Assessment of Campus Climate to Enhance Student Success

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Abstract

This article describes the development, content, and use of four questionnaires that comprise the Assessment of Campus Climate to Enhance Student Success with the focus on the Faculty Questionnaire. Faculty development activities are described as an example of how the questionnaires can be used to enhance knowledge and change attitudes and practices. The results showed significant increase in faculty knowledge and changes in practices. Questionnaire findings were compared to the results of analyzing the wording and location of a welcoming paragraph in syllabi as an example of changes in faculty practices and as a method to validate questionnaire findings. Lastly, a service/research partnership with the Association on Higher Education And Disability (AHEAD) organization is described, which will provide access to the questionnaires to facilitate improving campus climate to enhance the academic success of students with disabilities.

Concern about academic success for students with disabilities in higher education has increased as the proportion of students with disabilities has increased. The proportion of first-year full-time students with disabilities increased almost four-fold from 2.3% in 1978 to 9.8% 20 years later (Henderson, 1999). This finding was corroborated by the U.S. Department of Education (USDO, 2000) (USDO, 2003) when students with disabilities in all years of undergraduate education were found to represent 9% of the total college population (Horn, Peter, & Rooney, 2002).

Although entrance to college or university is a major first step, the ultimate goal is degree completion. Limited research regarding graduation rates of students with disabilities in general has reported a bleak picture. Students with disabilities were less likely to complete their undergraduate degree than students without disabilities (Horn & Berktold, 1999; Murray, Goldstein, Nourse, & Edgar, 2000; National Center for Education Statistics, 1999; Rath & Royer, 2002). However, there were exceptions to these findings, and graduation rates were the same for those with and without disabilities when the former had access to comprehensive support services (Cowles & Keim, 1995; Vogel & Adelman, 2000). Nevertheless, in most cases, students with disabilities graduated at a lower rate, and those who did not graduate were more often unemployed, employed part-time, or held jobs in occupations that were not of equivalent status or salary to that of their nondisabled peers (Dickinson & Verbeck, 2002; U.S. Department of Education, 2000; Vogel & Reder, 1998).

These findings have led to growing concern and inquiry regarding barriers to academic success that create a chilly classroom climate for students with disabilities in higher education. Hall and Sandler (1982) and Beilke (1999) characterized the behaviors of

faculty that contribute to this atmosphere as ignoring, interrupting, distancing, avoiding eye contact, criticizing, offering limited guidance, and attributing success, when it did occur, to factors other than students' ability or hard work. These behaviors resulted in students' loss of self-confidence, feelings of second-class status, disempowerment, and marginalization. Because faculty knowledge, attitude, and behaviors are considered to have the most significant impact on students' academic success (Kurth & Mellard, 2006; Wilson, Getzel, & Brown, 2000), the focus of this article and literature review is mainly on faculty knowledge, attitude, and behaviors.

Although some researchers reported that faculty were in general willing to provide accommodations and often did so (Houck, Asselin, Troutman, & Arrington, 1992; Leyser, Vogel, Brulle, & Wyland, 1998; Nelson, Dodd, & Smith, 1990), many reported they lacked basic knowledge regarding disabilities. This lack of basic knowledge included not only knowledge regarding disabilities, but also knowledge regarding legal mandates and provision of reasonable accommodations (Dona & Edmister, 2001; Kurth & Mellard, 2006; Leyser et al., 1998; Thompson, Bethea, & Turner, 1997).

When faculty lacked knowledge about disabilities (especially nonvisible disabilities such as learning disabilities, attention deficit hyperactivity disorder, and psychiatric disabilities), they sometimes exhibited behaviors that students described as skeptical or suspicious regarding the existence of their disability. Students also reported that faculty made negative comments about them, their disability, and their need for accommodations (Beilke, 1999; Jensen, McCrary, Krampe, & Cooper, 2004; Kurth & Mellard, 2006; Perry & Franklin, 2006; Wilson, Getzel et al., 2000).

Such perceived negative attitudes were identified as one of the most significant barriers to student academic success (Deshler, Ellis, & Lenz, 1996; Dona & Edmister, 2001; Hill, 1996; Kruse, Elacqua, & Rapaport, 1998; Kurth & Mellard, 2006; Lehmann, Davies, & Laurin, 2000; Wilson et al., 2000). When faced with negative attitudes, students reported feeling intimidated and reluctant to disclose their disability and request accommodations (Bourke, Strehorn, & Silver, 2000; Norton, 1997; Perry & Franklin, 2006) and were at increased risk of lower grades and academic failure.

In spite of the importance of faculty attitude, limited research has been conducted regarding the characteristics of faculty with more positive attitudes. Ibrahim and Herr (1982), Junco and Salter (2004), Leyser et al. (1998), Rao (2004), and Salzberg et al. (2002) noted consistently that female faculty, faculty with more contact (whether personal or in teaching), and faculty in fields of education and social science had more positive attitudes. However, much more important were the few studies that confirmed that faculty who had more knowledge about legal mandates and disabilities were more likely to have positive attitudes (Leyser et al., 1998; McGee, 1989; Rao, 2004). Yet, Leyser also reported that in spite of willingness to provide accommodations, 82% of faculty reported that they had little or no knowledge about providing accommodations. These studies led Salzberg (2003) to the strong recommendation that all faculty attend 2-3 hours of mandatory training. However, because Disabled Support Services Directors have typically reported poor attendance at such workshops, Burgstahler and Doe (2006), Scott and Gregg (2000), and Vogel, Leyser, Wyland, and Brulle, (1999) recommended offering alternative strategies of staff development for infusion of information such as short workshops, speakers, online delivery of presentations/videos/ PowerPoint™ presentations on demand, and making online and/or hard copy of well designed information, and web-based information available 24/7.

Not surprising, even more faculty lacked in-depth understanding of more recent instructional innovations such as the principles of universal design and accessible electronic instructional materials (McGuire & Scott, 2006; McGuire, Scott, & Shaw, 2004; Vogel, Holt, Sligar, & Er, 2005; Vogel et al., 1999). Lack of such information makes it even more critical for each institution to assess faculty knowledge periodically and provide an infusion of information customized to faculty's interests and needs. Moreover, identification of faculty members' preferred method of delivery, time frame, media, and format is a critical first step in faculty willingness to collaborate and partake in staff development (Burgstahler, 2001, 2002, 2007; Burgstahler & Doe, 2006; Debrand & Salzberg, 2005; Junco & Salter, 2004; Salzberg, et al., 2002; Scott & Gregg, 2000; Vasek, 2005; Vogel et al., 2005).

Recently, awareness and concern regarding faculty attitude, knowledge, and practices have been broadened to include attitude and knowledge of students without disabilities. While we would expect that classmates without disabilities would have a positive attitude toward students with disabilities receiving accommodations, from the very limited research completed to date, we know this is not always the case. For example, Perry and Franklin (2006) reported that some students with disabilities experienced negative nonverbal communication from students without dis-

abilities who may reflect the faculty's perception that accommodations penalize students without disabilities. If students without disabilities lack information about disabilities and the law, they may be of the opinion that accommodations are unnecessary, discriminatory, or both, and mistakenly believe that they give students with disabilities an unfair advantage. Once they become aware of students with disabilities receiving accommodations, students without disabilities may be less willing to collaborate with them on in-class or out-of-class assignments.

These negative attitudes and behaviors may be a double-edged sword, making students with disabilities less likely to disclose and/or request accommodations so their disability or an accommodation does not become apparent to students without disabilities. The resulting impact of the lack of accommodations will, inevitably have a significant negative impact on their academic success.

History of the Development of the Faculty Questionnaire

In the 1980s, researchers began to express interest in exploring the impact on faculty of the increase in the number of students with disabilities in higher education. One of the first to study this issue was Leyser (1989), who developed an initial questionnaire on the topic. His survey instrument was limited to students with learning disabilities because this disability was one of the most complex, and accommodations in higher education were in the infancy stage of development. Moreover, the number of college students with learning disabilities was rapidly increasing at the time, and there was concern about faculty willingness to provide accommodations as well as attitudes toward students with learning disabilities.

Ten years later, Leyser, Vogel, Wyland, and Brulle (1998) updated Leyser's questionnaire to determine if the passage of time since implementation of Section 504 and continuing increases in the number of students with LD in higher education had resulted in changes in knowledge, practices, and willingness to provide accommodations. Also investigated were how faculty in professional preparation programs like teaching were impacted by the increase in requests for accommodations, especially in entrance examinations and clinical experiences (Vogel et al., 1999; Wertheim, Vogel, & Brulle, 1998).

In 2001, the faculty questionnaire was further refined, updated, and broadened to include all disabilities. In addition, item-level analyses and reliability analyses were conducted to ensure that credible inferences could be made from the surveys. The purpose of the current study was twofold. First, the study evaluated faculty knowledge, attitudes, practices, and topics of interests regarding students with disabilities and assessed change in these characteristics after interventions to increase knowledge-base and improve campus climate for students with disabilities. Second, the study assessed the effectiveness of the faculty questionnaire to evaluate campus climate for students with disabilities.

Method

Participants

All faculty received an e-mailed letter from the project director inviting them to respond and providing the URL to find the questionnaire online or to print a PDF version. A reminder e-mail was sent three weeks later. Faculty included all full-time and part-time tenured and tenure-track faculty, instructors, and teaching assistants, based on the assumption that all of the above individuals have a direct impact on student academic success.

In Year One, 271 faculty replied, yielding a 28% response rate. In Year Three, 109 faculty responded, yielding an 8.9% response rate. Faculty were 93% (Year One) and 94% (Year Three) full-time, 79% (Year One) and 77% (Year Three) were tenured or tenure track, and they were equally divided between males and females in Year One with slightly more females (59%) than males in Year Three. For the most part, the respondents had considerable teaching experience, with 60% (Year One) and 69% (Year Three) having 11 or more years of experience. Fifty-two percent (Year One) and 55% (Year Three) of the faculty were either associate or full professors, and 69% (Year One) and 61% (Year Three) were between the ages of 36 and 55. With the exception of gender distribution, the demographic information indicated that the respondents were representative of the demographics of the faculty as a whole in that more than half had longevity and seniority in the institution and were seasoned teachers.

Setting

This overview provides findings from the faculty questionnaire used over a three-year period at Northern Illinois University, a large midwestern doctoral-degree-granting public university (Vogel et al., 2005). Faculty are associated with seven colleges in the university: Business, Education, Engineering and Engineering Technology, Health and Human Sciences, Law, Liberal Arts and Sciences, and Visual and Performing Arts.

Study Design

In this longitudinal study, data were collected at two times, 2002 and 2004 from the same population of faculty. Faculty were re-sampled in 2004 and, therefore, were not necessarily the same individuals who responded in 2002 and 2004. At both data collection points, a web survey was administered online with the option to print and return the hard copy of the survey. During the time between the 2002 and 2004, alternative staff development interventions were provided to the campus community as a whole, designed to increase knowledge base, thereby creating a more positive climate toward students with disabilities.

Instrumentation

Development of questionnaire. The faculty questionnaire used in this study was developed within a global higher education context because faculty members are not the only ones who play an important role in student academic success. A suite of questionnaires was developed for assessing campus climate among four campus groups: faculty, administrators and staff, students with disabilities, and students without disabilities.

The administrators and staff questionnaire was developed because these constituents influence the campus climate, especially in students' initial contact with the institution; for example, in meeting with admissions, financial aid, work-study, advisors, registration and records, housing, and transportation staff. Many administrators and staff also play a major role in providing direct support in meeting the needs of students with disabilities such as the disability services staff, those in special admissions and outreach to applicants with disabilities, legal counsel, ADA, Sections 504 and 508 compliance officers, affirmative action, diversity, housing, transportation, financial aid, counseling, advising, library and assistive technology, and information technology for students with disabilities. Administrators also have traditionally had a major responsibility in determining policies and procedures that impact students with disabilities, such as determination of major and graduation requirements, policies pertaining to course substitutions, modification of requirements, grievance procedures, and accessibility of online information on the institution's Web sites.

More recently, faculty have been involved in the development of such policies as well, especially when they are directly affected, as in delivering instruction online or in electronic communication related to learning, to mention only a few. For this reason, the Faculty Questionnaire also included items regarding policies and procedures.

The third questionnaire enabled a critical voice to be heard; namely, that of students with disabilities. Students with disabilities were asked to report their firsthand experiences and to assess faculty, administrators, and staff knowledge, attitudes, and needs for further information. Their input told us the "way it is" and served to cross-validate what we learned about the campus climate from the other three constituents' self-report. Indeed, the input from students with disabilities is the litmus test regarding campus climate.

A fourth questionnaire allowed students without disabilities to report their knowledge about disabilities, legal mandates, fairness of accommodations, and need for more information. They are important constituents on every college campus because they also contribute significantly to the classroom environment, especially when learning is collaborative. Because many disabilities are visible and are apparent to others when students with visible disabilities receive accommodations, students without disabilities are able to observe when such students are receiving accommodations. Students with visible disabilities may experience disability stigma as a result of the negative attitude of students without disabilities in their classes. In addition, when students with hidden disabilities disclose their disability and needed accommodations to their instructor and receive classroom or examination accommodations, students without disabilities can observe this and may express resentment and be unfriendly, if not worse.

The content of the students without disabilities questionnaire resembles the faculty and administrator/staff questionnaires and includes questions regarding experience, knowledge, attitude, and need for information. For these reasons, students without disabilities are included in the assessment of campus climate and should be included in targeted activities to enhance knowledge about disabilities and change in attitudes.

To date, one or more of the questionnaires have been distributed to faculty, administrators, staff, and students in the United States on seven campuses and to the national membership of the professional organization of occupational therapists (Foss, 2002; Vasek, 2005; Vogel et al., 2005; Vogel, Leyser, Burgstahler, Sligar, & Zecker, 2006). In addition, the faculty questionnaire was distributed to the faculty in an Israeli college of education (Leyser, 2003). The U.S. institutions included three large, doctoral-degree-granting public institutions, two private colleges/universities that offered undergraduate, master's, and professional

degrees, and two associate-degree-granting public colleges in the midwest and northwest of the United States. (Further information about this suite of four updated and expanded questionnaires is available at www.ahead.org.)

Faculty questionnaire content. The faculty questionnaire consists of 35 items divided into five subgroups: (a) knowledge, (b) practices, (c) attitudes, (d) topics of interest, and (e) alternative methods for staff development opportunities. The *knowledge* subgroup consists of items regarding disabilities, the law germane to disabilities in higher education, accommodations, policies and procedures, universal design of instruction and assessment, accessible online instructional material, and the office of disability services. Items regarding *practices* include provision or willingness to provide accommodations, inclusion of a paragraph in syllabi regarding needed accommodations, incorporation of principles of universal design and accessibility of electronic instructional materials in teaching, and development and/or dissemination of policies and procedures germane to students with disabilities. The *attitude* domain is assessed by items regarding the fairness of specific accommodations, policies, and modifications to department or institution requirements vis a vis students without disabilities. In addition, faculty were asked about their assessment of the abilities of students with specific disabilities to complete the requirements of certain professions and to perform satisfactorily once employed. Faculty were asked about their interest in specific topics for future learning opportunities and preferred methods to acquire information such as workshops, speakers, web-based information, or credit and non-credit e-Learning courses. The final section of the questionnaire pertains to demographic information. (Sample items from the faculty questionnaire appear in Figure 1.)

Figure 1.
Sample items from faculty questionnaire.

Knowledge

How knowledgeable are you regarding strategies to make online and electronic instructional materials accessible to students with print disabilities?

Response alternatives are on a Likert scale from 1-6 with 1) To a Very Limited Extent and 6) To a Very Large Extent, plus Not At all, and Not Applicable.

Practices

How often have you included a statement in your syllabus regarding provision of accommodations for students with documented disabilities?

Response alternatives are on a Likert scale from 1-6 with 1) To a Very Limited Extent and 6) To a Very Large Extent, plus Not At all, and Not Applicable.

Attitude

Fairness Item. Indicate how fair it is for students without disabilities when students with documented disabilities are provided priority registration.

Response alternatives are on a Likert scale from 1-6 with 1) Unfair and 6) Fair.

Expectation Item

Professionals with disabilities may be as effective on the job as
professionals without disabilities in the same occupation.

Response alternatives are on a Likert scale from 1-6 with 1) Strongly Disagree and 6) Strongly Agree.

One of the steps in the revision of the 1998 questionnaire was to solicit and incorporate feedback from a representative group of colleagues from various institutional perspectives, including teaching faculty, researchers, administrators, and disability service providers from a variety of institutions (public/private, competitive/open admissions, undergraduate/graduate). These individuals were members of a professional group of colleagues in central and northern Illinois who were interested in students with disabilities in higher education. They were asked for feedback regarding item and directions clarity, possible item bias, and/or additional items needed. Their comments were incorporated, redundant items were deleted, and new items added to reflect cutting-edge issues and developments in the field.

In 2001, the faculty questionnaire was further refined, updated, and broadened to include all disabilities. Because of sensitivity surrounding items of fairness, several new items were developed to assess attitude toward students with disabilities. A group of students with disabilities who regularly participated in a focus group at the University of Hawaii (Stodden, personal communication) were asked to provide feedback on items that may have lacked clarity, were misleading, or possibly biased (with special attention to the fairness items). Respondents' feedback was subsequently incorporated into the questionnaire.

Item construction. The majority of items were structured and used a six-point Likert response scale ranging from 1, indicating low degree of support, unwillingness to accommodate, or strong disagreement with the statement, to 6, reflecting high level of support or willingness to accommodate, or strong agreement with the statement. For some items, there were additional response options, including "Not At All," "No Need, " "Not Involved," "Don't Know," "Not Applicable," or " No Experience" (see Figure 1). Responses related to these additional response options were treated as missing data in quantitative analyses.

Administration of questionnaires. The questionnaires were administered in Years One and Three of the Enhancing Success for Students with Disabilities in Higher Education Project (http://www.niu.edu/enhancingsuccess), a project designed to enhance the overall campus climate and all campus constituents' knowledge, willingness to provide accommodations, and practices regarding students with disabilities in order to enhance their academic success.

Reliability. Internal consistency reliability was computed for the four faculty composite variables: knowledge, fair accommodations, fair modifications, and faculty needs and interests across the two doctoral-degree-granting public institutions and one associates-degree-granting public institution that participated in the project. Although reliability of the fairness of providing accommodations and fairness of providing modifications were computed separately, these two constructs together are considered a reflection of attitude toward students with disabilities.

Cronbach's alpha reliability for the four constructs indicated that the scores provided adequate evidence of the reliability of the items for each construct. The Cronbach alpha reliabilities were well above the threshold of .7 for all composites (see Table 1). Considering that these constructs consisted of between three and eight items, the reliability is considered greater than adequate evidence of the reliability of the scores for each construct in the three questionnaires.

Table 1

Reliability of Faculty Composite Scores for Years One and Three

	Cronbach alpha Year 1	*Cronbach alpha Year 3*
Faculty Knowledge	.718 (4)	.829 (4)
Fair Accommodations	.741 (5)	.743 (4)
Fair Modifications	.796 (3)	.742 (3)
Faculty Needs and Interests	.902 (8)	.898 (8)

Note. Number of items is in parentheses.

Intervention

Staff development opportunities to acquire more information on a wide array of desired topics were made available in Years Two and Three of the project and included online web-based expertise on the Enhancing Success for Students with Disabilities Web site (http://www.niu.edu/enhancingsuccess). The Web site included information on disabilities, legal mandates and accommodations, links to other university and national Web sites, readings linked to full text, and PowerPoint™ presentations. For those who preferred live speakers, the project sponsored a series of motivational speakers and workshops on learning disabilities, visual disabilities, and hearing impairments. In addition, a collection of media and readings in hard copy were donated to the main library, and department chairs were asked to inform faculty of their availability.

We also offered a tuition-free, e-learning doctoral-level graduate course (Disabilities and Higher Education) in Years Two and Three. The course presented information about the legal mandates pertaining to disabilities in higher education, types of disabilities, and accommodations. Also included were the concepts of universal design for learning and examinations, common policies and procedures germane to higher education, and alternative strategies to provide staff development, A prerequisite for the course was that participants were to be employed in a higher education setting so they could apply the knowledge they acquired and design and provide a staff development activity so they would become change agents in their own department and/or administrative unit.

Data Analysis

Quantitative analysis. Frequencies were generated for demographic data. Descriptive statistics were calculated for all six-point Likert scale items. Frequencies were tallied and reported for those who responded "None At All ("NAA"), Likert scale responses 1 and 2 combined, and Likert scale responses 5 and 6 combined, since those responses were considered of special significance and utilized to plan staff development activities. Year One and Year Three item knowledge composite means as well as individual items were compared using independent samples *t*-tests. The significance level was set at .01 to avoid inflated Type I error and to maintain the family-wise error rate at a standard significance level.

The means and standard deviation were computed for Likert scale items to create four constructs of similar items (i.e., knowledge, fairness of accommodations, fairness of modifications, and need for further information). In this overview, only the subgroup of knowledge items for faculty were compared for Year One and Year Three to serve as a model of how the questionnaires can be used in summative evaluation. The mean scores on four knowledge items: knowledge about accommodations, knowledge about federal laws, knowledge about the office of disability services, and general knowledge about disabilities were statistically compared between Years One and Three. Independent-samples *t*-tests were used to compare means from the Year One and the Year Three samples. Effect sizes of mean differences were calculated and classified as small (i.e., $.2 \leq d < .5$), medium (i.e., $.5 \leq d < .8$), or large (i.e., $d \geq .8$; Cohen, 1988).

Qualitative analysis. The analysis of the open-ended questions followed a "general analytical strategy" (Yin, 1994, p. 103) that was applied in this within- and cross-case study with a descriptive approach that used terms from the questionnaires and quotes from the respondents to develop themes and nodes. These may be free (stand-alone) or hierarchical tree nodes with subcategories of children (Richards & Richards, 1994). The nodes allowed for quantification of occurrence and subsequent analysis to determine any relationship(s) between the nodes (Yin, 1994). The latter approach was completed through the use of the constant comparison method of data analysis with open and axial coding (Creswell, 1998). In Year One qualitative analysis of 846 comments from 413 faculty-generated three free nodes, five tree nodes, and nine children nodes. Illustrative quotes are included in the Results section.

We compared findings from Year One and Year Three and briefly described the staff development activities in the interim year. The focus was on: (a) Year One compared to Year Three information gaps and practices among faculty; (b) in-depth findings and supplementary research regarding the inclusion of a welcoming paragraph in syllabi; and (c) the use of the questionnaires in summative evaluation by comparing findings on the items that comprised the knowledge construct for faculty in Year One and Year Three.

Results

Faculty Knowledge in Years One and Three

We focused on the knowledge construct as an example of how to utilize the initial findings from the faculty questionnaire in planning staff development and measuring efficacy of intervention at a later time. The knowledge construct consisted of: (a) knowledge about legal mandates pertaining to disabilities in higher education; (b) knowledge regarding instructional and

examination accommodations; (c) knowledge about the office of disability services, and 4) general knowledge about disabilities. In the following, results are reported for the four knowledge items and the overall knowledge composite variable for Northern Illinois University.

Knowledge about disabilities. When faculty were asked about their level of knowledge regarding disabilities in general, almost one fourth (25%) in Year One reported that they had no knowledge at all (NAA) in contrast to only 1% in Year Three. Moreover, about half of the respondents in Year One reported that they had very limited knowledge (1 or 2 on a six-point scale) in contrast to 12% in Year Three. The remaining one fourth in Year One in contrast to one third in Year Three had a great deal of knowledge (5 or 6 on a six-point scale). The mean score for the Likert scale responses for this item increased from $M = 1.78$ ($SD = 1.45$) to $M = 3.94$ ($SD = 1.34$), confirming the significant increase in knowledge about disabilities with a large effect size, $t(240) = 12.83$, $p < .001$, $d = 1.53$ (see Table 2).

Knowledge about legal mandates. A bimodal distribution was reported in Year One with regard to knowledge about the legal mandates germane to higher education (ADA and Section 504 of the Rehabilitation Act). Twenty-one percent of the faculty indicated that they had no knowledge at all (NAA) regarding ADA and Section 504, and more than half (58%) rated themselves as having very limited knowledge (1 or 2 on a six-point scale). In contrast, 19% indicated they were very knowledgeable (5 or 6) about the legal mandates. The Likert scale mean was 2.33 (SD = 1.11), almost identical to the mean for the item regarding knowledge about disability services office. In Year Three, only 7% responded that they had no knowledge at all about the legal mandates, 16% rated their knowledge as very low, and 35% rated themselves as very knowledgeable. When the means for this Likert scale item were compared, there was a significant increase in Year Three ($M = 3.90$, $SD = 1.44$) as compared to Year One ($M = 2.33$, $SD = 1.11$) which was a large effect size, $t(186) = 8.9$, $p < .001$, $d = 1.24$ (see Table 2).

Knowledge about accommodations. In spite of limited knowledge about disabilities and the law in Year One, many faculty members were fairly knowledgeable about providing accommodations. Only 2% reported no knowledge at all (NAA) in providing accommodations, 19% reported very limited knowledge, and 31% reported they had a great deal of knowledge in providing accommodations. When the means for this Likert scale item were compared, a significant increase was found in Year Three ($M = 3.99$, $SD = 1.28$) compared to Year One ($M = 2.22$, $SD = 1.03$) which was a large effect size, $t(319) = 13.23$, $p < .001$, $d = 1.59$ (see Table 2).

Awareness of the need for accommodations generated proactively by faculty was described as "I teach an intro course, and this semester is the first time I have ever had students with hearing trouble. I use videos and films. This is now a big problem as the videos are not closed caption(ed)." The statement also implies an ongoing need for assistance to provide an accommodation. As a result of awareness of this problem, the university instituted a policy regarding purchase of videos/DVDs only if they were closed-captioned and the purchase of software to provide closed captioning in all *smart classrooms*.

Knowledge about the disability services (DS) office. Knowledge about accommodations did not seem to be acquired as a result of direct contact with the office of DS, because 9% of the faculty reported that they had no knowledge at all about the DS office, 37% had limited knowledge about the DS office, and about one fourth were very knowledgeable about this office. After Year Three, only 1% reported no knowledge at all, and those who had limited knowledge went down to 15%. At the same time, 40% had a great deal of knowledge about the DS office in Year Three. Not surprising, there was a statistically significant increase in the means on this Likert scale item, from $M = 2.29$ ($SD = 1.06$) to $M = 3.95$ ($SD = 1. 38$), $t(184) = 11.34$, $p < .001$, $d = 1.39$, indicating a large effect size (see Table 2). A wish for increased knowledge and a deeper level of knowledge was expressed by one faculty when this person said "I always wish I had firsthand knowledge of this NIU office."

Knowledge – combined construct. The faculty knowledge construct that combined the previous four items naturally also showed a statistically significant increase from Year One to Year Three, $t(175) = 15.3$, $p < .001$, $d = 1.88$, indicating a large effect size. The mean in Year One was $M = 1.96$ ($SD = 0.97$), which increased to $M = 3.90$ ($SD = 1.16$) in Year Three (see Table 2).

Topics of Interest

We asked faculty to indicate their level of interest in acquiring more information about eight topics related to disabilities as well as how they preferred acquiring information. Congruent with the lack of faculty knowledge regarding the disability services office, faculty identified this as the topic of greatest interest ($M = 4.90$, $SD = 1.36$), followed by a need for more information regarding policies and procedures relevant to students with disabilities ($M = 4.70$, SD

Table 2

Faculty Knowledge Mean Comparisons between Years 1 and 3

	Study Year	*N*	Mean	*SD*	*SE*
Knowledge about accommodations	Year One	221	2.22	1.03	0.07
	Year Three	100	3.99	1.28	0.13
Knowledge about federal mandates	Year One	117	2.33	1.11	0.10
	Year Three	101	3.90	1.44	0.14
Knowledge about disability services office	Year One	173	2.29	1.06	0.08
	Year Three	108	3.95	1.38	0.13
Knowledge about disabilities	Year One	175	1.78	1.45	0.11
	Year Three	108	3.94	1.34	0.13
Overall Knowledge	Year One	254	1.96	0.97	0.06
	Year Three	109	3.90	1.16	0.11

Note. All means were significantly different between years one and three at $p < .001$

= 1.33), and test accommodations (M = 4.70, SD = 1.41). General information about disabilities and legal mandates were rated next highest, M = 4.55 (SD = 1.44) and M = 4.43 (SD = 1.39), even though the faculty also assessed their level of knowledge about these two topics also very low. These findings indicate that the faculty had a greater need for practical knowledge about accommodations and policies than for background information regarding disabilities and legal mandates. Qualitatively, faculty expressed a need for information about universal design, how to help students become self-advocates, how faculty can be fair, and how the university can afford the cost of accommodations.

When given a choice of eight alternative methods for acquiring information, tied for first place was a desire for expert advice and information to be available 24/7 online (M = 4.55, SD = 1.38) and one-on-one consultation (M = 4.57, SD = 1.50; see Table 3). This was reinforced with comments like "It is most helpful to be able to call someone for specific, up to date guidance about reasonable accommodations." Faculty also identified workshops and on-site seminars and speakers next in order of preference. Least desirable were distance learning courses, teleconferences, and credit or non-credit short courses or graduate courses. The latter two alternatives were included so as to be all-encompassing and appropriate for use with faculty,

staff, and administrators at all types of institutions, not just faculty in a large, public, doctoral-degree granting institution.

The reliability and validity of the scores from the self-reported assessment provided on the questionnaires were evaluated by examining internal consistency (knowledge and topics of interest) reliability and by external confirmative evidence corroborated by examining syllabi and analyzing identified paragraphs. We learned from student report that one of the most powerful methods for faculty to send a welcoming message to students with disabilities is to include a paragraph in their syllabi regarding their desire to meet with them if they need accommodations. This paragraph has been interpreted by students to indicate that faculty members know about disabilities and suggests that they are willing to make accommodations.

Two strategies were used to determine the prevalence of this practice and whether or not the paragraph wording and location sent a positive message. The first strategy was to include a question in the faculty questionnaire asking how frequently faculty included a welcoming paragraph in their syllabi. The second strategy involved actually reading syllabi and searching for paragraphs. When located, the paragraphs were analyzed for wording and placement of paragraphs in syllabi.

In Year One, more than half of the faculty (55%) reported that they had never included such a paragraph in their syllabi. However, one third reported that they did so very often ($M = 2.72$, $SD = 2.24$). In Year Three, 29% reported that they had never included such a paragraph in their syllabi and 57% did so very often, $M = 5.12$ ($SD = 1.41$), indicating a significant increase in this practice in Year Three. A noteworthy finding is that *no* faculty in Year One reported including such a statement in their syllabi "Very Often," whereas in Year Three 80% of faculty reported including the statement "Very Often" (Likert scores of 5 or 6).

Analyzing paragraphs. Several strategies were used in order to corroborate questionnaire findings from the syllabi themselves. In Year One we drew a randomized stratified sample of 304 undergraduate and graduate courses listed in the fall and spring registration bulletins. Forty-seven (17%) of the 304 syllabi included a paragraph about accommodations, confirming that few faculty included a welcoming paragraph in syllabi. When the 47 paragraphs were analyzed, the following five exemplary characteristics and/or content were identified: (a) correct reference was made to the fact that the university abides by Section 504 of the Rehabilitation Act; (b) appropriate terminology was used such as person-first wording, (e.g. "students with a learning disability" rather than "learning disabled students"); (c) faculty invited students with disabilities to contact them early in the semester if they needed accommodations; (d) students who needed accommodations and had not yet registered with the DS office, were encouraged to do so; and (e) the paragraph was placed in a neutral location rather than embedded within a list of rules regarding class preparation or decorum. (A sample paragraph appears in Figure 2.)

In the final semester of the Project all available online syllabi were scanned to determine if changes

Table 3

Topics of Interest

	M	*SD*
Disability services office	4.90	1.36
Policies and procedures	4.70	1.33
Accommodations	4.70	1.41
General information about disabilities	4.55	1.44
Legal mandates	4.43	1.39

Note: The higher the mean, the greater the interest.

Figure 2.
Recommended paragraph to include in syllabus.

This institution abides by Section 504 of the Rehabilitation Act of 1973, which mandates reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodation, please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. If you have not already done so, you will need to register with the office of disability services, the designated office on campus to provide services for students with disabilities. The office is located at _____ (address and telephone number). I look forward to talking with you soon to learn how I may be helpful in enhancing your academic success in this course.

in the practice of inclusion of welcoming paragraphs had occurred. Of the 144 course syllabi located, 56/144 (39%) included a paragraph, which represents an increase of 22%. Of these 56 paragraphs, 40 (71%) included paragraphs that were identical or similar to the recommended paragraph and located in a neutral location representing a significant increase as compared to previous years.

Discussion

The twofold purpose of this study was to (a) evaluate faculty knowledge, attitudes, practices, and topics of interests, regarding students with disabilities and (b) assess the effectiveness of the faculty questionnaire for evaluating campus climate for students with disabilities. The change in faculty knowledge was striking from Year One to Year Three. The change in knowledge was a large effect and encompassed all four aspects of knowledge about disabilities: disabilities in general, legal mandates, accommodations, and the disability services office. Although the effect cannot be directly attributed to the interventions, it is unlikely that such a large effect would occur in two years without the interventions.

It was clear that campus climate for students with disabilities had improved by Year Three with regard to faculty knowledge. It was also noted where areas that faculty felt that they needed the most information were about practical knowledge regarding accommodations and policies, not background information regarding disabilities and legal mandates. With respect to the second purpose of the study, the findings indicated that (a) the scores from the revised faculty questionnaire were reliable, and (b) scores from the faculty questionnaire were valid, as corroborated from inspection of faculty syllabi.

Results from the use of the faculty questionnaire in Year One confirmed in many respects the student-identified barriers of limited faculty knowledge regarding disabilities in general (M=1.78) and the legal mandates requiring accommodations for students with documented disabilities (M=1.69). Moreover, few faculty were aware of the DS office (M=2.29) and its role in providing test accommodations. These findings were confirmed by the students who commented that faculty do not know very much about disabilities, as one student wrote: "…understanding that my disability is really a disability and that I (am) not trying to take advantage of it/make things up."

In addition, the faculty members themselves corroborated their lack of knowledge when they identified these two topics as the ones of greatest interest. Faculty identified in Year One, from highest to lowest rating, their desire to learn more about the DS office (M=4.90) and the need for more information about test accommodations (M=4.70), followed by the need for more information about legal issues (M=4.55). The knowledge items combined with the interest in specific topics and comments from the faculty questionnaire enabled us to determine that faculty wanted to acquire more practical knowledge than background knowledge regarding disabilities in general or the legal mandates. For example, one faculty expressed, "I am really hazy about what to do with the physically disabled in lab situations." Similarly, another faculty acknowledged, "I would like to know how much of what I say is being transmitted, and what I need to do to make it easier (for the students) to comprehend. I also would like to know how to design my course to make it more available to blind students, since I depend much on overhead outlines and PowerPoint™."

Despite lack of general information about disabilities and legal mandates, faculty members were

very knowledgeable about making accommodations and were, in general willing to make accommodations. Nonetheless, they expressed interest in learning more about providing test accommodations (M = 4.70). Those who attended workshops especially valued the aspect of the workshops that provided videotaped interviews with students with disabilities as described by a faculty member who said "student voices have always been the most powerful in faculty workshops… particularly when they shared with faculty what worked well in class and what did not work."

The most meaningful information for planning staff development activities was gathered from close examination of the Likert scale item responses, verbal responses, including Not At All (NAA) and comments, and the Likert scale means and standard deviation for individual items. We strived to achieve greater understanding by balancing self-reported responses to items, for example, knowledge regarding disabilities and self-reported perception of need for information. Such information from Years One and Three for faculty was especially useful in planning staff development activities, determining efficacy of staff development activities, and summative evaluation of the Three-Year Project.

Given eight options for faculty development opportunities, there was a two-way tie between online web-based expertise available 24/7 and one-on-one consultation. Faculty expressed their preference for web-based expertise possibly because it provided targeted information instantaneously, when they wanted it and needed it. In response to the desire for an infusion of information to be available online, we developed the Enhancing Success Web site with many useful links to websites within the university, slide presentations, recommended readings linked to full text, as well as online links to other informative national Web sites. Also identified were workshops, seminars, and speakers.

Other methods for infusion of information that contributed to the significant increase in knowledge included e-learning graduate courses on Disabilities and Higher Education. These courses drew graduate students from throughout Illinois, from various institutions, and in a variety of roles including administrators working in admissions, registration and records, advising, career planning, housing and dining, and graduate school. The Project also donated media and print materials to institutional libraries and sponsored a series of presentations given by a motivational speaker with a disability. In addition, workshops regarding students with learning disabilities, visual impairments, and hearing impairments were offered in which a variety of speakers, including DS and information technology staff, made presentations and responded to questions. During the workshops, DVDs allowed the participants to view video-taped interviews from students with disabilities (Project PACE, 2003). The key principle in staff development that emerged was the need to provide input using a variety of methods and a variety of timeframes given the limited time faculty have to attend workshops (Scott & Gregg, 2000).

Last, some of the highest-ranking administrators at the departmental, college, and university level encouraged faculty to adopt the practice of inclusion of a welcoming paragraph in syllabi. At the end of Fall 2003 and Spring 2004 semesters, the associate vice provost responded favorably to our request to email all faculty members at the end of each semester reminding them to include the recommended paragraph in future syllabi. In addition, two reminders appeared at the end of each semester encouraging faculty to incorporate the recommended paragraph in syllabi. One article appeared in the faculty/staff weekly newsletter and a second, from the student perspective, in the student newspaper.

Although these methods resulted in a significant increase in the inclusion of the welcoming paragraph in syllabi, many faculty still did not adopt this practice. In an effort to further understand the factors that influence campus climate and how staff development has to be adapted to individual institutions, Vogel, Leyser, Burgstahler, Sligar, and Zecker (2006) compared faculty knowledge, awareness, practices, and attitude on three contrasting institutions. One of their dramatic findings was that almost all faculty members in the community college setting included a welcoming paragraph in their syllabi. Upon inquiry, it was discovered that in this specific institution, disability workshop attendance was not only mandatory but also included in annual evaluations and considered favorably in determination of salary increment. Moreover, at the workshop the welcoming paragraph was presented and its inclusion in syllabi mandated.

An interesting contrast between various departments at NIU was also noted. Upon close examination, it was determined that in some departments the chair mandated and enforced the inclusion of a welcoming paragraph. Top-down leadership is a significant factor in the practice of inclusion of the paragraph. Furthermore, we learned through the fine-grain analysis of wording and placement that the paragraph alone does not make a specific classroom a welcoming environment. The paragraph has to be properly worded and placed. Further, the correct placement of a properly

worded paragraph on its own is not enough to make a classroom a safe environment in which to disclose one's disability. Several factors in combination make a classroom safe or welcoming, and it is this composite that makes a campus a safe environment in which to disclose one's disability and an environment that is facilitative of academic success.

The four instruments, referred to Assessment of Campus Climate to Enhance Student Success (ACCESS), are thought to provide 360-degree feedback from all constituents who contribute to and are affected by the campus climate. All respondents contribute from their own perspective. The richness of the data allows for targeted staff development, alternative methods of providing information based on the target audiences' preference, triangulation, and cross-validation. Most importantly, the students with disabilities speak in their own voice since they are the ones directly impacted by the campus climate. Utilization of ACCESS empowers students with disabilities to contribute to changing their environment and thereby to enhance their chances of success.

Some of the unexpected benefits of having administered the ACCESS questionnaires and gathering corroborative evidence during the three-year project were to increase awareness of the institution's web presence and the need for the enforcement of Section 508, to provide training and assistance for faculty, administrators, and computer lab technicians regarding assistive technology, accessible Web sites, universal design in instruction and assessment, online accessible learning experiences, and accessible institution marketing campaigns. Given the recent tragic events on college campuses, there is an even greater need for courses similar to the e-learning course to meet the informational needs of undergraduate and graduate students without disabilities. In addition, a ripple effect went beyond NIU when the Illinois Board of Higher Education instituted a statewide initiative regarding institutional web presence assessment and enhancement of accessibility to be in compliance with federal and state legislation.

Limitations

Every effort was made to encourage a robust response rate. In administration of the questionnaires the highest response rates achieved were 62% among administrators and 42% among faculty members, rates that we attributed to the support of the president of the university and university-wide planning. More often, however, the response rate was around 24%. Efforts have to be made to garner institution-wide support surrounding the administration of the questionnaires. Response rate will be enhanced if dissemination of the questionnaires is supported by the highest administrative officials, the DS office, cross-functional teams, shared governance involvement, effective public relations, broad-based campus enlightenment, and all disability and diversity advocates. Moreover, they have to be viewed not as evaluation instruments, but as a method to make the respondents more comfortable and successful in fulfilling their responsibilities and meeting the needs of students with disabilities. They should also be viewed as assisting the institution in fulfilling its mandates to increase diversity, enhance retention, and enroll more under-represented students. Rather than adding to their work load, the administration and faculty need to see the questionnaires as tools to give them the information they want, now they want it, and when they need it.

Partnership with AHEAD

The four questionnaires are licensed to AHEAD which will make online versions available on a cost-recovery basis to those who want to administer one or more of them. They will be accompanied by a manual that includes suggestions to make them as effective as possible. In addition, a CD-ROM will provide supplementary information such as sample letters and technical reports.

This opportunity is offered as part of a service/research partnership between users and AHEAD. At the first level, AHEAD will provide users with a service package that will include hosting the online questionnaire, data collection, and provision of raw data and code book for ease of data analysis. Partners will contribute their data to the AHEAD database, which eventually will enable benchmarking so that institutions will be able to compare their findings with grouped data from similar institutions and also monitor changes over time.

At the second service level, AHEAD will provide basic data analysis, (quantitative and qualitative technical reports). A third level of service will integrate the quantitative and qualitative findings and describe implications and make recommendations customized to the institution. At the fourth level, consultants will be available through AHEAD to help institutions implement the recommendations that emerge from the questionnaires.

As a result of this service/research partnership, it is hoped that we can move forward to make college campuses truly welcoming and enhance not only admission, but also graduation from higher education and beyond for all individuals with disabilities.

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