Chapter 17
Learner-Centered Assessment in US Colleges and Universities

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Abstract Over the past two decades, US postsecondary faculty members have moved away from "sage on the stage" to learner-centered instruction and assessment of learning. The assessment of student learning continues to be an important issue among educators and other constituents. This chapter discusses faculty member use of learner-centered assessment techniques in US colleges and universities, based on responses from the 1993 and 2004 *National Study of Postsecondary Faculty* (NSOPF).

The teaching–learning process in postsecondary education is a critical and complex process. Today's changing world includes new technologies, a diverse population of students with a wide range of skills and demands to help students acquire skills that will enable students to easily adapt to changing demands in the workforce. With these needs in mind, postsecondary faculty must remain aware of student needs as well as new pedagogical techniques to maximize their efforts in teaching and learning. Preceding chapters in this book have offered valuable information on innovations in instruction, learning and the construction of knowledge, and using technology in the classroom. In the USA and other countries, discussions about reform in education have included the use of learner-centered education. Learning activities that focus on the learner in a meaningful way prompt greater engagement and are likely to be successful (Norman and Spohrer 1996) because such learning is deep, long-lasting and transfers to contexts beyond the classroom (Walcyzk and Ramsey 2003). One important aspect of the larger discussion on educational reform is how to successfully evaluate learning.

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In this chapter, I will discuss the use of specific learner-centered assessment techniques by faculty members in US colleges and universities and offer some comments on implications for policy and practice.

17.1 The Status of Assessment of Learning

The assessment of student learning in postsecondary education continues to be an important issue among educators, leaders in accrediting agencies, and elected officials (e.g., Ewell 1988, 2002; Glenn 2011; Kinzie 2010). It is of particular importance to officials in the USA, but it has become an increasing focus in other countries of the world as well. Assessment has been a long-standing issue and an important dimension of quality instruction; however, its meaning and use have evolved significantly over the past two decades. A traditional view of assessment defines its primary role as evaluating a student's comprehension of factual knowledge. A more contemporary definition, which is growing in popularity, sees assessment as activities designed primarily to foster student learning. This more recent definition has its roots in a movement to make higher education more learner-centered, and related assessment practices are often labeled learner-centered assessment techniques.

It is clear from a growing body of literature that learner-centered assessment is now considered a highly valued practice in higher education pedagogy. In this chapter, I will discuss my examination of responses from the 1993 and 2004 *National Study of Postsecondary Faculty* (NSOPF) surveys as a way to better understand the use of learner-centered assessment techniques in today's postsecondary classrooms. This study examines factors that contribute to faculty use of assessment through hierarchical linear modeling. An advantage over single-level regression, multi-level analysis enables us to examine the effects of individual characteristics on learner-centered assessment practice, nested within the effects of institutional characteristics. This analytic technique provides a more precise examination of the contribution of individual and institutional characteristics to learner-centered assessment.

17.2 What is Learner-Centered Assessment

Over a decade ago, Barr and Tagg (1995) declared that a shift had occurred in higher education from an *instruction* paradigm to a *learning* paradigm. In the learning paradigm, faculty focus less on transferring factual knowledge to students and more on creating a learning environment that empowers students to construct knowledge for themselves. The learning paradigm positions the learner, rather than the instructor, at the center of undergraduate education, and, for this reason, many refer to this paradigm as learner-centered education.

Since Barr and Tagg's declaration, many leaders in higher education have endorsed learner-centered education and have extended the conversation about its utility in American colleges and universities. In 1998, for example, the American Association for Higher Education (AAHE), College Student Educators International (ACPA), and Student Affairs Administrators in Higher Education (NASPA) appointed the Joint Task Force on Student Learning. The Task Force produced a report that summoned those invested in higher education to adopt key principles that encourage learner-centered education. More recently, the Association of American Colleges and Universities (AAC&U) sponsored several reports on college learning that emphasized the important role that learner-centered pedagogy plays in achieving essential learning outcomes of liberal education (Crutcher et al. 2007; Kuh 2008).

Across this body of literature, advocates describe assessment as a central element in learner-centered education. Assessment in this approach, however, departs from its traditional role as an activity used primarily to evaluate a student's comprehension of factual knowledge. Rather, assessment became an activity that fosters student learning. Huba and Freed (2000) defined assessment in a learner-centered approach as "an activity, assigned by the professor that yields comprehensive information for analyzing, discussing, and judging a learner's performance on valued abilities and skills" (p. 12). They labeled this type of assessment, "learner-centered assessment," and outlined ways in which it reinforces the attributes of learner-centered education. According to Huba and Freed, learner-centered assessment promotes high expectations in the learning environment, respects diverse talents and learning styles, helps students synthesize their learning experiences, and promotes coherence in learning by providing data to direct curriculum development and revision processes. Examples of learner-centered assessment activities include multiple drafts of written work in which faculty provide constructive and progressive feedback, oral presentations by students, student evaluations of each other's work, group and team projects that produce a joint product related to specified learning outcomes, and service-learning assignments that require interactions with individuals in the community or business/industry. Through these activities, learner-centered assessment provides a mechanism for prompt feedback to students, fosters collaboration with peers and faculty, and results in increased student-faculty contact. These activities promote learner-centered education and can provide faculty members with evidence regarding how effectively students construct and develop their knowledge and skills.

17.3 Related Literature

Scholarship on learner-centered assessment has grown in recent years. Research on this topic has covered different postsecondary sectors (Boyer et al. 2007), general education and various disciplines (Goubeaud 2010; Paradis and Dexter 2007;

Palomba 2002; Yanowitz and Hahs-Vaughn 2007), professional and graduate programs (Gerdy 2002; Goubeaud and Yan 2004; Candela et al. 2006; Boaten et al. 2009), and international higher education (Fook and Sidhu 2010). Taken together, these studies reveal a growing interest in reforming assessment in higher education to be more learner-centered.

Goubeaud and Yan (2004) acknowledged the need for instructional reform and utilized data from the 1993 *National Survey of Postsecondary Faculty* to explore assessment practices among higher education faculty. Findings from their study suggested that teacher educators were more likely to employ learner-centered assessment methods (such as research papers and essay exams) than other faculty who relied on traditional assessment practices (such as multiple choice exams). To increase the use of assessment, Goubeaud and Yan suggested that educational leaders should follow through on their verbal endorsements, writing: "…a program that employs the assessment strategies it espouses will be more likely to produce teachers that are equipped to use such strategies" (p. 12).

In addition to a focus on teacher training, several scholars have advocated the need for adoption of learner-centered assessment within a specific discipline. For example, Paradis and Dexter (2007) illustrated the benefits of learner-centered education for students and faculty in geography, and Candela et al. (2006) discussed the similar benefits for nursing students and faculty. Gerdy (2002) argued for the implementation of learner-centered assessment in legal research instruction, and in doing so, provided examples of exemplary assessment activities that could be employed by law professors.

Although these studies contribute to our understanding of learner-centered assessment, they do not provide convincing evidence that reform has actually occurred. Yanowitz and Hahs-Vaughn (2007), for instance, drew data from the *National Study of Postsecondary Faculty* 1993 (NSOPF:93) and 1999 (NSOPF:99) to examine assessment activity among faculty members in science disciplines. They found that faculty in the sciences were less likely to use learner-centered assessment practices than non-science faculty and that the former did not increase their use of these practices in the time between the two national studies, despite science educators appealing for such an increase throughout the 1990s.

To gain further insight into the use of learner-centered assessment, some researchers have examined the relationship between the use of assessment techniques and instructor characteristics or pedagogical methods. Broadly, a number of studies have examined the relationship between instructor characteristics and instructional approaches. For example, Nelson Laird et al. (2011) found that female faculty use more active learning techniques than their male peers. Bennett (1982), Centra and Gaubatz (2000), and Statham et al. (1991) reported that female faculty are more student-oriented and less authoritative, have more class discussions, do less formal lecturing, and are more available outside class than male faculty. In general, these characteristics may allow students to feel more comfortable in class and may encourage participation. Specifically, focusing on use of teaching with technology, Meyer and Xu (2009) found no differences by gender, but found that instructor age, degree level, discipline, and teaching load influenced

faculty use of technology. In particular, these authors found that younger faculty, those with a doctorate, and those with higher teaching loads used e-mail and Web sites more often in their teaching.

Recent studies have also examined instructor effectiveness by time and tenure status. Although Umbach (2008) found that part-time faculty use active learning less than full-time faculty, Leslie and Gappa (2002) report that part-time faculty are a "stable component of the faculty workforce and have considerable teaching experience" (p. 61). Leslie and Gappa agree with other reports (Bolge 1995; Cohen and Brawer 1998; Grubb 1999) that found no significant differences in quality of instruction between full-time and part-time faculty. Although full-time faculty positions continue to be offered, some reports indicate that the larger proportion of recent employment offers are for part-time positions, and increasingly, in positions that do not offer tenure. Gappa et al. (2007) reported that in 2004, only 27 % of all new faculty appointments and 56 % of all full-time appointments were tenure-track positions.

According to Kezar and Sam (2010), findings are mixed on student success (or lack of success) based on faculty member time and tenure status. Several researchers found that students in lower division classes with part-time faculty (who were also non-tenure track) were less likely to return for the second year (Bettinger and Long 2005), less likely to transfer to baccalaureate institutions (Eagen and Jaeger 2009), and/or less likely to graduate (Ehrenberg and Zhang 2005). On the contrary, however, Waller and Davis (2009) found no significant differences in enrollment growth or student retention based on instructor tenure status. Authors such as Kezar and Sam recognize the complexities of contingent faculty, including the implications for faculty members themselves, students, and the overall organization of higher education.

Although studies have not directly linked faculty satisfaction to the use of learner-centered assessment, it is plausible that general work satisfaction could determine a faculty member's desire to incorporate new techniques in his or her instructional activities. Furthermore, if learner-centered assessment is used widely across a campus, it could serve as an activity that contributes to organization change (Foster 2010; Szabla 2007). There is a large body of literature on faculty perceptions of work life and satisfaction. Herein, I summarize studies on satisfaction that are relevant to the current focus on faculty use of assessment techniques.

Comparing individual characteristics, Rosser (2004) reported that tenured, female, and assistant professors were less satisfied than untenured, male, and assistant professors, respectively. More than a decade earlier, Russell (1991) also found differences: Male faculty were somewhat more satisfied with their job overall and significantly more satisfied with workload, due in part to higher teaching loads incurred by female faculty. Examining satisfaction over time, Rosser (2005) found that, in general, faculty in 1999 perceived more positive support for technical and professional issues and were more satisfied with advising loads and coursework, the quality of students, and work benefits than faculty in 1993. Hagedorn (2000) added to previous thinking on satisfaction and developed a

conceptual framework for faculty job satisfaction that acknowledged the influence of life events on faculty perceptions of work. Through her work, Hagedorn found that job satisfaction increases with life stages and can be affected by marriage, family, and perceptions about one's institution. Hagedorn cautioned that because satisfaction is multi-faceted, no list of factors or organizational policies can ensure positive outcomes in all circumstances; however, it is plausible to see how perceptions of perceived personal value and institutional support of instruction can affect faculty satisfaction.

Along with faculty member characteristics and perceptions of their environment, scholars have also examined the use of instructional techniques by institutional control and academic discipline. Xu and Meyer (2007) found that faculty in public institutions use the Web in their teaching more than peers in private institutions. A number of scholars purport that the teaching–learning process is different across disciplines (e.g., Becher and Trowler 2001; Hannan and Silver 2000; Healy and Jenkins 2003; Neumann 2001; Young 2010; Xu and Meyer 2007). Neumann and Becher (2002) believe that epistemological differences affect teaching and learning. The "hard" sciences tend to focus on experimentation, facts, and quantifiable data, whereas the "soft" sciences leave room for context-specific interpretations of a given phenomenon. Xu and Meyer posit that health and agriculture/home economics disciplines may rely less on e-mail and Internet Web sites in the classroom due to the clinical and hands-on nature of learning in these areas. Discreet and intertwined facets of knowledge may lend themselves to different forms of assessment. Some gains in knowledge may best be measured by a multiple choice examination that reinforces memorization of facts, while others may be evidenced through essay examinations that require students to demonstrate argumentation and theoretical synthesis. As with other factors discussed above, the faculty member's discipline may be related to the use of learner-centered assessment techniques and should be included in future studies.

17.4 Conceptual Framework Guiding This Study

One inevitable process that affects all organizations is change, and one area of regulation that affects organizational change is institutional accountability. Over the past decade, policymakers, accrediting bodies, and elected officials have continued to call for improved mechanisms that foster and measure student learning. Due to its value in the teaching–learning process and because it assists with accountability needs, the assessment of teaching and learning in postsecondary education has become inextricably incorporated in institutional policies and practices. Because internal and external agents are looking for practices related to, and evidence of, learning outcomes, faculty are strongly encouraged to assimilate instructional and assessment techniques that provide evidence of learning.

A number of factors can help or hinder organizational change. Along with leadership characteristics (McBride 2010) and degree of inertia by isomorphic forces that exist in an organization (Greenwood and Hinnings 1996), success in organizational change is affected by individual resistance to change (Lawrence 1954; Waddell and Sohal 1998). Although some faculty members are eager to incorporate new instructional and assessment techniques in their teaching, others are more hesitant. Schein (2008) wisely acknowledged that change is not best imposed; forcing change will likely result in turmoil and resistance. Sources for resistance to change include lack of skills needed for the change, different interests among employees, cynicism, organizational silence and/or leadership inaction, and low motivation due to previous failures. From an organizational perspective, resistance can occur through delay behaviors or processes that attempt to maintain the status quo (del Val and Fuentes 2003). Clark and Gottfresdon (2008) believe that many faculty members see little need for change; they are satisfied with the skills they have and are only interested in maintaining the current status quo. Faculty may be hesitant to take on new, difficult, or potentially risky activities (Nickerson et al. 1985), but that is not to say that they do not incorporate new strategies on a regular basis. LeSourd (1984) found that teacher attitudes about instructional strategies are shaped, in part, by the role of the teacher in the implementation and the results that are expected. It is reasonable to propose that individual attitudes such as receptivity to try new activities, social reinforcement from colleagues, and/or professional development training can help minimize resistance to instructional change.

Examining the use of learner-centered assessment techniques can provide insight into one aspect of organizational change that is occurring in postsecondary education today. The use of these techniques may depend on individual characteristics and institutional structures that promote and reward their use. The Bureau of Labor Statistics projects a 15 % increase in the number of postsecondary faculty from 2008 to 2018 (*Occupational Outlook Handbook* 2011) and will include both full- and part-time faculty. Recent discussions on the "graying" professoriate concern postsecondary faculty who are close to retirement, yet there is evidence that faculty are remaining employed longer than expected. Chronister (1996) reported that between 1988 and 1993, the percentage of full-time faculty age 55 and older increased from 17 to 25 % and the number of faculty members over the age of 70 more than tripled. Since some previous studies found that technology in teaching is used more often by younger faculty (for example, Meyer and Xu 2009) it is important to examine use of the assessment techniques by age and/or length of time in the profession because many learner-centered techniques incorporate use of technology such as presentation software, electronic document sharing, and e-mail.

Thus, mindful of individual and institutional characteristics that exist for postsecondary faculty and US institutions today, a careful look at the use of assessment techniques at two time points (1993 and 2004) can provide evidence of faculty actions related to instruction and may provide some evidence of organizational change that is maintained, decreased, or increased from one decade to the

next. If, for example, faculty members possess the interest and agility to incorporate new instructional techniques and perceive support from institution leaders through professional development training and/or adequate resources devoted to instruction, then it seems likely that faculty members will use these assessment techniques. If, however, faculty members do not receive information about new instructional techniques, do not engage in training or discussions with colleagues, nor see the value in incorporating these techniques into their instructional activities, it seems likely that they will not use them.

17.5 Statement of the Problem

It is clear from a growing body of research that learner-centered assessment is now considered a valued practice in US higher education pedagogy. Based on the growing volume of literature on the subject, it appears that the trend toward learner-centered assessment has gained momentum in recent years, permeating academic discourse in most traditional disciplines. Yet, it is still unclear how much this trend has actually influenced faculty assessment practices in postsecondary classrooms in the new millennium. While some faculty members seem to have embraced learner-centered assessment techniques, others appear more resistant. Examination of the NSOPF data allows us to examine the extent to which today's higher education faculty incorporate learner-centered assessment methods in their instructional strategies in 2004, as well as rates that were reported a decade earlier in 1993. Examining individual and institutional characteristics at these two points in time can provide important information on US postsecondary faculty today, the kinds of classroom assessment used, and insights into the level of broad-based support for learner-centered education. The following research questions guided this study:

1. How often do college and university faculty members employ learner-centered assessment techniques in their classes?
2. Do assessment practices differ by gender, faculty rank, tenure status, discipline, institutional control, and institutional level? and
3. Are there differences in the use of learner-centered assessment techniques between 1993 and 2004?

17.6 Methodology for the Study

17.6.1 Data

Because the focus of this study is on assessment practices in undergraduate education, the final dataset from the *National Study of Postsecondary Faculty* surveys administered in 1993 and 2004 (NSOPF:93 and NSOPF:04) included only those

universities and colleges defined in each dataset as associate degree granting or above. The 1993 categories were "doctorate-granting, comprehensive colleges, liberal arts, and associates; the 2004 categories were "doctorate granting," "master's granting," "bachelor's granting," and "associate's granting." Institutions defined as "other" were excluded. In addition, the final data included only instructors who had faculty status, identified teaching as a principal activity, spent at least 50 % of their time on instructional activities, and taught at least some undergraduate courses for credit. The 1993 dataset used in this study included responses from approximately 13,000 faculty members in nearly 600 colleges and universities; the 2004 dataset included responses from approximately 12,000 faculty members in approximately 500 colleges and universities. All analyses described below included the faculty weight provided in the NSOPF 1993 and 2004 datasets, as well as an additional weight calculated to correct for possible oversampling. This second weight was calculated by dividing the raw faculty weight by its mean, thus creating a relative faculty weight.

As discussed above, learner-centered assessment includes a variety of activities that seek to involve students more deeply in the learning process, integrate education and experience, include feedback from faculty and peers, and address discipline-specific issues and problems (Huba and Freed 2000). In the NSOPF:93 survey, respondents were asked to indicate how often they used nine assessment techniques (not used at all, used in some classes, used in all classes). Similarly, NSOPF:04 respondents were asked to indicate how often they used 10 predetermined assessment techniques. From the 2004 data, five assessment techniques were identified that were clearly consistent with Huba's and Freed's operational definition of learner-centered assessment to serve as the dependent variable. The five techniques were multiple drafts of written work, oral presentations, group projects, student evaluations of each other's work, and service learning/co-op interactions with business. Of these five, three were included in the 1993 survey: multiple drafts of students' work, oral presentations, and student evaluations of each other's work. No other items in the 1993 data were consistent with Huba and Freed's definition of learner-centered assessment.

To examine the research questions, descriptive statistics were completed for selected variables. Descriptive statistics reveal how regularly faculty members employed learner-centered assessment techniques in their classes and whether assessment practices differed by individual and institutional characteristics. Tables below show the proportion of faculty using learning-centered assessment in some or all classes by important demographic characteristics, discipline, institution type, and level. Analyses presented are separate analyses for the two points in time rather than a statistically controlled comparison of 1993 and 2004 rates.

17.7 Results

As shown in Tables 17.1, 17.2, 17.3, and 17.4, both 1993 and 2004 male and full-time faculty member respondents are in the majority, comprising about 60 % of the sample (unless otherwise specified, use of the term "faculty member" includes all rank levels). A little over half of all respondents were in the rank of assistant to full professor and were tenured or on tenure track. Just under three quarters of the respondents were in public institutions, and about a third were employed in two-year colleges.

Some differences were seen quickly when examining the demographics in 1993 and 2004. Overall, the faculty in the 2004 survey were older than those in the 1993

Table 17.1 Demographic statistics for the 1993 and 2004 samples

Variable Label	1993		2004	
	N	%	*N*	%
Gender				
Male	8,790	61.8	7,130	58.4
Female	5,440	38.2	5,080	41.6
Position type				
Full time	8,740	61.4	8,110	66.4
Part time	5,490	38.6	4,100	33.6
Rank				
Full professor	3,280	23.1	2,770	22.7
Associate professor	2,490	17.5	2,130	17.4
Assistant professor	2,580	18.2	2,330	19.1
Instructor	4,890	34.4	3,960	32.4
Lecturer	980	6.9	1,020	8.3
Tenure status				
Tenured	5,250	36.9	4,440	36.2
On tenure track but not tenured	2,140	15.0	2,070	17.0
Not on tenure track	3,240	22.8	4,710	38.5
No tenure system at institution	820	5.8	1,020	8.3
No tenure for my faculty status	2,780	19.5	NA	
Institutional control				
Public	10,170	71.5	8,990	73.6
Private	4,060	28.5	3,220	26.4
Carnegie classification				
Doctorate-granting institution	4,000	28.1	3,890	31.9
Master's granting	4,140	29.1	3,170	25.9
Baccalaureate granting	1,200	8.4	1,180	9.7
Associate's granting	4,880	34.3	3,970	32.5

Note Numbers are weighted and rounded

Table 17.2 Faculty member use of learner-centered assessment techniques

Variable Label	1993		2004	
	N	%	*N*	%
Multiple drafts of written work				
Used in all classes	1,560	11.0	2,320	19.0
Used in some classes	2,230	15.7	1,970	16.2
Not used	7,730	54.4	5,990	49.0
No response to question	2,700	19.0	1,930	15.8
Oral presentations by students				
Used in all classes	2,930	20.6	3,580	29.3
Used in some classes	4,420	31.1	2,800	23.0
Not used	4,180	29.4	3,900	31.9
No response	2,700	19.0	1,930	15.8
Student evaluations of each other's work				
Used in all classes	1,620	11.3	2,040	16.7
Used in some classes	2,730	19.2	1,890	15.5
Not used	7,180	50.4	6,340	51.9
No response	2,700	19.0	1,930	15.8
Group and team projects producing a joint product				
Used in all classes	N/A	N/A	3,080	25.2
Used in some classes	N/A	N/A	2,560	21.0
Not used	N/A	N/A	4,630	38.0
No response	N/A	N/A	1,930	15.8
Service-learning/co-op experiences or assignments requiring interactions with the community or business/industry?				
Used in all classes	N/A	N/A	1,160	9.5
Used in some classes	N/A	N/A	1,650	13.5
Not used	N/A	N/A	7,460	61.1
No response	N/A	N/A	1,930	15.8

Note All Ns are weighted and rounded

survey; the mean age for respondents in 1993 was 47.5 year (SD = 10.230), and the mean age for respondents in 2004 was 50.17 years (SD = 10.777). As shown in Table 17.1, the number of female faculty with instructional duties increased by about 8 % in 2004 and the number of part-time faculty decreased by almost 13 % compared to 1993. (A secondary analysis of time status by institution type confirmed a decrease in percentage of part-time faculty in 2004 for all four levels, associate-granting through doctorate-granting institutions. However, it is noted that respondents in the "other rank" category were removed from all analyses and a very high majority of these individuals were part time. This may have had affected analyses that examined rank and time status.) In 2004, there were somewhat more lecturers and fewer instructors than in 1993, but otherwise the

Table 17.3 Proportion of faculty using learning-centered assessment in some or all classes by demographic characteristics and discipline

Variable	1993			2004				
	Multiple drafts	Oral presentations	Student evaluations each other's work	Multiple drafts	Oral presentations	Student evaluations each other's work	Group projects	Service-learning assignments
	%	%	%	%	%	%	%	%
Gender								
Male	28.2	58.8	31.2	36.9	55.9	30.1	50.1	22.0
Female	40.3	71.5	47.3	48.8	71.0	48.7	61.9	35.1
Position type								
Full time	35.3	65.6	37.7	45.1	65.0	39.4	58.3	29.4
Part time	28.7	60.6	37.7	34.6	56.0	36.0	47.7	23.3
Rank								
Full professor	33.1	62.5	33.2	43.8	63.7	33.4	51.4	23.3
Associate professor	34.4	65.1	37.5	45.4	63.1	38.1	58.1	28.5
Assistant professor	37.3	68.8	42.0	46.7	67.1	41.9	59.5	29.2
Instructor	29.3	60.8	37.4	36.0	58.2	38.9	53.3	29.6
Lecturer	34.9	65.0	42.8	40.2	62.3	41.2	53.7	23.4
Tenure status								
Tenured	33.4	63.3	34.6	44.8	62.6	35.3	54.7	25.7
On tenure track but not tenured	38.4	68.2	42.4	47.9	68.7	44.4	63.0	32.0
Not on tenure track	31.4	64.2	40.0	37.3	57.6	38.5	50.1	25.2
No tenure system at institution	30.1	61.2	37.5	36.0	58.0	39.4	56.3	34.7

Note All percentages are based on weighted scores; due to rounding, totals may not equal 100

Table 17.4 Proportion of faculty using learner-centered assessment in some or all classes by institution level

Variable	1993			2004				
	Multiple drafts	Oral presentations	Student evaluations each other's work	Multiple drafts	Oral presentations	Student evaluations each other's work	Group projects	Service-learning assignments
	%	%	%	%	%	%	%	%
Doctorate granting	34.8	67.9	40.9	49.8	60.1	33.7	50.0	31.5
Comprehensive/ Master's	35.6	68.5	41.6	47.1	67.8	41.8	59.6	29.2
Liberal arts	33.8	69.2	43.7	53.2	72.4	42.7	61.8	28.6
Two-year	35.7	64.1	37.1	35.7	56.2	37.9	53.1	30.3

Note All percentages are based on weighted scores; due to rounding, totals may not equal 100

distribution of faculty by rank, tenure status, institution type, and control were relatively similar.

Table 17.2 shows the percentage of faculty using the learner-centered assessment techniques. In general, across both time points, about a quarter to more than half of the faculty said they used these assessment techniques in at least some of their classes. Of the three measures used in both 1993 and 2004, oral presentations by students were used the most frequently. About half of the faculty said they used oral presentations in at least some classes. Examining use in 2004 and 1993, some interesting differences are noted. In general, the number of faculty who said they used all three techniques in all classes was higher in 2004 than in 1993. For example, nearly twice as many 2004 faculty said they used multiple drafts of written work in all classes compared to responses from 1993 (11–19 %) and about a third more said they used students evaluations of each other's work (11.3–16.7 %) and oral presentations in all classes (20.6–29.3 %).

Although comparable items for 1993 are not available, Table 17.2 shows the percentage of 2004 faculty who used group/team projects and service-learning, community, or co-op experiences. Responses show that just under half of the faculty used group/team projects and about 25 % of the faculty used service learning/community/co-op. Of the five learner-centered techniques examined in this study, service learning was used the least.

Table 17.3 presents the proportion of faculty using learner-centered assessments by select demographic and institutional characteristics. Generally, across the assessment techniques at both time points, female and full-time faculty reported using these techniques significantly more than male and part-time faculty, respectively. Compared to faculty in other ranks, full professors reported using all five techniques less; generally, associate and assistant professors and lecturers indicated using the techniques most frequently. Tenured faculty reported lower levels of use than tenure-track faculty and those not in a tenure-track position. Examining use by Carnegie group revealed that faculty members in bachelor's/liberal arts and master's/comprehensive institutions employed these assessment techniques more frequently than peers in doctorate- and associate-granting institutions.

Table 17.3 also allows us to examine differences between 1993 to 2004 for three of the learner-centered assessment techniques. Although not a strict statistical comparison is shown, faculty in the 2004 study reported use of multiple drafts more frequently than respondents in 1993 (at all ranks and in all tenure groups), but the use of oral presentations and student evaluations of each other's work was at about the same rate across the two time points. Both male and female faculty reported higher use of multiple drafts in 2004 compared to 1993; however, female faculty reported higher use of all three assessment techniques than male peers. The use of learner-centered assessment by non-tenure-eligible faculty varied at the two time points and when compared to tenure-eligible faculty. Generally, non-tenure-eligible faculty used these assessment techniques less than tenured or tenure-track faculty, with one exception. Faculty respondents in 2004 who worked in institutions without a tenure system said they used service-learning assignments more

often than any other faculty group. The use of the assessment techniques by institution type remained fairly similar at both time points.

Table 17.4 examines the use of these techniques by institutional level. Overall, the use of these learner-centered assessment techniques did not vary substantially across institution type. In general, faculty members in doctorate-granting institutions reported at least some use of each technique at about the same rate as peers in other four-year and two-year institutions. Similar to figures in Table 17.3, faculty use of specific techniques shown in Table 17.4 varies by technique. For example, in 2004, about 60–70 % of faculty members use student oral presentations, while only about a third have included service-learning assignments in their courses.

Table 17.5 examines the use of learner-centered assessment techniques by teaching discipline. The first three columns highlight use of the techniques, based on responses from the 1993 survey. Generally, about 30–40 % of 1993 faculty used multiple drafts and students' evaluations of each other's work and about 60–70 % used oral presentations. The use of the techniques in 1993 is remarkably consistent across disciplines. The last five columns of Table 17.5 show the use of the techniques in 2004. Faculty member use of the five techniques ranges from approximately 20 % to over 80 %. For example, 2004 faculty members in math and statistics and engineering and architecture report the lowest use of the assessment techniques, while faculty members in education and English report the highest use. It is also of interest to examine the variation in use of student evaluations of each other's work by discipline; where over 70 % of faculty members in English languages and literatures report the use of student evaluations, only about 15 % of mathematics and statistics and physical sciences faculty use this technique. This may indicate faculty member preference for certain instructional pedagogy or perhaps concern that students have not yet mastered the content of that course and are not yet able to evaluate their peers' work.

17.8 Discussion

Noting the increased calls for innovation in student learning and assessment of learning, this study examines current use of learner-centered assessment techniques in US colleges and universities. Overall, results from this study indicate that many of today's postsecondary faculty members are using some of the assessment techniques considered to be best practice in terms of learner-centered instruction. In addition, results examined herein show that general rate of learner-centered assessment in 2004 is similar and, in some cases, higher than rates reported in 1993. The increased rates may be an indication of success in organizational change as it relates to the use of assessment for institutional accountability. Although results reported herein are not controlled comparisons of responses in 1993–2004, the use of weighted data and the fact that both datasets represent a very large proportion of faculty in two- and four-year institutions enables us to examine the two populations with relative comparability.

Table 17.5 Proportion of faculty using learner-centered assessment in some or all classes by teaching discipline

Variable	1993			2004				
	Multiple drafts	Oral presentations	Student evaluations each other's work	Multiple drafts	Oral presentations	Student evaluations each other's work	Group projects	Service-learning assignments
	%	%	%	%	%	%	%	%
Agriculture, Natural resources, home economics	37.3	63.3	33.8	33.6	60.9	31.7	65.3	34.3
Business, management, marketing, economic	35.4	67.5	41.3	36.0	65.9	40.6	66.8	31.6
Biological science and biomedical science	35.7	69.2	38.7	33.9	50.5	26.3	50.2	11.4
Communication, journalism	40.5	68.5	45.8	55.1	83.6	64.9	72.8	42.9
Computer sciences	41.9	66.1	36.9	28.0	56.6	32.8	61.8	24.1
Education	35.2	70.4	41.2	56.2	81.2	54.2	72.8	53.0
Engineering and architecture	36.1	65.1	35.6	27.3	57.3	30.3	65.7	23.8
English languages and literature	38.1	66.8	41.8	86.6	72.5	71.6	57.5	16.6
Fine arts, visual, and performing	33.9	69.1	43.0	29.8	68.3	53.0	49.4	26.9
Foreign language and literature	32.1	64.5	42.8	61.7	83.7	35.0	50.7	18.9
Health professions	32.5	62.5	34.1	29.0	68.2	26.3	58.7	53.4
Legal professions	29.4	68.1	38.9	41.1	52.4	15.3	41.2	21.5

(continued)

Table 17.5 (continued)

Variable	1993			2004				
	Multiple drafts	Oral presentations	Student evaluations each other's work	Multiple drafts	Oral presentations	Student evaluations each other's work	Group projects	Service-learning assignments
	%	%	%	%	%	%	%	%
Mathematics and statistics	33.8	65.9	41.2	17.1	27.1	15.9	37.1	7.8
Philosophy	41.2	68.7	39.8	42.7	57.0	24.7	38.4	16.6
Physical sciences	38.7	63.8	39.9	29.0	40.4	18.1	46.7	7.9
Psychology	37.7	70.3	44.2	46.7	60.5	28.9	55.2	27.5
Other social sciences	34.7	67.4	41.4	46.0	58.1	24.2	42.3	24.2

Note All percentages are based on weighted scores; due to rounding, totals may not equal 100

To create similar categories for 1993 and 2004, some teaching disciplines were combined; across the two time points, some of the categories listed may include slightly different mix of disciplines. Faculty members in "other" categories not included

In both the last decade of the twentieth century as well as in the first decade of the new millennium, more than 50 % of all faculty members in both NSOPF surveys reported using oral presentations in at least some of their classes and about twice as many 2004 faculty used multiple drafts in all classes compared to rates in 1993. In general, faculty in the arts and humanities disciplines reported higher use of the assessment techniques compared to mathematics, engineering, and physical sciences. This finding is consistent with differences in the use of deep learning approaches and significant differences found by discipline (Nelson Laird and Garver 2010). In addition, changes in student enrollments over the decade, the addition or elimination of certain undergraduate majors, and increased discussion of learner-centered instruction and assessment may affect the frequency of use from 1993 to 2004.

Two additional techniques that fit the definition of learner-centered assessment were included in the 2004 survey. These additions for the use of group/team projects and service learning may likely reflect new considerations in how faculty can best facilitate student learning today. About half of the respondents said they used group or team projects in at least some classes and about 25 % said they used service-learning/co-op projects. Although about one-quarter of the faculty said they used of service learning in at least some classes, it is the least used of the five assessment techniques. This lower use may be due to the specific courses being offered during the time the survey was completed, faculty member lack of familiarity with how to incorporate the techniques, and/or institutional resources (or lack of) for service activities. The negative relationship between satisfaction with workload and use of the assessment techniques (confirmed in separate correlation analyses), and that the relationship is even more strongly negative in 2004, is concerning. Faculty may experience and/or perceive expectations for spending more time on instruction, which may leave less time for research, service, or other activities.

The use of assessment techniques over the 11 years from 1993 to 2004 came at a time when US postsecondary education has experienced changes in faculty demographics and economic declines that might have affected the amount of time apportioned to various work tasks, expectations for teaching versus research, institutional decisions on resource allocation, and, perhaps, an indication of some level of institutional isomorphism. Compared to 1993 demographic characteristics, more of the 2004 respondents were female, employed in tenure-ineligible lines, and serving as lecturers. Similar to Umbach's (2008) results, current findings show that full-time faculty members use these assessment techniques more frequently than their part-time peers.

It is quite possible that changes in the use of learner-centered assessment may be affected by faculty demographics and/or institutional resources. For example, lecturers, part-time faculty, or those with higher teaching loads may not feel as committed to putting forth extra efforts for instruction and/or receive fewer opportunities for faculty development that emphasize these innovations. Lower state appropriations in the new millennium may have forced institutions to cover a higher percentage of costs for instruction through other means and may have

resulted in reduced resources allocated for tenure-track faculty and instruction (such as computers and/or classroom renovations for small group discussions). As competition for students and star faculty continues, institution officials seek to incorporate policies and practices that attract prospects. For some institutions, the strategy has been to market itself uniquely, while for others, it is to engage in activities accomplished by aspirants. When this happens, it can lead to an institution that looks more like many others than a unique institution, perhaps affirming DiMaggio and Powell's (1983) assertion of institutional isomorphism.

Although it would go counter to a claim for institutional similarity across all institutional levels, it is not fully surprising that faculty at bachelor's and master's granting institutions reported higher use of these techniques than doctoral universities. Typically, the mission of bachelor's and master's level institutions in the USA is more focused on teaching, and therefore, one would expect to find greater emphasis and reward for progressive teaching and assessment practices. However, the finding of lower satisfaction with workload may make sense based on their higher teaching loads than peers in doctoral institutions. Faculty in associate-granting institutions may be less likely to adopt learner-centered assessment practices and more likely to emphasize students' comprehension of factual knowledge because of the focus on vocational training. Interestingly, however, faculty in two-year colleges showed the highest use of service-learning techniques, which makes sense in light of the strong mission of two-year institutions to meet the needs of their surrounding community. While some scholars such as Ewell (2002) argue for the benefits of learner-centered assessment at all levels of post-secondary education, results showed lower use of the assessment techniques in doctorate-granting universities than all other institution types. Perhaps there is greater resistance to change for faculty in doctoral institutions, and perhaps it is due to greater faculty focus on tasks other than teaching (i.e., research), not knowing how or not feeling comfortable with new assessment techniques in large classes, or not seeing institutional reward for incorporating innovations in teaching.

As shown in the tables above, differences in the use of learner-centered assessment were found in the proportion of use by gender, rank, discipline, time status, and institution level. Differences by discipline generally showed that instructors who teach humanities and education courses use these assessment techniques more than faculty in other fields. This difference by discipline, however, could be affected by changes in majors as well as changes in the composition of faculty (to more female, lecturers, and those on non-tenure track). Additional analyses for the use of assessment techniques by demographic characteristics at the institution level are warranted, as well as additional data that can match assessment techniques to actual learning.

Differences by individual characteristics previously noted may indicate some, but relatively small, level of individual resistance to change. The average age of respondents in 2004 was almost 3 years older than that from 1993, which may indicate some "graying" of the professoriate in general. Faculty who were employed in postsecondary education in both 1993 and 2004 may have become

more willing to incorporate these techniques over time, or perhaps moved into positions in which they spent less than 50 % of their time in instruction. On the contrary, however, the fact that full professors use the techniques less (at both time points) may indicate some resistance to change, especially after one has reached the security of tenure. It is curious that faculty who use the techniques reported lower satisfaction with workload. Perhaps this indicates that the assessment techniques were perceived to take more time or effort than traditional assessments such as multiple choice examinations and, as a result, cause a negative effect on satisfaction with workload. The finding that faculty in the physical science and engineering disciplines use these techniques less than peers in the humanities and soft sciences may indicate important differences in the curriculum; however, the fact that there is consistently lower use by faculty in the science and engineering disciplines in 1993 and 2004 may also indicate some resistance to change. Such hesitancy from a large group of faculty could thwart an institution's ability to change and would mitigate the incorporation of new innovations such as learner-centered assessment into its accountability procedures.

Larger institutions and/or those with a higher student to faculty ratio may have more resources (both facilities and operating dollars) for faculty development, facilities, and equipment that may aid the use of these techniques. However, some smaller colleges that specifically seek a high student focus may have activities and instructional innovations embedded in the institution's culture and that facilitate learner-centered assessment. Although differences in institutional apportionments to instruction would be counter to the concept of isomorphism, I hypothesized that institutions that allocate more funds to instruction would have faculty who use these techniques more frequently. Additional funds, I thought, would prompt the inclusion of faculty workshops and other training that would contribute to an enlivened culture of innovative instruction and assessment for learning. I do not know that faculty training did not occur; perhaps it did, but is not part of the available data. Additional study of the role of resources apportioned to instruction is also merited. Perhaps the use of the instructional expense ratio is not detailed enough. For example, the portion of instructional funds committed separately for activities such as salaries, classroom renovation, and expenses for assessment may provide greater insight.

Although the use of learner-centered assessment can be an effective gauge to measure authentic learning, the use of these techniques alone does not ensure high levels of student learning. Data in the NSOPF surveys do not include measures of learning, so it is not possible to know from these data the true relationship between the use of assessment techniques and actual learning outcomes. Data that directly link instructional pedagogy, assessment techniques, and discrete learning outcomes are needed, but I know of no multi-institution or national data source that is available for study. It is also possible that faculty may have reported higher use of the assessment techniques than were actually implemented. Similar data from students on their experience with these techniques would help to corroborate, but are not available in these data.

Faculty who responded to these surveys may have engaged in these assessment techniques before or after the two-year period, and thus, the rates reported herein represent efforts only for that two-year period. It is also acknowledged that all data are captured from two self-report surveys. Respondents could have inflated their responses, but in general, self-report data are purported to be reasonably accurate (Tourangeau et al. 2000).

17.9 Implications and Recommendations

It is clear from this body of research that learner-centered assessment is considered a valued practice in higher education today. Findings from this study confirm the use of learner-centered assessment techniques in higher education in the new millennium and reveal that many faculty members have embraced learner-centered assessment techniques as an effective way to measure and promote student learning. Because faculty reports in 2004 showed similar or higher use for many of the assessment techniques in relation to faculty in 1993, resistance to change appears minimal. Where there is less resistance, innovations in assessment can more easily occur, and such innovations can be a sign of organizational change. It seems likely that the larger assessment movement in higher education has taken hold in the classroom, and the use of these assessment techniques can be one piece of an institution's effectiveness plan. Thus, findings herein may indicate that organization change has occurred in the use of learner-centered assessment in the classroom and as a measure of institutional accountability.

While there is evidence of learning assessment occurring in all levels of post-secondary education, the extent to which faculty use these techniques varies by institution, faculty type, and assessment technique. For example, faculty members appear less likely to use peer evaluation and service-learning/co-op opportunities than other techniques. This may be due to less familiarity with these techniques and/or more resources needed to implement them. However, a growing body of literature propels service learning as a highly effective pedagogical technique. Smith (2008), for example, distinguished it as, "one of the most pervasive education innovations of the past generation" (p. 5). Vogelgesang and Astin (2000) described it as a, "potentially powerful form of pedagogy," highlighting the value of students connecting content learned in the classroom to "real-world" problems (p. 25). These quotes capture the belief that infusing service learning into traditional curricula can improve student learning outcomes. To ensure continued and increased use of these techniques, senior administrators might showcase existing good practice as well as consider the allocation of resources for workshops or other training seminars to help faculty become familiar with service-learning and other related techniques. In addition, skilled professionals in offices of teaching and learning should be called upon to lead or facilitate workshops. These professionals are often quite knowledgeable of proven and best practice activities related to teaching and learning.

In addition to contributing to the success of faculty, these findings have implications for student success. If these techniques promote more effective learning, and if students become aware of differences based on the use of these techniques, students may wish to enroll in courses that include these assessment activities. The increase in the use of multiple drafts may indicate that students learn in successive approximation. Multiple drafts may allow students to focus on one or two points at a time, gradually incorporating pieces of knowledge or more advanced writing skills. By using these techniques more often, female faculty may develop a more interactive, friendly environment in the classroom. Because a positive environment and good faculty-student rapport encourages student engagement (Angelo and Cross 1993; Kuh 1996; McKeachie et al. 1971), institutional leaders may wish to encourage the use of these assessment techniques, perhaps through faculty workshops or other additional expenditures apportioned to instruction. Since, however, female faculty members are using these techniques more than male peers, institutional leaders may wish to emphasize the benefits of these techniques to male faculty and monitor enrollments by faculty gender to ensure even enrollments for male and female faculty.

The fact that full-time faculty are using these techniques more than part-time peers may indicate greater dedication to instruction for full-timers. Another explanation is that full-time faculty have more time to prepare for instruction generally and assessment activities in particular. Full-time faculty may also have more opportunities to participate in professional development opportunities, such as training workshops and discussions with other faculty on innovations in teaching and learning. As a result, full-time faculty may also be more motivated to integrate progressive practices in their classes. As institution officials employ more part-time faculty during economic downturns, caution must be taken and to ensure that the quality of instruction and assessment of learning does not decrease. Clear messages on the importance of effective assessment as well as faculty training to provide needed information and guidance on how to ensure effective pedagogy and learner-centered assessment may be required.

Interestingly, results demonstrated that tenured faculty members used some of these assessment techniques less than the non-tenured faculty. Consistent with that reported by Kezar and Sam (2010), this finding may be due to the fact that non-tenured faculty are earlier in their career, recently our graduate school and/or spend more time on instruction (while full professors may be more engaged in research), and/or could also indicate that more non-tenured faculty members are working in institutions that have a stronger focus on instruction. These institutions may provide training in learner-centered assessment or otherwise encourage the use of these assessment techniques. If institutional leaders desire higher use of these activities, faculty training should be offered, as well as clear messages on the value of learner-centered assessment.

Differences in frequency of use by discipline may be the result of different topical content and/or cultural differences by department. For example, faculty who teach courses with more hands-on applications of content may find it easier to integrate learner-centered techniques in their courses. It is noteworthy that, in

general, even though the use increased from 1993 to 2004, faculty members in many of the hard disciplines report using these techniques less than peers in the soft disciplines. While medical school and some biology curricula have used problem-based learning for at least two decades (Duch et al. 2001; Wood 2004), some other science disciplines may not be using this or other pedagogies that include learner-centered assessment. Institution officials may wish to showcase the innovations of select faculty who can serve as peer mentors and role models to other faculty. To help propel the message, institutions' officials may wish to provide small summer stipends for faculty members who incorporate new assessment techniques in their courses or designate a learner-centered instructor of the year. Along with summer stipends, there are a number of relatively inexpensive institutional activities or rewards that can be offered to encourage faculty to increase their use of learning assessment which may in turn contribute to continued institutional success.

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