, and that the significant predictors differ for each of the four dependent variables. Table 6 presents a comparative display of the significant predictors of each dependent variable.

Addressing our first research question, "What are the patterns of faculty involvement and satisfaction?", the results suggest faculty satisfaction with and involvement in these diverse institutions is not high, despite the fact that these were institutions with a substantial record of doing student assessment and supporting and promoting it. This confirms the observation of experts cited in the literature who express concerns about the lack of faculty involvement. More importantly, the results also suggest that the variables of involvement in and

TABLE 6. Summary of Significant Predictors for Satisfaction and Involvement Variables*

	Satisfaction with Institutional Approach to Student Assessment	Satisfaction with Institutional Support for Student Assessment	Involvement with Classroom Student Assessment	Involvement in Institutional Student Assessment
Adjusted R^2	0.39	0.46	0.29	0.39
<i>Faculty characteristics</i>				
Years worked in the institution	X			
Years worked in higher education	X			
<i>External influences</i>				
External involvement				X
<i>Institutional support for SA</i>				
Improvement purposes	X			
Vocal detractors	X			
Institution-wide activities		X		
Institution-wide influences	X			
<i>Assessment policies/ procedures</i>				
Professional development				X
<i>Uses and impacts of SA</i>				
Faculty instructional impacts		X		
Institutional impacts	X			
Faculty uses			X	
Educational uses		X		
<i>Attitudes toward SA</i>				
Benefits of student assessment			X	X

*X signifies $p < .05$.

satisfaction with student assessment are different (correlations less than .2) and must be examined separately.

Research questions 2 through 5 address the relationship of institutional and faculty characteristics, external influences and institutional context on patterns of involvement and satisfaction. It is useful to note that, while independent variables predicting the four dependent variables came from all three constructs, the patterns of prediction are quite different across satisfaction and involvement.

In fact, only one variable—faculty perceptions of the benefits of student assessment—is a significant predictor in more than one of the models.

In examining satisfaction with institutional approach to student assessment, two of the predictor variables—years worked in higher education and years worked at the institution—are faculty characteristics and four—improvement purposes, vocal detractors, institution-wide influences, and institutional impacts—are institutional context variables. Since faculty characteristics and institutional impacts are not easy to influence directly, one of the ways institutions can increase faculty satisfaction with their institution's approach to student assessment is to focus on institutional support for student assessment, particularly by emphasizing that student assessment is primarily for institutional improvement and developing institution-wide plans and policies to promote and support it.

Interestingly, satisfaction with institutional support for student assessment is predicted by very different variables than satisfaction with institutional approach to student assessment. Institution-wide activities, faculty instructional impacts, and educational uses of student assessment are all significant predictors of satisfaction with institutional support for student assessment. Emphasizing things that more directly affect individual faculty is key. Institution-wide activities for student assessment and the using of student assessment for educational decisions need greater attention.

Faculty involvement in classroom student assessment raises a perplexing set of problems. Clearly, increasing faculty involvement is most often called for by assessment experts, yet the only two variables in the model related to it were using student assessment for faculty decisions (salary, promotion, awards, etc.) and faculty perceptions of the benefits of student assessment. Introducing student assessment data in decisions regarding faculty salary and promotion is extremely sensitive. This is often resisted by faculty and may influence their perceptions of the benefits negatively. This is an area that needs more research attention.

Increasing faculty involvement with student assessment at the institutional level may be the easiest to address. The three significant variables predicting it are external influences, professional development opportunities, and perception of the benefits of student assessment. Administrators can influence the level of their institution's involvement with external groups such as accreditation, state policies (in public institutions), and professional associations and involve faculty in them. Similarly, they can provide and promote professional development opportunities related to student assessment for faculty. More involvement in such areas may stimulate a better understanding and perception of the student assessment benefits.

Returning to research questions 2 through 5, it is clear that variables from all three constructs—external influences, faculty characteristics, and institutional

context—do relate to faculty satisfaction with and involvement in student assessment. However, the patterns differ for each of the four dependent measures suggesting the need for different strategies or activities to influence each.

Interestingly, institutional characteristics were not significant predictors in any of these models. This suggests that while there may be differences in the values of the independent and dependent variables by institutional type and control, there do not appear to be differences in the relationship between the independent and dependent variables.

Limitations

There are several limitations to this study. The first is the relatively small sample size, driven by the low response rates despite two follow-up waves, which included incentives on the last wave. This was mitigated by the lack of response bias between respondents and nonrespondents. Furthermore, although we sampled institutions of different types and controls, these institutions were all selected based on their active involvement in student assessment activities, and, as such, these results may only pertain to institutions with similar patterns of involvement.

The survey instrument was designed to be part of a tool kit for institutions that were interested in evaluating their student assessment activities. The constructs and items were created from an extensive literature review on institution-wide approaches to and support for student assessment. Although there was no reliability analysis performed on the instrument before its use, there was an extensive pilot test of the instrument for clarity and content validity. The results of the confirmatory factor analyses in this study support its content validity. Most of the factor-derived variables contained the individual items on the survey, and it was very rare for an item to fall out as a single-item variable.

The small numbers of faculty within each institution prevented a hierarchical analysis that would have accounted for the natural clustering of faculty within institutions, thereby generating more accurate standard errors and better understanding of direct and indirect influences. This also limited the extent to which we could examine faculty subgroup characteristics. Finally, the small number of institutions may have prevented the institutional characteristics from playing a significant predictive role.

CONCLUSION

This study, which is limited in scope and somewhat exploratory in nature, provides both some practical insights and raises some important theoretical implications for further research. The heart of these insights and implications arise

from the fact that the primary predictor (highest β coefficient and percentage of variance accounted for) and the pattern of variables that predicted the four dependent variables were different in each model.

From a practical administrative and managerial perspective the results suggest the following: (a) *Faculty satisfaction with their institution's approach to student assessment* is increased by institutional and managerial efforts that emphasize using student assessment for internal institutional academic improvement, establishing institution-wide mechanisms—plans, policies, and administrative offices—to guide student assessment efforts and monitoring and reporting the various institutional benefits and impacts. (b) Improving *faculty satisfaction with the institution's support patterns for student assessment*, on the other hand, requires an emphasis on more specific academic management activities such as task forces, faculty committees, forums and seminars on student assessment, and giving more attention to using student assessment for educational decisions and promoting faculty interest in teaching and instructional methods. (c) Gaining *faculty involvement with the institution's student assessment efforts* suggests a multilevel approach—educating faculty about and involving them with the external influences on student assessment (accreditation, state policy, etc), providing them with professional development opportunities to learn about student assessment, and distributing evidence of the benefits of student assessment. (d) Increasing *faculty involvement with classroom student assessment* has the most tenuous practical findings since the two predictors—promoting the benefits of student assessment and using it for faculty reward and promotion decisions—may, in fact, be in conflict.

The differing patterns of prediction, which have important practical applications, also raise more intriguing theoretical issues and potential research questions. First, satisfaction with and involvement in student assessment appear to be both independent of each other and predicted by different independent variables. This suggests that there is value in researching each separately in greater depth as well as comparatively. More importantly this research did not explore the consequences of increased faculty satisfaction and involvement. How these variables are related to measures of faculty performance, student learning, or institutional academic improvement are yet to be explored.

These findings—different predictors for the four satisfaction and involvement variables—suggest there may be differing theoretical underpinnings that deserve further explorations. For instance, faculty satisfaction with their institution's approach to student assessment may be more influenced by broad institutional context variables, whereas their satisfaction with institutional support for student assessment may be more influenced by activities and variables that personally or individually impact faculty. This differential pattern extends to the involvement variables. For example, faculty involvement with institutional student assessment efforts is influenced by providing opportunities to learn about external

influences, professional development knowledge, and perceived benefits; whereas their involvement in classroom efforts seems to reflect the way student assessment affects them as individuals through their rewards and benefits.

Clearly, these patterns suggest the need for further exploring the impacts of external influences, faculty, and institutional characteristics and institutional context constructs on faculty's satisfaction with and involvement in student assessment and its consequences for faculty, students, and the institution. Variables not fully explored in this study—faculty characteristics, faculty role, career development and personality—may also be important dimensions in understanding this area.

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