DOCUMENT RESUME

ED 365 682 TM 020 826

AUTHOR Mittelholtz, David J.; Noble, Julie P.
TITLE The Validity of Evaluation/Survey Service Survey Instruments for Reflecting Institutional Change.
INSTITUTION American Coll. Testing Program, Iowa City, Iowa.
REPORT NO ACT-RR-93-2
PUB DATE Aug 93
NOTE 73p.; Contains thin, light type.
AVAILABLE FROM ACT Research Report Series, P.O. Box 168, Iowa City, IA 52243.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Advising; Comparative Testing; *Educational Change; Higher Education; Institutional Characteristics; Predictive Measurement; *Research Methodology; Sample Size; *Student Attitudes; *Surveys; *Test Validity; Withdrawal (Education)
IDENTIFIERS ACT Adult Learner Needs Assessment; *ACT Evaluation Survey Service; ACT Survey of Academic Advising; ACT Withdrawing Nonreturning Student Surv; Entering Student Survey; Student Opinion Survey

ABSTRACT

The two studies reported examined the validity of several Evaluation/Survey Service (ESS) surveys for accurately reflecting changes in students' perceptions resulting from changes made by an institution in its policies, programs, services, or environment. In study 1, personnel from nine postsecondary institutions identified items on various ESS surveys for which student responses were expected to change as a result of changes made by the institution since the last survey administration. Actual changes were compared to projected changes, and mean student responses were compared for different administrations of a survey. In study 2, changes in mean student responses were identified for two or more administrations, and personnel were asked to provide explanations for these changes. Overall, the two studies strongly support the validity of the following three ESS instruments for reflecting changes in students' perceptions over time: (1) the Student Opinion Survey (4-year); (2) the Survey of Academic Advising; and (3) the Withdrawing/Nonreturning Student Survey. Three other ESS surveys received less support, perhaps because of the smaller sample sizes associated with these surveys. Four tables present response data. Six appendixes present additional information about study methodology, including cover letters and survey forms, and responses. (Contains 12 references.) (Author/SLD)

ACT Research Report Series 93-2

The Validity of Evaluation/Survey Service Survey Instruments for Reflecting Institutional Change

David J. Mittelholtz
Julie P. Noble

August 1993

ACT

For additional copies write:
ACT Research Report Series
P.O. Box 168
Iowa City, Iowa 52243

THE VALIDITY OF EVALUATION/SURVEY SERVICE SURVEY INSTRUMENTS FOR REFLECTING INSTITUTIONAL CHANGE

David J. Mittelholtz
Julie P. Noble

TABLE OF CONTENTS

ABSTRACT

The two studies reported here examined the validity of several Evaluation/Survey Service (ESS) surveys for accurately reflecting changes in students' perceptions resulting from changes made by an institution in its policies, programs, services, or environment.

In Study 1 we asked personnel at several postsecondary institutions to identify specific items on various ESS surveys for which student responses were expected to change as a result of changes made by the institution since the last survey administration. Changes in actual student responses were compared to these projected changes; the ratio of hits to misses was analyzed and mean student responses were compared for different administrations of a survey.

In Study 2 we identified changes in mean student responses over two or more administrations and then asked institutional personnel to provide possible explanations for those changes. Each explanation was rated in terms of the likelihood that the suggested institutional change could account for the observed differences in student responses. For the four surveys examined, 74 percent of the proposed explanations were considered acceptable.

Overall, the two studies strongly supported the validity of three ESS instruments for reflecting changes in students' perceptions over time: the Student Opinion Survey (4-year), the Survey of Academic Advising, and the Withdraw/Nonreturning Student Survey. Three other ESS surveys, the Adult Learner Needs Assessment Survey, the Student Opinion Survey (2-year), and the Entering Student Survey, received less support, perhaps due to the smaller institutional and student sample sizes associated with these surveys.

THE VALIDITY OF EVALUATION/SURVEY SERVICE SURVEY INSTRUMENTS FOR REFLECTING INSTITUTIONAL CHANGE

The Evaluation/Survey Service (ESS) surveys were developed in the late 1970's to provide educational institutions with the means to assess students' opinions, attitudes, goals, and impressions. These instruments offer several advantages to institutions, including theory-based construction, availability of consultation with expert practitioners, pilot tested items, ease of administration and processing, and the availability of a variety of user-norm groups.

The effectiveness of these surveys depends upon the degree to which they meet appropriate standards of validity and reliability (i.e., are they appropriate for their intended uses and do they provide consistent and stable measurement). Although each survey serves a slightly different purpose, they all provide student information that administrators can use to help guide and evaluate institutional reform.

Background

Although the reliability of many ESS surveys has been examined (e.g., Valiga, 1983; see also the ESS User's Guide, 1989) the validity of these instruments for specific uses has been investigated primarily only through local validity studies. These studies have been conducted at individual institutions to determine the degree to which information from a particular ESS survey could help them improve their services or programs. ESS surveys examined in these local validity studies include the Withdrawing/Non-returning Survey (Granger, 1981; Nelson & Urff, 1982), the Alumni Survey (Jones, 1982), and the Student Opinion Survey (Cosgrove, 1984; Klainer, 1982). Although these studies consistently found that particular ESS surveys provided useful feedback from survey respondents, generalization of the results to other institutions with different environmental and student characteristics could not be assured.

A few multi-institution studies have addressed the validity of ESS survey instruments for identifying institutional characteristics that contribute to student success. Forrest (1985) examined responses to the Alumni Survey from recent graduates of 40 institutions and found positive relationships among

graduate satisfaction, rates of persistence to graduation, and an individualized instructional style.

Valiga (1980) conducted a factor analysis on responses to the Student Opinion Survey and found a positive relationship with a structure of college outcomes developed at the National Center for Higher Education Management Systems. Valiga (1982) also conducted a factor analysis of responses to the Student Opinion Survey from students at 42 institutions and found a factor structure that was highly similar to the six subgroups of satisfaction-ratings items in that survey.

Davis (1982) investigated the discriminant validity of the Adult Learner Needs Assessment Survey and found that this instrument was capable of distinguishing among the personal and career needs of older adults, young adults, and traditional-aged students.

The preceding studies provide some support for the validity of the ESS surveys examined, primarily as instruments for eliciting the perceptions of students concerning institutional programs, services, or general environment. However, no studies examined specifically the validity of ESS instruments for assessing changes in student perceptions over time. The purpose of the present study was to examine the degree to which ESS surveys accurately reflect changes in student perceptions resulting from changes made by an institution in its programs, services, and/or environment. An instrument that is valid for measuring students' perceptions of an institution (e.g., a survey) will obtain accurate and consistent results over time, as long as those perceptions remain stable. If an institution implements a change or reform to a particular program or service, students' perceptions should change accordingly. If the survey is valid for measuring changes in student perception, these changes will be reflected by changes in students' responses to relevant survey items.

This study investigated the validity of selected ESS surveys for reflecting changes in students' perceptions over time. These perceptual changes were assumed to have resulted from modifications or reforms in institutions' programs, services, or environment. Two questions were examined:

1. Do the survey items reflect changes in student perceptions projected by institutional personnel, as measured by differences in mean student response over time?
2. Can changes in student perceptions over time, as measured by differences in mean student response, be explained after the fact in terms of specific institutional changes/reforms?

These questions were addressed in two separate studies. Both studies examined the capability of relevant survey items to reflect perceptual changes over time. Study 1, however, required institutional personnel to *predict* perceptual changes, based on institutional reforms that had been implemented. Study 2 asked institutional personnel to *explain* existing differences in mean student response over time in terms of institutional reforms, if possible.

Analysis of Projected Differences

Data for Study 1

We identified sixteen ESS user-institutions that requested a particular survey, and that had administered the same survey between one and three years earlier. Personnel from these institutions were asked to complete a questionnaire sent immediately following their current order. They were asked to report any institutional changes made since the last administration of the survey that might influence students' survey responses on the next administration. We then asked them to identify specific items on the survey that they felt would be affected by these reforms and to predict the nature of the changes in student response. For example, one might predict that opening a new computer center would increase students' ratings of satisfaction with computer services. Personnel were asked to return the completed questionnaires prior to obtaining the results from their next survey administration. A copy of the cover letter and questionnaire used in the study are provided in Appendix A.

The usability of the responses from institutional personnel was evaluated using several criteria: First, each projected difference in student response had to involve data not yet collected. Predictions that failed to meet this criterion were removed from this study and added to the analysis of explained

the projected response changes had to be
ers predicted opposing changes in mean student
ed on two different institutional reforms.
d they were unsure which direction a change in
iled to specify the direction. Where such
ial personnel were contacted by phone and by
the ambiguity. If these ambiguities remained
· that institution were dropped from the study.
30 students per institution was required for
.

institutions returned usable predictions and
utions provided data for the Student Opinion
two provided data for the Survey of Academic
or the Adult Learner Needs Assessment Survey.
S 4-Year). The SOS 4-year examines enrolled
grams, services, and environment provided by
survey form comprises five sections: Section
.a. Section II gathers student ratings or usage
ing 23 types of college services and programs
ural programs). Section III collects student
llege environment (academic, admissions, rules
istration, and general). Sections IV and V
l items and for comments from respondents.
contains the demographic data for the six
or the SOS 4-year. Five of these institutions
e, and one offered a professional degree (e.g.,
rvey administration procedures and sampling
ong institutions, but were, for all but one
ninistrations within each institution.

Table B2 of Appendix B summarizes the student sampling procedures used by each institution that administered the SOS 4-year. The time period between survey administrations ranged from one to three years, but usually was between one and two years. The surveys were administered to all four undergraduate classes for all but one of the six institutions.

Student characteristics that might influence responses to some survey items also were examined for each institution (see Table B3 of Appendix B). These characteristics included age, race, sex, marital status, purpose in attending the institution, and college residence. Again, differences over time within a particular institution were generally minor. The largest intra-institutional differences were found for the percent of students living on campus; although all six institutions showed a decrease in the percent of students living on campus between the two administrations, the size of the decrease showed some variation, ranging from 2% to 19% across institutions.

Survey of Academic Advising (SAA). The SAA obtains students' impressions of their institution's academic advising services (as distinguished from personal or career counseling services). The survey form is composed of 7 sections, 3 of which provided data for this study: Section I collects student biographical information. Section III assesses the degree to which students have discussed 18 types of topics with their academic advisors along with their ratings of satisfaction with their advisor's assistance for each topic discussed. Section IV asks students to rate their level of agreement with 36 statements about their advisor (e g., My advisor knows who I am; My advisor allows sufficient time to discuss issues or problems.)

The two institutions that returned data for the SAA were both eastern colleges with less than 3,000 students. One was a two-year suburban community college offering an Associate degree program, and the other was four-year college offering a Bachelor's degree program.

Student characteristics that might influence responses to some survey items were examined for each institution. These included age, race, sex, college GPA, and purpose for attending the institution. As shown in Appendix C, both student

characteristics and sampling procedures were stable across survey administration for each institution.

Adult Learner Needs Assessment Survey (ALNAS). The ALNAS explores the perceived educational and personal needs of enrolled and prospective adult students. The survey form comprises 5 sections, 2 of which provided data for this study: Section I collects demographic data from students and Section III asks students to rate the degree to which they need help with each of 66 personal or educational needs in the areas of life skills and career development, educational planning, and associations with others.

The one institution that returned survey data for the ALNAS was a four-year state college in the eastern United States, offering both Bachelor's and Master's degree programs to approximately 3,600 students. Relevant student characteristics as well as a description of the sampling procedures used for each of three administrations are provided in Appendix D. Three administrations were included for this survey because institutional personnel indicated that some changes had been started between the first and second administrations, but their effects were expected to develop gradually. Although the total sample size was about 100 students for each administration, this number decreased to less than 30 students for some items. This reduction occurred because students marked a "Does Not Apply" option in appropriate situations (e.g., "I need help coping with divorce or separation").

Method

Data that met the usability criteria outlined earlier in this paper were analyzed by first computing the mean student response for each item by administration, and then calculating the difference between pre- and post-change mean responses (i.e., across administrations). These differences were compared with their respective predictions. Differences between the two responses were designated as hits if they were in the expected direction, or as misses if they were in the opposite direction. We then used the Sign Test for Matched Pairs (Hays, 1981, p. 587) to determine whether the proportion of hits to misses was significantly greater than the proportion that would be expected due to chance

alone ($p < .001$). Finally, we conducted a two-sample t test for each target item to determine whether the difference in mean student response was statistically significant.

Results

Student Opinion Survey - 4-Year. The six SOS 4-year institutions identified a total of 31 items for which they anticipated changes in mean student response. Five of these items were eliminated; four items were discarded because the institutional changes occurred after the most recent administration, and one item was dropped due to small sample size ($N < 30$). Three of the five discarded items came from one institution, representing 75% of the targeted survey items for that institution. The other two discarded items came from two different institutions, and represented 5% of the total number of targeted items from one institution, and 17% of the total from the other institution. The final item pool consisted of 26 items for which changes were anticipated between pre-change and post-change means.

Table 1 indicates that 23 of the 26 projected changes in mean student response were supported (hits). The Sign test indicated that this level of agreement differed significantly from chance ($z = 3.23$; $p < .001$). The t tests for each item revealed that mean student responses differed significantly over time for 12 of the 23 hits ($p < .05$).

Survey of Academic Advising. Table 2 contains the results of the analysis for the items from the Survey of Academic Advising. Personnel at the two institutions identified 23 items for which they anticipated changes in mean student response. Eighteen of the 23 items showed changes in mean student response that were in the expected direction (hits). For three of the remaining five items, changes were in the opposite direction from what was expected (misses), and the other two items showed identical mean student responses for both administrations (ties). The Sign test for the 21 untied pairs of means indicated that the level of agreement (hits) differed significantly from that expected due to chance alone ($z = 5.68$; $p < .001$). We conducted a series of t tests and found significant differences between mean student responses for 5 of

the 18 hits ($p < .05$). Differences for three additional hits were significant at a less restrictive level of significance ($p < .10$).

Adult Learner Needs Assessment Survey. Table 3 contains the results of the analysis of ALNAS items. Institutional personnel identified 22 items for which changes in mean student response were expected. Two of these items were discarded due to small sample sizes ($N < 30$). We compared differences in mean student response for the remaining 20 items and found nine hits, nine misses, and two ties. The Sign test for the 18 untied pairs showed that the ratio of hits to misses did not differ significantly from chance ($p > .05$). We conducted t tests for each of the 18 untied pairs, and found significant differences in mean student response for two of the nine hits ($p < .05$).

Analysis of Explained Differences

Data for Study 2

The data for this study were obtained in two ways. We first identified 187 institutions that had administered the same survey more than once to their students. For each institution we compared the type of student samples, administration techniques, and sampling techniques used for each administration to determine their similarity over time. Institutions were eliminated if they used nonrandom sampling or if they administered the survey forms less than one year apart. In some cases an institution administered the survey forms at intervals of less than one year, but had continued this process over several years. When this occurred, item response comparisons were made only at one-year intervals (e.g., March, 1986 responses would be compared to March, 1987 responses). This procedure resulted in a sample of 59 institutions. The second source of data consisted of 28 items from five institutions participating in Study 1. These items showed relatively large differences over time, but had not been identified (flagged) by institutional personnel as items for which they anticipated changes. The final combined sample consisted of responses from 64 institutions that had administered a total of 68 survey instruments at least twice (including four institutions that administered two different surveys twice.)

For each institution and survey administration, mean student responses were computed for all Likert-type items. Differences in mean student response were then computed for each item, across survey administrations. Differences were identified in accordance with the following criteria: Mean differences of .35 or greater were required for 5-option items, differences of .30 or greater were required for 4-option items, and differences of .25 or greater were required for 3-option items. (These somewhat conservative criteria were used to ensure that mean differences would be both statistically and meaningfully significant given a considerable range of sample sizes from institution to institution.) In cases involving sample sizes less than 100, required minimum mean response differences were increased by .05 units for all items. For each institution, items that showed the greatest differences between administrations were selected; a maximum of five items were used for each institution.

Questionnaires were sent to the 59 institutions in May, 1987. We asked institutional personnel to identify changes or reforms that might have resulted in the observed differences in mean student response. They were asked to describe those changes, and to provide the dates they occurred. A copy of the cover letter and of the questionnaire are provided in Appendix E. A follow-up letter was sent one month later to non-respondents. Three weeks later copies of the original questionnaire and a revised cover letter were mailed to each institution that still had not responded. Letters were also sent to the five institutions from Study 1 concerning the 28 unflagged items that had shown large differences in mean student response. Institutional personnel were asked to identify any change or reform made at the institution that might account for the differences in mean student response, and to include the date of each change.

Questionnaires were returned by 26 of the 59 institutions selected specifically for Study 2, and by all 5 of the institutions from Study 1, resulting in an overall response rate of 51%. Responses were received for four surveys:

(1) the Student Opinion Survey for 4-year colleges (SOS 4-year), which explores students' perceptions of the programs and services offered at

their institution.

(2) the Withdrawing/Nonreturning Student Survey (W/NRSS), which helps institutional personnel determine why some students leave before finishing a degree or certificate program.

(3) the Student Opinion Survey for 2-year colleges (SOS 2-year), which is similar to the SOS 4-year, but tailored to meet the special needs of two-year institutions.

(4) the Entering Student Survey (ENSS), which provides a variety of demographic, background, and educational information about students who are newly enrolled at an institution.

Appendix F contains institutional and student characteristics and a summary of the sampling procedures used by the 31 institutions that provided data for Study 2. The 21 institutions that used the Student Opinion Survey (4-year) represented a diverse sample of geographical regions across the United States. Additionally, these institutions represented a broad range of both institution and community sizes, types of degrees offered, affiliations, and academic programs offered. Participating institutions for the other three surveys were considerably fewer in number, and thus reflected a somewhat smaller range of characteristics. However, characteristics of the student population seldom differed by more than 10% from one administration to the next within any particular institution, and were considered unlikely to influence the results.

In most cases, sampling procedures were similar across administrations for a particular institution. Student response rates were relatively low or inconsistent for some institutions, particularly for the W/NRSS and SOS 4-year surveys. As a result, mean student response may be less representative of the total student population at these institutions.

Method

The explanations of mean response differences provided by institutional personnel were first examined for clarity. Ambiguities were resolved through further discussion by phone with institutional personnel. Next, each explanation was categorized in the following manner:

a. Not acceptable: No explanation given.

b. Not acceptable: The explanation implied a change in the opposite direction from the data.

c. Not acceptable: The explanation addressed the wrong time period or the wrong content.

d. Not acceptable: The explanation was judged too subjective.

e. Acceptable.

Two raters separately categorized each explanation using this rating scheme, and the two sets of ratings were compared. The raters categorized 131 of the 136 explanations identically. For three of the remaining five explanations, both raters described the explanations as not acceptable, but differed in their reasons for this rating. Thus, the raters differed in their ratings of only 2 of the 136 explanations in terms of their acceptability. All five discrepancies in ratings were resolved through discussion.

Hit rates were calculated for each item by finding the ratio of the total number of institutions providing acceptable explanations for that item to the total number of institutions providing any explanation for that item. Table 4 contains a list of the number of acceptable and unacceptable explanations and the hit rates for the relevant items in each of the four surveys.

Results

Student Opinion Survey (4-year). Overall, 75 of the 102 explanations produced by the institutions were rated acceptable, yielding a hit rate of 74%. Fourteen items from Section II of the survey (representing 61% of the items in that section) were analyzed. Of the 44 explanations provided for these items, 34 were rated acceptable, resulting in a hit rate of 77%. For Section III, 28 items were analyzed, representing 67% of the items in that section. Of the 58 explanations provided for these items, 42 were rated acceptable, producing a hit rate of 72%.

Of the 42 items for which explanations were analyzed, 26 items had 100% hit rates and 6 items had 0% hit rates. Satisfactory explanations were generally available for all major aspects of the college environment covered in the SOS (4-

year), with the exception of "campus rules and regulations." Items involving this topic (e.g., III-17 and III-18) showed hit rates below 50%.

Withdrawing/Nonreturning Student Survey. Eighteen explanations were provided for a total of 16 items on the W/NRSS. Four of the explanations concerned four items in Section II (8% of the items in that section); three of the four explanations (75%) were rated acceptable. The remaining 14 explanations concerned 12 items from Section III (about 26% of the items in that section). Eleven of these 14 explanations (79%) were rated acceptable.

Student Opinion Survey (2-year). The explanations for the SOS (2-year) concerned 10 items from Sections III and IV, representing 16% of the total number of relevant survey items. Seven of the 10 explanations provided (70%) were rated acceptable.

Entering Student Survey. Explanations for the ENSS were provided for six items, representing 13% of the items in Section III of the instrument. Three of the six explanations provided (50%) were rated acceptable.

Discussion

Summary

Two approaches were used to examine the validity of ESS surveys for reflecting changes in students' perceptions resulting from institutional reforms of programs and services. For Study 1, we examined the degree to which survey items reflected changes in student perceptions, as projected by institutional personnel. For Study 2, we noted relatively large differences in mean student responses between successive administrations of a survey, and asked institutional personnel to list institutional reforms that might have produced those changes. Thus, item sensitivity was examined from two converging perspectives, the first based on predicted changes, and the second based on observed differences in the data.

Student Opinion Survey (4-year). The SOS 4-year was the only instrument examined in both Study 1 and Study 2. Both studies provided substantial support concerning the sensitivity of this survey to changes in student perceptions arising from institutional reform. Hit rates for both studies were over 75%, and

the percent of statistically significant hits was over 50% for Study 1. Both Section II and Section III of the survey appear to be sensitive to changes in student perceptions across a broad range of academic and nonacademic aspects of college life.

Survey of Academic Advising. The use of this survey instrument for assessing changes in student perceptions was also supported by the results from Study 1. Over 75% of the predicted changes were supported by the student response data. Thus, SAA items appear to reflect changes in student perceptions resulting from changes in the advising program. However, the results of this analysis are based only on the responses of two institutions. Thus, these results may not generalize to all SAA user-institutions.

Withdrawing/Nonreturning Student Survey. This survey form was examined in Study 2 and received relatively strong support. Seventy-eight percent of the explanations offered by the five participating institutions were rated acceptable. Thus, the analysis supported the validity of the survey for reflecting changes in the perceptions of withdrawing students for these institutions.

Adult Learner Needs Assessment Survey. The analysis of this survey yielded somewhat inconclusive results, due to several factors. First, only one institution participated in this analysis, thus generalization to other institutions is not appropriate. Second, responses to Section III of the ALNAS are problematic. For example, one might predict that a particular institutional change will lead to a more positive response on the survey form. However, for many items, a "more positive response" may be that the students indicate a greater need for a particular program, service, or skill (because students become more aware, for example, of the complexity of reading comprehension). For other items, a more positive response may be a decrease in perceived need because a particular program or service has resolved many of the students' needs in those areas (for example, learning how to find job openings). Third, the one participating institution administered this survey form to some adult learners who were only potential (i.e., not yet enrolled) students, and thus may not have

had direct experience with the programs and services assessed by particular survey items. Data from these students are therefore suspect.

Student Opinion Survey (2-year). This instrument was examined in Study 2; the data consisted of responses to 10 items from only two institutions. For these two institutions, personnel generated acceptable explanations for 70% of the differences in student satisfaction, thus supporting the validity of the survey for reflecting these differences over time. However, the data are limited and this conclusion may not generalize to other institutions.

Entering Student Survey. The analysis for this survey was based on the responses from only three institutions and six items. Too few student responses were obtained to permit an accurate interpretation of these data.

Conclusions

Generally, the survey items examined in this study showed substantial sensitivity to changes in students' perceptions over time. This study suggests that several ESS surveys (particularly the SOS 4-year, the SAA, the SOS 2-year, and the W/NRSS) can help institutions study the impact of programs and services on the perceptions of their student population.

Factors influencing interpretation. Interpretation of the results of this study should be guided by the following considerations and cautions:

1. **Capabilities of institutional personnel.** Personnel who provided predictions (Study 1) or explanations (Study 2) were not equally specific in their responses and differed in both the number and type of survey items they believed would be affected by a given institutional change. This difference was most noticeable in Study 1, in which personnel were required to hypothesize relationships between institutional change and survey items.
2. **Statistical versus meaningful significance.** Some changes in student perceptions may not have been statistically significant due to small sample sizes, but nonetheless may have represented meaningful changes. Conversely, some minor differences in student perceptions

may have reached statistical significance and yet may not have reflected any meaningful change in student perceptions. Change in mean student response must be interpreted in the context of the perceptual shift it represents, and whether or not that shift is of sufficient importance to warrant further examination. The meaningfulness of a difference in mean student response, regardless of the size of that difference, must be determined by institutional personnel, not by the statistics associated with it.

3. **Representativeness and generalizability of results.** Three major factors affect the generalizability and representativeness of these results: (1) the number of participating institutions per survey, (2) the number of student responses per survey item, and (3) the proportion of survey items used as indicators, compared to the total number of survey items in the survey. Analyses for each survey varied with regard to each of these factors. Generally, the results for surveys based on relatively large numbers of institutions, student responses, and selected items are more likely to be representative of all users than are those based on small numbers. Thus, the results of the SOS (4-year) analysis are probably the most representative and also most likely to be generalizable to other user-institutions, followed by the results for the SAA, the SOS (2-year), and the W/NRSS.

References

American College Testing Program (1989). ACT Evaluation/Survey Service User's Guide, 4th Edition. ACT, Iowa City, IA.

Cosgrove, T. J. (1984). The effects of participation in a student development mentoring transcript program on freshmen university students (Doctoral dissertation, University of San Diego, 1984). Dissertation Abstracts International, 45, 4409A.

Davis, J. C. (1982). A comparative study of the needs of undergraduate young adult students, older adult students, and traditional aged students enrolled at Kansas State University (Doctoral dissertation, Kansas State University, 1982). Dissertation Abstracts International, 43, 1009A.

Forrest, A. (1985). Creating conditions for student and institutional success. In Noel, Levitz, & Saluri (Eds.), Increasing student retention. New York: Jossey-Bass.

Granger, S. (1981). A follow-up of University of Minnesota, Morris withdrawing/nonreturning students for the fall of 1980. Morris, MN: Office of the Provost, University of Minnesota, Morris.

Hays, W. L. (1981). Statistics (Third Edition). New York: CBS College.

Jones, V. (1982). Report on evaluating outcomes: A Nazareth College alumni perspective. Nazareth, MI: Nazareth College.

Klainer, D. (1982). Results of a subjective sophomore and junior student opinion survey at Nazareth College. Nazareth, MI: Nazareth College.

Nelson, R. B., & Urff, D. M. (1982). Withdrawing/nonreturning students at the University of North Dakota (Report No. RR-SA-012282). Grand Forks, ND: University of North Dakota, Division of Student Affairs.

Valiga, M. J. (1980). A factor analysis of student satisfaction-related items on the ACT Student Opinion Survey. Unpublished manuscript.

Valiga, M. J. (May, 1982). Structuring the perceived outcomes of higher education. Paper presented at the annual forum of the Association for Institutional Research, Denver, CO.

Valiga, M. J. (May, 1983). Assessing the reliability of survey instruments. Paper presented at the annual forum of the Association for Institutional Research, Toronto, Ontario.

APPENDIX A

Sample Cover Letter and Questionnaire
Used in the Analysis of Projected Differences

Date

Name
Institution Name
Address
City, State Zip

Dear :

I am writing to you concerning your institution's usage of the ACT Student Opinion Survey. I noted from our records that your institution has used this survey one or more times for the past several years. I hope that you have found the survey data to be helpful in identifying key issues for your institution.

An important feature of ACT's Evaluation/Survey Service (ESS) instruments is their ability to provide pertinent information about students' perceptions of college. We currently provide limited reliability information about the surveys in our ESS User's Guide, and have developed normative data for several surveys. Because these data are limited, our present research focus is to develop validity data concerning the information elicited by the surveys. This research will provide data regarding the degree to which the surveys reflect institutional reform. For example, institutional officials might expect, given certain reforms, that students' responses to related items would change as a result of these reforms. It is in regard to this issue that I am writing to you.

You recently requested copies of the Student Opinion Survey to be administered to your students. We would like to know if you have implemented reforms or made changes in your programs or services since your last survey administration that you expect will result in changes in your students' responses on the next administration. Would you please take the time to tell us about these reforms? In addition, please tell us the date you initiated the reforms, the survey items you expect will be affected, and a brief description of how you expect the responses to change. I have enclosed a response form for your use, along with detailed instructions for completing the form.

I know that time is at a premium for all our users, but I do hope you will be able to complete the form I have enclosed. The results of this study will benefit your institution and ACT by helping us ensure accurate measures of student perceptions.

If you have any questions or concerns, please call Julie Noble at 319/337-1442, collect. On behalf of ACT and the colleges that use the Evaluation/Survey Services, thank you in advance for your generous help.

Sincerely,

Michael J. Valiga
Coordinator, Survey Services
Research Division
ACT

Evaluation/Survey Service
Survey of Repeat ESS Users

Directions: The purpose of this survey is to examine the sensitivity of ESS surveys to institutional change. Between 1979 and 1986 your institution participated in ACT's Evaluation/Survey Service (ESS), administering the Survey of Academic Advising at least once during that time period. You recently requested copies of the survey to be administered on your campus.

Please begin by writing your name and phone number in the spaces provided. (We would like to be able to call you if we need further clarification.) Then, identify any changes or reforms, and their date of initiation, that you think might influence your students' responses on the next administration. These changes could include, for example, one or more of the following: curriculum reforms, changes in marketing strategies, policy adjustments, changes in financial status, or changes in the student population. Please be as specific as possible in describing the reforms. After describing the reforms, please identify the specific survey item(s) that you expect will be influenced by the reform(s), and the direction in which you expect students' responses to change.

An example has been provided to supplement these directions. If you have additional questions, please call Julie Noble (collect) at 319/337-1442. Please return this questionnaire in the enclosed envelope by April 15 before you receive the results of the next survey administration. Thank you very much for your cooperation.

Evaluation/Survey Service
urvey of Repeat ESS Users

ode: Name:

College Name: Phone:

urvey:

Description of reform/change and date initiated	Section/item # you feel will be affected	Brief description of expected change
Example: Student Opinion Survey Fall, 1986 Implemented computerized registration procedures. Lines are much shorter; the registration process takes much less time.	Section III item 30 item 31 item 33	Student responses are expected to be much more positive than in the past.
Description of reform/change and date initiated	**Section/item # you feel will be affected**	**Brief description of expected change**

APPENDIX B

Demographic Information and Sampling Procedures for Users of the Student Opinion Survey (4-year) - Study 1

Table B1

Demographic Information for Institutions Using the Student Opinion Survey (4-year) - Analysis of Projected Differences

Institution	Region of U.S.	Affiliation	Size of Community (1,000's)	Number of students (1,000's)	Principal majors and percent of students
A	South	Public	10-50 50-100	1-5	Education 35% Business 26%
B	Central	Private	10-50	0-1	Health 100%
C	Central	Private	50-100	1-5	Business 20% Soc. Sci. 14%
D	N. Cent.	Private	10-50	1-5	Business 30%
E	Central	Private	10-50	1-5	Business 20% Education 15%
F	East	Public	10-50	5-15	Business 25% Math 14%

Table B2

Sampling Procedures for Institutions Using the Student Opinion Survey (4-year) - Analysis of Projected Differences

Institution	Sampling component	Administration 1	Administration 2
A	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	04/85 754 Random In class All four undergraduate classes 95%	04/87 642 Random In class All four undergraduate classes 97%
B	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	04/86 112 Whole population In class Juniors and Seniors 86%	05/87 112 Whole population In class Juniors and Seniors 100%
C	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	03/86 201 Random Several methods All four undergraduate classes 40%	03/87 182 Random Several methods All four undergraduate classes 36%
D	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	01/84 138 Random Several methods All four undergraduate classes 73%	01/87 125 Random Several methods All four undergraduate classes 64%
E	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	04/86 270 Whole population In class All four undergraduate classes 100%	04/87 242 Whole population In class All four undergraduate classes 100%
F	Administration dates Number of surveys returned Sample type Administration mode Sample composition Response rate	04/85 677 Random U.S. mail All four undergraduate classes 64%	03/87 685 Random Several methods All four undergraduate classes 55%

Table B3

Student Characteristics for Institutions Using the Student Opinion Survey (4-year) - Analysis of Projected Differences

Institution	Student characteristic		Administration 1	Administration 2
A	Under age 30		94%	89%
	Race:	Caucasian	76%	81%
		Black	21%	17%
	Percent males		44%	40%
	Percent unmarried		86%	83%
	Purpose:	A.A. degree	06%	07%
		B.A. degree	73%	71%
		M.A./Ph.D	04%	06%
	Residence:	Dorm	52%	40%
		Off-campus	43%	55%
B	Under age 30		81%	83%
	Race:	Caucasian	94%	95%
		Black	03%	04%
	Percent males		05%	02%
	Percent unmarried		76%	70%
	Purpose:	B.A. degree	100%	100%
	Residence:	Dorm	22%	19%
		Off-campus	77%	78%
C	Under age 30		100%	92%
	Race:	Caucasian	96%	95%
		Black	01%	02%
	Percent males		35%	39%
	Percent unmarried		99%	91%
	Purpose:	B.A. degree	96%	85%
		M.A./Ph.D	02%	12%
	Residence:	Dorm	79%	61%
		Off-campus	03%	32%
		Frat/Sorority	18%	07%

continued on next page

Table B3 (continued)

Institution	Student characteristic		Administration 1	Administration 2
D	Under age 30		98%	100%
	Race:	Caucasian	97%	95%
		Black	01%	02%
	Percent males		55%	49%
	Percent unmarried		96%	99%
	Purpose:	B.A. degree	79%	75%
		M.A./Ph.D	01%	02%
		Transfer credits	06%	05%
	Residence:	Dorm	56%	54%
		Off-campus	44%	46%
E	Under age 30		27%	29%
	Race:	Caucasian	78%	83%
		Black	15%	12%
	Percent males		36%	43%
	Percent unmarried		40%	44%
	Purpose:	B.A. degree	92%	90%
		M.A./Ph.D.	01%	00%
		Certification	03%	04%
	Residence:	Off-campus	94%	96%
F	Under age 30		98%	95%
	Race:	Caucasian	93%	91%
		Black	01%	02%
	Percent males		36%	31%
	Percent unmarried		95%	93%
	Purpose:	B.A. degree	90%	92%
		M.A./Ph.D	01%	02%
	Residence:	Dorm	61%	42%
		Off-campus	37%	55%

APPENDIX C

Demographic Information and Sampling Procedures for Users of the Survey of Academic Advising - Study 1

Table C1

Sampling Procedures for Institutions Using the Survey of Academic Advising - Analysis of Projected Differences

Institution	Sampling component	Administration 1	Administration 2
A	Administration dates	04/86	04/87
	Number of surveys returned	176	147
	Sample type	Whole population	Whole population
	Administration mode	U.S. mail	U.S. mail
	Sample composition	Sophomores only	Sophomores only
	Response rate	44%	37%
B	Administration dates	04/86	02/87
	Number of surveys returned	277	281
	Sample type	Whole population	Whole population
	Administration mode	Other	Other
	Sample composition	Freshmen only	Freshmen only
	Response rate	74%	70%

Table C2

Student Characteristics for Institutions Using the Survey of Academic Advising - Analysis of Projected Differences

Institution	Student characteristics	Administration 1	Administration 2
A	Under age 30	73%	78%
	Percent Caucasian	94%	97%
	Percent males	29%	31%
	GPA: 3.0 to 4.0	43%	47%
	2.0 to 2.99	56%	50%
	below 2.0	01%	03%
	Purpose: A.A. degree	69%	62%
	Transfer credits	19%	23%
	Self improvement	03%	05%
	Certification	03%	02%
B	Under age 30	100%	100%
	Percent Caucasian	90%	93%
	Percent males	32%	38%
	GPA: 3.0 to 4.0	28%	31%
	2.0 to 2.99	53%	49%
	below 2.0	19%	19%
	Purpose: B.A. degree	89%	87%
	Uncertain	04%	04%

APPENDIX D

Demographic Information and Sampling Procedures for Users of the Adult Learner Needs Assessment Survey - Study 1

Table D1

Student Characteristics for One Institution Using the Adult Learner Needs Assessment Survey - Analysis of Projected Differences

Student characteristics		Administration		
		1	2	3
Age 23-30		32%	26%	28%
Percent Caucasian		88%	87%	91%
Percent males		32%	28%	34%
Marital status:	Single	19%	25%	22%
	Married	62%	61%	47%
	Divorced	12%	08%	20%
Highest level of education:	High school	07%	13%	19%
	Prebaccalaureate	31%	45%	49%
	Postbaccalaureate	54%	39%	21%

Table D2

Sampling Procedures for One Institution Using the Adult Learner Needs Assessment Survey - Analysis of Projected Differences

	Administration		
Sampling component	1	2	3
Administration date	06/85	03/86	03/87
No. of surveys returned	108	84	106
Sample type	Random sample	Random sample	Random sample
Administration mode	U.S. mail	U.S. mail	Several methods
Sample composition	Enrolled adults	Potential/actual adult students	Graduates & undergraduates
Response rate	43%	40%	44%

APPENDIX E

Sample Cover Letter and Questionnaire

Used in the Analysis of Explained Differences

Date

Name
Institution Name
Address
City, State Zip

Dear :

I am writing to you concerning your institution's usage of the ACT Entering Student Survey. I noted from our records that your institution has used this survey one or more times for the past several years. I hope that you have found the survey data to be helpful in identifying key issues for your institution.

An important feature of ACT's Evaluation/Survey Service (ESS) instruments is their ability to provide pertinent information about students' perceptions of college. We currently provide limited reliability information about the surveys in our ESS User's Guide, and have developed normative data for several surveys. Because these data are limited, our present research focus is to develop validity data concerning the information elicited by the surveys. This research will provide data regarding the degree to which the surveys reflect institutional reform. For example, institutional officials might expect, given certain reforms, that students' responses to related items would change as a result of these reforms. It is in regard to this issue that I am writing to you.

We have, in our ESS files, data from several institutions that have administered the same ESS surveys more than once over the last few years. In examining these data, we have noted relatively large differences over time in students' responses to specific items. These differences are not consistent across institutions or across items. In addition, they cannot be attributed to differing types of samples, administration techniques, or sampling methods, as we selected only those colleges with similar samples over time.

We have decided, therefore, to survey ESS participants to learn more about why these differences might be occurring. I have enclosed a response form listing the survey items that, based upon your survey data, have shown relatively large changes in mean student response over time. Would you please take the time to tell us why you think these differences might be occurring? Detailed instructions for completing the form are enclosed.

I know that time is at a premium for all our users, but I do hope you will be able to complete the form I have enclosed. The results of this study will benefit your institution and ACT by helping us ensure accurate measures of student perception.

If you have any questions or concerns, please call Julie Noble at 319/337-1442, collect. On behalf of ACT and the colleges that use the Evaluation/Survey Services, thank you in advance for your generous help.

Sincerely,

Michael J. Valiga
Coordinator, Survey Services
Research Division
ACT

Evaluation/Survey Service
Validity Study Survey

Directions: The purpose of this survey is to examine the sensitivity of ESS surveys to institutional change. Between 1979 and 1986 your institution participated in ACT's Evaluation/Survey Service (ESS), administering the Entering Student Survey at least twice during that time period. The survey and the dates of administration are identified on the attached response form. Administration dates were limited to those occurring in a minimum of one year increments; data were used from up to five survey administrations. A maximum of five items are listed that have been identified as having relatively large mean response differences over time. The response means are reported under each date of administration. The response means for the Entering Student Survey are computed such that 4 = very important and 1 = not important, and 5 = strongly agree and 1 = strongly disagree. In some cases, means will be reported as a blank or a '.'. This will occur if the sample sizes were insufficient to provide reliable data for this study.

Please begin by writing your name and phone number in the spaces provided. (We would like to be able to call you if we need further clarification.) Then, **for each item listed**, please identify any institutional changes that might have contributed to the differences in mean student responses over time. These changes could include, for example, one or more of the following: curricular reforms, changes in marketing strategies, policy adjustments, changes in financial status, or changes in the student population. Please supply as much information as possible regarding these changes.

An example has been provided to supplement these directions. If you have additional questions, please call Julie Noble (collect) at 319/337-1442. Please return this questionnaire in the enclosed envelope by **August 1.** Thank you very much for your cooperation.

EVALUATION/SURVEY SERVICE
VALIDITY STUDY SURVEY

CODE: YOUR NAME:

COLLEGE NAME: PHONE:

SURVEY: ENTERING STUDENT SURVEY

EXAMPLE:
SECTION III, ITEM 30;
STUDENT OPINION SURVEY

A. GENERAL REGISTRATION PROCEDURES

RESPONSE MEAN

02/83	03/84	03/85	03/86
2.67	2.75	3.25	3.40

Fall, 1984-implemented computerized registration procedures resulting in much shorter registration lines and faster registration procedures.

RESPONSE MEAN

A. ENTRANCE REQUIREMENTS FOR THE COLLEGE

09/82	12/83	09/84		
2.13	2.32	2.46		

Briefly summarize any reforms/changes you have implemented or experienced at your institution that you fel could have contributed to these changes in mean student responses over time. Please be as specific as possi in outlining this information; any additional evidence would be appreciated. Also include the dates th changes/reforms took place.

EVALUATION/SURVEY SERVICE
VALIDITY STUDY SURVEY

B. PARKING FACILITIES AND SERVICES

RESPONSE MEAN

04/82	04/83	01/85	03/86	
3.19	3.52	3.71	3.91	

Briefly summarize any reforms/changes you have implemented or experienced at your institution that you feel could have contributed to these changes in mean student responses over time. Please be as specific as possible in outlining this information; any additional evidence would be appreciated. Also include the dates these changes/reforms took place.

C. LABORATORY FACILITIES

RESPONSE MEAN

04/82	04/83	01/85	03/86	
3.56	3.86	3.99	4.01	

Briefly summarize any reforms/changes you have implemented or experienced at your institution that you feel could have contributed to these changes in mean student responses over time. Please be as specific as possible in outlining this information; any additional evidence would be appreciated. Also include the dates these changes/reforms took place.

EVALUATION/SURVEY SERVICE
VALIDITY STUDY SURVEY

D. THIS COLLEGE IN GENERAL

RESPONSE MEAN

04/82	04/83	01/85	03/86	
4.18	4.13	4.28	4.43	

Briefly summarize any reforms/changes you have implemented or experienced at your institution that yo could have contributed to these changes in mean student responses over time. Please be as specific as po in outlining this information; any additional evidence would be appreciated. Also include the dates changes/reforms took place.

E. OVERALL IMPRESSION OF THE QUALITY OF EDUCATION AT THIS SCHOOL

RESPONSE MEAN

04/82	04/83	01/85	03/86	
4.07	4.06	4.19	4.37	

Briefly summarize any reforms/changes you have implemented or experienced at your institution that y could have contributed to these changes in mean student responses over time. Please be as specific as p in outlining this information; any additional evidence would be appreciated. Also include the date changes/reforms took place.

APPENDIX F

Demographic Information and Sampling Procedures Used for Participants in Study 2

Table F1

Demographic Information for Institutions Using ESS Surveys - Analysis of Explained Differences

Demographic characteristic	SOS (4-year) (K = 21)[a]	W/NRSS (K = 5)	SOS (2-year) (K = 2)	ENSS (K = 3)
Region of US:				
Pacific Mountain	2	1	0	0
North Central	5	1	0	0
Great Lakes	4	1	0	1
South Central	4	0	1	0
South Atlantic	2	1	0	2
Mid Atlantic	4	1	1	0
New England	0	0	0	0
Affiliation:				
Public	8	4	2	0
Private	3	0	0	0
Religious	10	1	0	3
Highest degree offered:				
Ph.D.	5	0	0	0
M.A.	9	3	0	1
B.A.	6	1	0	2
A.A.	1	1	2	0
Size of community (in 1000's):				
Under 10	5	1	1	1
10-50	8	4	1	0
50-100	4	0	0	1
100-500	0	0	0	0
Over 500	4	0	0	1
Total enrollment (in 1000's):				
Less than 1	7	1	1	2
1-5	8	3	0	1
5-15	4	1	0	0
Over 15	2	0	1	0
Principal majors offered:				
Social Sciences	2	0	--	1
Business	15	2	--	2
Math-Science	1	1	--	0
Health	5	1	--	0
Education	5	1	--	1
Percent of students in major (median):				
Social Sciences	25	0	--	25
Business	28	24	--	28
Math-Science	28	37	--	0
Health	46	55	--	0
Education	26	33	--	43

[a]K = total number of institutions that responded for each survey

Table F2

Student Characteristics for Institutions Using ESS Surveys - Analysis of Explained Differences

Survey/ Institution		Administration date	Percent of students who are:					
			Under age 25	Caucasian	Male	Married	Full time	State resident
SOS 4-year	A	11/81	97	89	48	7	100	72
		2/83	98	89	57	12	99	70
	B	12/79	49	93	29	39	69	97
		10/84	71	91	35	22	84	93
	C	4/80	93	97	45	6	92	87
		4/85	87	91	42	8	86	84
	D	5/82	90	94	30	8	93	97
		3/85	99	92	36	1	99	96
	E	12/82	88	43	47	9	91	82
		10/83	90	43	48	7	92	81
	F	3/82	64	86	23	28	69	92
		2/86	63	92	31	30	64	86
	G	2/81	63	83	42	41	82	91
		3/82	65	75	42	38	75	85
	H	5/80	93	80	62	12	98	89
		5/84	94	79	45	7	97	94
	I	5/81	93	97	18	7	93	87
		5/82	95	95	11	3	95	78
	J	5/81	59	81	44	36	72	96
		1/83	63	83	40	33	76	97
	K	11/79	96	88	38	6	98	64
		11/82	93	90	39	8	99	66
	L	11/82	94	95	23	3	99	42
		10/85	91	93	27	8	95	46
	M	4/84	89	78	60	10	99	41
		4/86	90	88	51	13	97	40
	N	4/84	94	59	57	4	95	73
		3/86	95	60	53	4	96	75

continued on next page

Table F2 (continued)

Survey/ Institution		Administration date	Percent of students who are:					
			Under age 25	Caucasian	Male	Married	Full time	State resident
	O	8/82	95	88	53	5	98	43
		8/84	97	83	55	3	98	41
		8/85	96	85	51	3	98	40
	P	3/82	76	87	39	20	80	81
		3/85	78	83	32	15	82	73
		3/86	78	80	35	13	81	73
	Q	4/85	91	76	44	13	94	98
		4/87	89	81	40	17	93	97
	R	4/86	68	94	5	24	96	100
		5/87	76	95	2	29	90	100
	S	3/86	100	96	35	1	100	23
		3/87	89	95	39	8	94	38
	T	4/85	96	93	36	4	97	96
		3/87	93	91	31	6	96	97
	U	3/83	78	95	37	18	89	70
		2/87	80	91	40	21	81	73
WCNR	A	9/84	89	87	48	17	87	93
		9/85	83	91	44	12	84	92
	B	5/82	47	95	34	45	47	90
		4/84	57	97	24	48	52	93
	C	11/82	89	94	14	12	99	79
		10/83	89	93	19	8	98	77
		9/84	94	96	11	6	96	69
	D	10/82	98	92	44	6	99	99
		10/83	95	93	40	9	97	99
		10/84	95	95	44	9	100	97
		9/85	95	93	42	9	98	98

continued on next page

Table F2 (continued)

Survey/ Institution		Administration date	Percent of students who are:					
			Under age 25	Caucasian	Male	Married	Full time	State resident
	E	11/80	90	94	42	12	87	80
		11/81	95	91	39	9	90	73
		11/82	90	90	39	10	97	77
		9/84	88	98	37	15	86	71
		9/85	87	95	33	15	90	81
SOS 2-year	A	3/83	72	86	40	17	--	61
		4/85	79	80	67	13	--	71
	B	4/85	53	99	36	51	--	60
		8/86	36	95	36	63	--	79
ENSS	A	8/85	95	88	39	0	3	
		8/86	96	90	37	6	2	
	B	8/82	99	84	61	0	3	
		8/84	100	90	52	1	3	
		8/85	99	86	41	3	1	
		8/86	99	88	55	1	2	
	C	9/82	100		1	0	0	
		8/83	99	.8	0	0	0	
		9/84	100	69	0	0	0	
		9/85	100	73	0	0	0	
		9/86	99	64	1	0	0	

Table F3

Sampling Procedures for Institutions Using ESS Surveys - Analysis of Explained Differences

Survey/Institution	Administration date	Number of surveys	Response rate (%)	To whom[a]	How administered	Sample type[c]
1. SOS 4-year						
A	11/81	149	75	F,S,J,Sr	Mail	R
	2/83	82	73	F,S,J,Sr	Several	R
B	12/79	162	41	F,S,J,Sr,G	Other	R
	10/84	302	100	F,S,J,Sr,G	In class	R
C	4/80	549	93	F,S,J,Sr	In class	R
	4/85	521	95	F,S,J,Sr	In class	R
D	5/82	205	10	F,S,J,Sr	Campus mail	R
	3/85	384	39	F,S,J,Sr	Campus mail	R
E	12/82	763	76	F,S,J,Sr,G	In class	R
	10/83	935	88	F,S,J,Sr,G	In class	R
F	3/82	475	48	F,S,J,Sr	In class	R
	2/86	281	100	F,S,J,Sr	Several	R
G	2/81	299	100	F,S	In class	W
	3/82	469	78	F,S	In class	W
H	5/80	392	94	F,S,J,Sr,G	In class	R
	5/84	304	80	F,S,J,Sr,G	In class	R
I	5/81	188	99	F	In class	W
	5/82	210	100	F	In class	W
J	5/81	466	26	F,S,J,Sr,G	U.S. mail	R
	1/83	281	35	F,S,J,Sr,G	U.S. mail	R
K	11/79	487	89	F,S,J,Sr	Registration	W
	11/82	393	81	F,S,J,Sr	Registration	W
L	11/82	261	67	F,S,J,Sr	Campus mail	W
	10/85	230	50	F,S,J,Sr	Campus mail	W
M	4/84	160	100	F,S,J,Sr	In class	R
	4/86	224	100	F,S,J,Sr	In class	R

Continued on next page

Table F3 (continued)

Survey/Institution	Administration date	Number of surveys	Response rate (%)	To whom[a]	How administered	Sample type[c]
N	4/84	1525	39	F,S,J,Sr	Several	R
	3/86	1091	47	F,S,J,Sr	Several	R
O	8/82	298	80	F,S,J,Sr	Registration	W
	8/84	293	82	F,S,J,Sr	Registration	W
	8/85	277	100	F,S,J,Sr	Registration	W
P	3/82	189	40	Sr	U.S. mail	W
	3/85	359	78	Sr	Several	W
	3/86	336	83	Sr	Several	W
Q	4/85	754	95	F,S,J,Sr	In class	R
	4/87	642	97	F,S,J,Sr	In class	R
R	4/86	112	86	J,Sr	In class	W
	5/87	112	100	J,Sr	In class	W
S	3/86	201	40	F,S,J,Sr	Several	R
	3/87	182	36	F,S,J,Sr	Several	R
T	4/85	677	64	F,S,J,Sr	U.S. mail	R
	3/87	685	55	F,S,J,Sr	Several	R
U	3/83	218	51	F,S,J,Sr	In class	R
	2/87	217	59	F,S,J,Sr	In class	R
2 W. NRSS						
A	9/84	135	100	W	Interview	W
	9/85	122	100	W	Interview	W
B	5/82	194	21	NR	U.S. mail	W
	4/84	124	17	NR	U.S. mail	W
C	11/82	102	42	W, NR	Several	W
	10/83	110	63	W, NR	Several	W
	9/84	54	52	W, NR	Several	W
D	10/82	204	16	W, NR	Several	W
	10/83	353	47	W, NR	Several	W
	10/84	131	30	W, NR	Several	W
	9/85	134	85	W, NR	Several	W

Continued on next page

Table F3 (continued)

Survey/Institution	Administration date	Number of surveys	Response rate (%)	To whom[a]	How administered	Sample type[c]
E	11/80	159	100	W	Interview	W
	11/81	151	100	W	Interview	W
	11/82	125	100	W	Interview	W
	9/84	89	100	W	Interview	W
	9/85	101	100	W	Interview	W
3. SOS 2-year						
A	3/83	1537	96	F,S	In class	R
	4/85	1048	100	F,S	In class	R
B	4/85	150	75	F,S	In class	R
	8/86	104	52	F,S	In class	R
4. ENSS						
A	8/85	104	83	NE	Registration	W
	8/86	118	90	NE	Registration	W
B	8/82	233	80	NE	Registration	W
	8/84	236	98	NE	Registration	W
	8/85	194	100	NE	Registration	W
	8/86	181	100	NE	Registration	W
C	9/82	152	91	NE	Registration	W
	9/83	154	90	NE	Registration	W
	9/84	123	100	NE	Registration	W
	9/85	116	100	NE	In class	W
	9/86	129	87	NE	In class	W

F - Freshmen; S - Sophomores; J - Juniors; Sr - Seniors; G - Graduate; W - Withdrawing; NR - Nonreturning; NE - Newly enrolled
Several - In class, U.S. mail, campus mail, interview, etc.
R - Random sample of target population, W - Total target population

Table 1
Results for Student Opinion Survey (4-year) - Analysis of Projected Differences

Institution code	Description of change/reform	Section: Item no.	Description of items affected	Expected change in satisfaction	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
A	Learning center established	III:3	Instruction in major field	Increase	730	2.98	628	3.01	.03	Hit	.72
		III:11	Preparation for future career	Increase	732	2.80	630	2.85	.05	Hit	.90
		III:25	Study areas	Increase	730	2.86	635	2.93	.07	Hit	1.65*
		II:1	Academic advising	Increase	601	3.77	514	3.82	.05	Hit	.82
B	Lengthened semester & breaks	III:32	Academic calendar	Increase	102	2.58	94	2.37	-.21	Miss	-1.48*
C	New advising system	II:1	Academic advising	Increase	172	3.75	152	3.88	.13	Hit	1.21
	Increased emphasis on placement services	II:3	Career planning	Increase	63	3.79	60	3.87	.08	Hit	.42
		II:4	Job placement	Increase	42	3.74	35	3.49	-.25	Miss	-.99
	New honors program	II:18	Honors program	Increase	32	4.03	31	4.39	.36	Hit	1.55
	New programs/increased enrollment, crowding	II:21	Parking facils.	Decrease	130	2.44	130	2.64	.20	Miss	-1.36*
D	Changed grading system	III:1	Testing/grading	Decrease	135	2.39	117	2.75	-.14	Hit	-1.60*
	Increased financial aid	II:10	Financial aid	Increase	96	3.83	85	3.88	.05	Hit	.32
		III:13	Financial aid info available prior to entering	Increase	129	2.90	121	3.10	.20	Hit	1.38*
		III:33	Billing & fee payment proced.	Increase	133	2.69	120	2.76	.07	Hit	.53

continued on next page

Table 1
(continued)

Institution code	Description of change/reform	Section: Item no.	Description of items affected	Expected change in satisfaction	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
	Legal drinking age raised	II:14	College-sponsored social activities	Decrease	114	4.01	94	3.78	-.23	Hit	-2.07*
		III:17	Rules governing student conduct	Decrease	130	2.59	120	2.56	-.03	Hit	-.29
E	75% staff turnover	III:14	Accuracy of pre-enrollment info.	Decrease	267	3.21	233	2.95	-.26	Hit	-3.70***
		III:34	Concern for me as an individual	Decrease	265	3.20	232	2.92	-.28	Hit	-3.96***
		III:35	Attitude of non-teaching staff	Decrease	263	3.41	236	3.17	-.24	Hit	-3.17***
		III:42	This college in general	Decrease	262	3.34	238	3.12	-.22	Hit	-3.69***
	Increased enrollment	III:30	General regist. procedures	Decrease	265	3.06	235	2.85	-.21	Hit	-2.99***
		III:31	Course availability	Decrease	261	2.64	221	2.36	-.28	Hit	-3.24***
		III:42	This college in general	Decrease	262	3.34	238	3.12	-.22	Hit	-3.69***
F	More car-drivers/parking problems overemphasized	II:21	Parking facilities	Decrease	375	2.68	487	1.89	-.59	Hit	-10.38***
	Better night lighting/Escort service promoted	III:21	Personal security	Increase	643	2.46	653	2.66	.20	Hit	3.94***
	Academic calendar changed	III:32	Academic calendar	Increase	648	2.50	636	2.63	.13	Hit	2.59**

*p<.10. **p<.05. **p<.01. ***p<.001.

Table 2
Results of Survey of Academic Advising - Analysis of Projected Differences

Institution code	Description of change/reform	Section: Item no.	Description of items affected	Expected change[a]	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
A	Started freshman study skills seminar	III:7	Improving study skills/habits	Increase	40	4.23	44	4.27	.04	Hit	.28
		III:8	Matching learning style to courses	Increase	44	4.34	48	4.44	.10	Hit	.68
	Students aided in recognizing long-term goals	III:10	Clarifying goals	Increase	74	4.16	70	4.17	.01	Hit	.07
		III:15	Job placement	Increase	45	4.07	35	4.17	.10	Hit	.47
		III:16	Continuing educ. after graduation	Increase	91	4.22	89	4.43	.21	Hit	1.81*
		III:17	Withdrawing/ transferring	Increase	52	4.29	56	4.29	.00	Tie	.00
	Ongoing relationship established between student and advisor	IV:1	Knows who I am	Increase	166	4.39	139	4.42	.03	Hit	.27
		IV:5	Available when needed	Increase	166	4.01	139	4.01	.00	Tie	.00
		IV:18	Clearly defines advisor/advisee responsibilites	Increase	152	3.72	124	3.91	.19	Hit	1.44*
		IV:31	Approachable/easy to talk to	Increase	166	4.22	139	4.39	.17	Hit	1.53*
		IV:36	Helpful and effective-I'd recommend to other students	Increase	164	4.14	138	4.16	.02	Hit	.15
B	New freshman advising system implemented	IV:2	Good listener	Increase	250	4.11	254	4.15	.04	Hit	.60

continued on next page

Table 2
(continued)

Institution code	Description of change/reform	Section: Item no.	Description of items affected	Expected change[a]	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
		IV:4	Respects my opinions/feelings	Increase	249	4.04	250	4.07	.03	Hit	.45
		IV:6	Provides caring open atmosphere	Increase	249	3.92	253	4.09	.17	Hit	2.38**
		IV:30	Enjoys advising	Increase	250	3.92	252	4.03	.11	Hit	1.40
		IV:31	Approachable/easy to talk to	Increase	251	4.04	251	4.20	.16	Hit	1.97*
	Advisors told to start initiating meetings	IV:16	Takes initiative in setting up meetings	Increase	236	3.10	248	3.75	.65	Hit	6.38***
	Advisors more concerned with students' overall adjustment	III:18	Dealing with personal probs.	Increase	52	4.29	51	4.24	-.05	Miss	-.36
		IV:20	Willing to discuss personal probs.	Increase	197	3.85	209	3.87	.02	Hit	.15
		IV:25	Encourages me to talk about myself	Increase	239	3.49	237	3.46	-.03	Miss	-.37
		IV:32	Keeps personal information confidential	Increase	246	3.80	246	3.91	.11	Hit	1.28*
	Advisors are members of different departments than advisees	IV:9	Gives accurate info about requirements, prerequisites	Increase	252	4.02	252	3.86	-.16	Miss	-1.82*
		IV:34	Flexible in helping me plan program	Increase	246	3.98	244	3.93	-.05	Miss	-.57

[a]Section III items pertain to satisfaction with advisor's assistance; Section IV items pertain to advisee impressions.

*p<.10. **p<.05. ***p<.01. ***p<.001.

Table 3
Results for Adult Learner Needs Assessment Survey - Analysis of Projected Differences

Description of change/reform	Section: Item no.	Description of items affected	Expected change in need[a]	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
Created office of adult learning services Fall, 1985)	III:32	Getting advice about my educational plans	Decrease	91	2.22	98	2.53	.31	Miss	1.95*
	III:33	Learning entrance requirements for educational programs	Decrease	81	1.95	91	2.18	.24	Miss	1.49*
	III:34	Selecting an educ. program	Decrease	83	2.13	91	2.23	.10	Miss	.59
	III:35	Learning about enrollment procedures	Decrease	71	1.77	84	1.83	.07	Miss	.39
	III:36	Learning more about financial aid entrance rqmnts.	Decrease	63	2.40	85	2.32	-.08	Hit	-.41
	III:37	Getting help with college reentry process	Decrease	54	1.78	70	1.74	-.04	Hit	-.19
	III:38	Learning about grad. requirements	Decrease	67	2.01	95	2.11	.10	Miss	.54
	III:39	Learning about transferring prior credits	Decrease	61	1.97	74	1.97	.00	Tie	.00
	III:45	Arranging class schedule	Decrease	71	2.00	70	1.89	-.11	Hit	-.59

Table 3
(continued)

Description of change/reform	Section: Item no.	Description of items affected	Expected change in need[a]	Admin. 1 N	Admin. 1 Mean	Admin. 2 N	Admin. 2 Mean	Mean difference	Hit/Miss	t value (1-tailed)
New system for awarding credit for non-college learning	III:47	Getting course credit through nontraditional means (CLEP, etc.)	Decrease	70	2.69	74	2.32	-.37	Hit	-1.76*
Created learning center composed of math, reading, writing, and special academic services	III:1	Math skills	Increase	76	2.36	96	2.46	.10	Hit	.57
	III:2	Writing skills	Increase	83	2.22	103	2.16	-.06	Miss	-.41
	III:4	Reading comprehension	Increase	77	1.74	102	1.97	.23	Hit	1.69*
	III:5	Reading speed	Increase	76	2.20	100	2.09	-.11	Miss	-.65
	III:6	Study skills	Increase	78	1.76	102	1.99	.23	Hit	1.59*
	III:7	Test-taking skills	Increase	77	2.04	101	1.98	-.06	Miss	-.38
Offered group and individual counseling sessions for adult learners	III:9	Handling pressure	Increase	77	2.10	102	2.10	.00	Tie	.00
	III:19	Identifying strengths and weaknesses	Increase	78	1.96	101	1.98	.02	Hit	.14
	III:53	Expressing personal values	Decrease	69	1.62	95	1.51	-.11	Hit	-.88
	III:59	Raising children	Decrease	48	1.96	60	2.13	.17	Miss	.83

Note. All items apply to the same institution.
[a]Larger values indicate more help needed.
*p<.10. **p<.05.

Table 4

Number of Acceptable and Unacceptable Explanations Provided for Items in ESS Surveys - Analysis of Explained Differences

Survey	Section Item Number	Description	Number of explanations		
			Acceptable	Unacceptable	Percent Hits
SIS 4 year	II-1	Academic advising services	1	-	100
	II-2	Personal counseling service	1	1	50
	II-5	Recreation and intramural programs	1	2	33
	II-6	Library services facilities	1	-	100
	II-7	Student health services	5	2	71
	II-8	Student health insurance	1	-	100
	II-11	Student employment services	2	1	67
	II-12	Residence hall services	1	-	100
	II-13	Food services	5	1	83
	II-14	College-sponsored social activities	2	-	100
	II-15	Cultural programs	1	-	100
	II-16	Computer services	5	1	83
	II-20	Mass transit service	1	-	100
	II-21	Parking facilities	4	2	67
	III-4	Instructor availability	1	-	100
	III-5	Faculty attitude toward students	1	-	100
	III-8	Flexibility in designing own study program	1	-	100
	III-10	Value of advisor information	1	-	100
	III-11	Preparation for future career	-	1	-
	III-16	Student voice in policy	2	2	50
	III-17	Rules governing student conduct	-	4	-
	III-18	Residence hall regulations rules	2	3	40
	III-19	Probation suspension policies	-	1	-
	III-20	Purpose of student activity fee	-	1	-
	III-21	Personal security	-	2	-
	III-22	Classroom facilities	2	-	100
	III-23	Laboratory facilities	1	-	100
	III-24	Athletic facilities	5	-	100
	III-25	Study areas	1	-	100
	III-26	Student union	3	-	100
	III-28	Availability of student housing	4	-	100
	III-29	General condition of buildings grounds	1	-	100
	III-30	General registration	4	-	100
	III-31	Course availability	3	-	100
	III-32	Academic calendar	1	-	100
	III-33	Billing fee payment procedures	1	-	100
	III-34	Concern for individual staff	1	-	100
	III-35	Attitude of non-teaching staff	-	1	-
	III-36	Racial harmony	2	-	100
	III-37	Opportunity for student employment	-	1	-
	III-39	Student government	1	-	100
	III-41	Campus media	3	1	75

Table 4 (continued)

Source	Section item number	Description	Number of explanations		
			Acceptable	Unacceptable	Percent Hits
W DRSS	II-2	Decided to attend a different college	1	-	100
	II-5	Wanted to move or transferred	1	-	100
	II-33	Unhappy with rules and regulations	-	1	-
	II-41	Tuition and fees too expensive	-	1	-
	III-1	Academic advising services	1	-	100
	III-6	Library facilities services	1	-	100
	III-8	Student health insurance program	-	1	-
	III-9	College-sponsored tutorial service	2	-	100
	III-10	Financial aid services	1	-	100
	III-13	Food services	-	1	-
	III-14	College-sponsored social activities	1	-	100
	III-19	Computer services	1	1	50
	III-30	General registration procedures	1	-	100
	III-35	Preparation for future job	1	-	100
	III-43	Racial harmony	-	1	-
	III-46	Personal security on campus	1	-	100
SSS 4-year	III-12	Cafeteria food services	1	-	100
	III-17	Computer services	1	-	100
	IV-14	Accuracy of pre-enrollment information	1	-	100
	IV-18	Rules governing student conduct	-	1	-
	IV-22	Personal safety on campus	-	1	-
	IV-29	Student center student union	1	-	100
	IV-32	Bookstore	1	-	100
	IV-34	Course availability	1	-	100
	IV-39	Racial harmony	-	1	-
	IV-41	Opportunities for personal involvement	1	-	100
ENSS	III-A-5	Size of the college	-	1	-
	III-B-4	Difficult to earn good grades	1	-	100
	III-B-11	Excellent recreation facilities	1	-	100
	III-B-13	Comfortable residence halls	-	1	-
	III-B-15	Many students hold extreme views	-	1	-
	III-B-21	High quality classroom lab facilities	1	-	100