Retention: Diverse Institutions = Diverse Retention Practices?

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Abstract

Increasing college student retention remains a critical issue on most U.S. college campuses. Over the past three decades, ACT has conducted national surveys of retention practices asking postsecondary institutions to identify the retention practices they employ to mitigate student attrition. Based on ACT's most recent survey conducted in the spring of 2009 this paper focuses on the retention practices employed at 2-year public institutions (N=303), 4-year public institutions (N=255), and 4-year private institutions (N=434). Information on institutional characteristics (type, control, size, minority enrollment rate, and admissions selectivity) was collected as well, as was data on first-to-second-year retention rates. Do retention practices vary based on differences in institutional characteristics? What retention practices are most related to institutional retention rates? The findings suggest that frequency of use of retention practices differs based on institution type and control. Four-year public institutions reported using more retention practices than the 2-year public or 4-year private institutions. Only eight of the 94 identified practices were used by more than 80% of all institutions, regardless of type and control. A plurality of the practices most used by most institutions focuses on increasing student academic skills and performance. Stepwise regression analyses indicated that institutional selectivity and size were the most significant predictors of institutional retention rate in the 4-year institution models, accounting for about 80% of the variance in retention rates explained by the models. The relationship between institutional selectivity and retention was less pronounced for 2-year public institutions than for the 4-year institutions. The contribution of any single retention practice to institutional retention rate appeared to be noticeably smaller: retention practices account for just over 3% of the variance in institutional retention rates in even the best case. Collectively, the findings provide IR professionals with information that may be useful as they conduct retention studies on their individual campuses.

Background and Research Questions

As in most developed countries, higher education in the United States has replaced secondary education as the focal point of access to rewarding careers. Some experts predict that within a decade 90% of all jobs will require skill levels beyond those gained in high school (e.g., Career Readiness Certificate Consortium, 2007). Post-industrial society demands more graduates with the knowledge and skills typically developed in higher education institutions and compensates those graduates accordingly.

U.S. wage differentials across educational attainment levels, however, are widening because the U.S. education system is not producing a sufficient number of graduates with postsecondary degrees. According to the Council on Competitiveness (2007), only U. S. households headed by a college graduate saw their incomes (in constant dollars) rise over the past 20 years; incomes for

other households fell in real terms. Higher wages not only benefit individual wage earners and their families, but all of society.

Given the importance of raising educational attainment levels, it might seem reassuring that the United States currently boasts one of the higher rates of entry to postsecondary education in the world (OECD, 2008, p. 68). Unfortunately, the United States also has one of the lowest rates of postsecondary completion. The ratio of 4-year college graduates to college entrants was only 56% in the United States in 2005. For most countries included in the Organisation for Economic Co-operation and Development (OECD) compilations, completion rates were 70% or higher; for some countries they exceeded 80% (OECD, 2008, p. 98).[1] Moreover, while the completion rate for U.S. four-year colleges may be poor, that for U.S. community colleges is even worse: less than 60% of the four-year rate (U.S. Department of Education, 2008, Table 318).

U.S. college student retention rates reflect the enrollment-to-graduation rate gap problem. In 2009, the first- to second-year institutional retention rate for four-year college undergraduates was 73.0%, a rate that has decreased 1.7 percentage points since 1989 (ACT, 2009).[2] Institutional retention rates at private four-year institutions were higher than those of public four-year institutions every year over this period, as were those of four-year institutions compared to two-year institutions. Over the past 20 years, approximately 1 in 4 first-year undergraduates at four-year institutions has not returned to the same college for their second year; just under half of first-year undergraduates at two-year institutions have not returned. Clearly, increasing retention remains a critical issue on most college campuses.

How can we narrow the gaps between college enrollment and graduation rates? For 30 years, our retention research has indicated that a large number and wide variety of practices and policies are employed by institutions to increase retention. Between 1980 and 2003, the number and variety of institutional retention practices increased from 20 types of retention programs to more than 100 (ACT, 2004). Today's college enrollment-to-graduation gap exists not for lack of effort to increase retention. Despite these efforts, however, the enrollment-to-graduation rate gap persists.

Over the past three and one-half decades, ACT has dedicated itself to conducting research that collects information from colleges and universities that will help them identify and better understand the impact of various practices on college student retention and persistence to degree-completion. Part of these efforts have included conducting four national studies of institutional retention, periodically surveying higher education institutions—public and private; trade, technical, 2-year, and 4-year degree granting—over the course of the past 30 years.

The first retention study, *What Works in Student Retention* (Beal and Noel, 1980), was a joint project of ACT and the National Center for Higher Education Management Systems

[1] Factors that reduce the comparability of these statistics include: the United States' numbers include only full-time students; only half the countries used a "true cohort" (e.g., the number completing in 2005 divided by the number entering in an earlier year), the others used entrants and completions from the same year; and there is no control for students who enter one type of postsecondary program, transfer, and then complete another type. Valuable cautions on this type of comparison can be found in Adelman (2008) and Wellman (2007).

[2] Data reported here are on institutional retention rates meaning the percentage of first-year students who returned to the same institution for their second year of postsecondary education. These data do not indicate the percentage of students who remain in the U.S. postsecondary education system, regardless of institution(s) attended.

(NCHEMS).[3] Staff from the two organizations developed, piloted, and administered a survey instrument that was sent to 2,459 two-year and four-year colleges and universities and achieved a response rate of 40.2%. As one part of the study, the authors collected information from institutional respondents about 17 student characteristics and 10 institutional characteristics that were thought to contribute to attrition and retention. In addition, respondents were asked to select from a list of 20 action programs that had been identified as having potential for improving retention. Conclusions in the final report cited the following three action program areas as critical to retention.

- Academic stimulation and assistance: challenge in and support for academic performance
- Personal future building: the identification and clarification of student goals and directions.
- Involvement experiences: student participation/interaction with a wide variety of programs and services on the campus.

In the mid-1980s, ACT and the American Association of State Colleges and Universities (AASCU) collaborated in a content replication of the 1980 study and produced a monograph entitled *What Works in Student Retention in State Colleges and Universities* (Cowart, 1987). The survey population comprised a more limited sample of U.S. postsecondary education institutions by surveying only the 370 AASCU members at that time. A similar array of content areas was explored in this study as in the previous effort, using the 1980 study as a conceptual base. When asked about new strategies employed to improve retention since 1980, the following practices were cited by more than 50% of the colleges.

- Improvement/redevelopment of the academic advising program
- Special orientation program
- Establishment of early warning systems
- Curricular innovations in credit programs

More recently, ACT conducted the 2004 study, *What Works in Student Retention* (Habley and McClanahan, 2004). The research team conducted an extensive review of the extant college retention and persistence literature that had grown exponentially since the first survey was conducted nearly a quarter century earlier. A substantial number of new practices had been identified and undertaken in an effort to increase retention rates in the intervening years, rendering the former survey instruments obsolete. Consequently, a substantial effort was made to develop an instrument that would include items addressing both historic and newer retention practices and items that would address both the prevalence and the impact of their effect on student retention. Whereas the 1980 survey identified only 20 institutional intervention practices as contributing to retention, after refining an initial list that included more than 100 interventions, the design team settled on 82 intervention practices that had an evidence base, at least for their use.

[3] This report is no longer available.

In addition, the set of items assessing the institution's perceptions of the institutional and student factors affecting attrition was also reviewed and revised. The design team expanded the original list of institutional characteristics that had some evidence base for thinking they contribute to attrition from 10 to 24 and the list of student characteristics doing so from 17 to 20. The revised survey instrument was sent to 2,995 two-year and four-year public and private colleges and universities, achieving a response rate of 35.4%, or 1,061 institutions. Primary findings from the 2004 study included the following.

- Institutions were far more likely to attribute attrition to student characteristics than to institutional characteristics.
- Respondents from the majority of all colleges in the study reported retention practices responsible for the greatest contribution to retention fell into three main categories.
    1. First-year programs
    2. Academic advising
    3. Learning support

When asked to identify the three retention practices that had the greatest impact on student retention, survey respondents identified at least one of the following.

- Freshman seminar/university 101 for credit
- Tutoring program
- Advising interventions with selected student populations
- Mandated course placement testing program
- Comprehensive learning assistance center/lab

Conducted in the spring of 2009, ACT's most recent retention research sought to find answers to questions about retention that might shed light on how to decrease the gap between college enrollment and degree completion—a problem that has persisted over time (ACT, 2010). Questions for which answers were sought included: Do retention practices vary based on institutional differences such as type, affiliation, and minority enrollment rate? What practices are implemented by institutions with the highest retention rates? Which practices do institutions deem to be the most effective in their retention efforts? What antecedents do institutions believe are attributable to the student and which to the institution in the case of student attrition?[4]

This study, as those in the past, was designed to ask Chief Academic Affairs Officers and others in similar positions to provide their thoughts concerning two primary matters: college student attrition and retention. These individuals interact daily with students, fellow administrators, and others on their campuses dedicated to improving retention and graduation rates. While questions are asked about current retention and graduation rates, as well as future goals for both, the primary purpose of ACT's surveys has been to assess these individuals' perceptions of specific

[4] Additional information on the 2009 *What Works in Student Retention?* study, including reports, can be found at: http://www.act.org/research/policymakers/reports/retain.html

causes of attrition and of the many factors that may affect, and particularly the practices they implement to ameliorate, retention.

While the 2009 *What Works in Student Retention?* study addressed a range of issues and topics, this paper focuses on a narrower subset of research questions, specifically those concerning the relationship between retention practices implemented and first-to-second year institutional retention rates. Which practices are used most frequently by different institutions based on institutional type and control? What is the statistical relationship between those practices and institutional retention rates? What models of retention practices can be developed that are sensitive to institutional differences? Do the same retention practices affect retention rates similarly at all colleges and universities?

The reminder of this paper describes the methodology employed (including the instrument, contact database, administration, population, and response rates), analyses, and findings to address this narrower subset of research questions. Data analyzed for the study included that returned from respondents at community colleges, private four-year colleges, and public four-year colleges. Data from the surveys returned by vocational/technical schools, online schools, and other types of schools are not included because there were too few responses in any of these categories for meaningful analyses.

Methods

The *survey instrument* (Appendix A) developed for the study was, in many ways, similar to that used in the 2004 study. However, changes were made to the earlier instrument, reflecting lessons learned as data from the 2004 study were analyzed. Changes to items and additional items also reflected topics related to attrition and retention that had surfaced in the retention literature and practice since development of the 2004 instrument.

Based on its 2004 predecessor, the 2009 retention survey instrument contained seven sections of items that collected data on institution retention and degree completion rates, retention rate goals, degree-completion rate goals, antecedents of attrition, campus retention practices, effectiveness of retention practices, and transfer-enhancement programs. While the survey focuses on institutional retention, the last category of items—transfer-enhancement programs—begins to collect data on practices designed to maintain students' involvement within the U.S. postsecondary education system as a whole. These preliminary efforts at examining U.S. system-wide retention practices begins to recognize the varied and varying enrollment patterns of today's students, and suggests that future retention research should take these patterns into account.

The *Database* used for the initial mailing was ACT's Institutional Data Questionnaire (IDQ), which contains information for nearly 3,700 postsecondary educational institutions. These institutions include most traditional two-year and four-year degree-granting colleges and universities in the United States, as well as smaller numbers of technical, business, online, and other specialized schools. Additional information on the IDQ can be found in Appendix B.

A *Six-Phase Mailed and Telephone Administration* was used in this project. Five mailings and one telephone contact were conducted. Returned, completed surveys were entered into an electronic tracking system on a daily basis. Information on the contact schedule and the materials included in each contact for the mailed administration can be found in Appendix B.

The *Population* (N=3,360) included the Chief Academic Affairs Officers at 240 voc-tech schools, 949 public community colleges, 97 private two-year colleges, 598 public four-year colleges/universities, 1,318 private four-year colleges/universities, and 158 institutions that could not be identified as any of the previous types mentioned at the outset of the study (Table 1). Of the first mailing, which was sent to 3,426 institutions, 45 were returned as undeliverable and 21 others were dropped from the study because the institutions had closed or did not offer undergraduate programs. Therefore, the effective population for this study was 3,360.

Private four-year institutions were clearly the largest subgroup in the population (n=1,318, ≈39% of the total group), followed by community colleges (n=949, ≈28% of the total group). Together, the private four-year and public community colleges made up almost 70% of the population. While the total group comprised approximately 18% public four-year institutions, only seven percent were voc-techs, and less than three percent were private two-year institutions. Almost 8.5% of the institutions were not identified by type at the time of the mailings.

Table 1. Number and Percent of Institutions in First Mailing by Institution Type

Institution Type	Number in Population	Percent of Population
Unknown	158	8.45%
Technical	240	7.14%
Community College	949	28.24%
Private 2-Year	97	2.89%
Private 4-Year	1318	39.23%
Public 4-Year	598	17.80%
Total	3360	100.00%

Of the 3,360 institutions contacted, responses were received from 1,104 for an overall response rate of about 32.9% (Table 2). While public four-year colleges had the highest response rate (≈43%) for type of school, private four-year colleges and universities had the largest number of responding institutions (n=440). The next largest responding group was the community colleges (n=305).

Table 2: Response Rates by Types of College and University

Type of College/University	Number of Surveys Mailed	Number of Surveys Returned Completed	Response Rate by Type of School
Technical	240	70	29.17%
Community College	949	305	32.13%
Private 2-Year	97	31	31.96%
Private 4-Year	1318	440	33.38%
Public 4-Year	598	258	43.14%
Total	3360	1104	32.86%

* Following return of the completed surveys, each school that was unidentified by type at the time of mailing was located on the web, in the 2009 Higher Education Directory, or in a similar source and identified by type before further analyses were conducted. There were no institutions of "unknown" type for the analyses portion of the study.

Of the 1104 returned completed surveys, Table 3 indicates that the largest number were from private 4-year institutions (≈40% of respondents), followed by community colleges (≈28%), and public 4-year institutions (≈23%). Respondents from technical and private -2-year institutions represented noticeably smaller shares of the total number of completed surveys.

Table 3: Completed Surveys by Type of College/University

Institution Type	Number of Surveys Returned Completed	% of Completed Surveys by School Type
Technical	70	6.34%
Community College	305	27.62%
Private 2-Year	31	2.81%
Private 4-Year	440	39.86%
Public 4-Year	258	23.37%
Total	1104	100.0%

* Following return of the completed surveys, each school that was unidentified by type at the time of mailing was located on the web, in the 2009 Higher Education Directory, or in a similar source and identified by type before further analyses were conducted. There were no institutions of "unknown" type for the analyses portion of the study.

For the purposes of this paper, the *Analysis* comprised three stages, each focusing on the retention practices employed by institutions and their relationship to first-to-second year retention rates. The first stage was a frequency analysis of the retention practices used by institutions based on institutional type (2-year and 4-year) and control (public and private). Because the numbers of completed surveys returned from private two-year colleges (N=31) and technical schools (N=70) were low, data from these groups are not considered in any of the analyses.[5]

[5] Prior to analysis, two adjustments were made to the data file. First, 14 of the 1,104 respondent records were deleted because the respondents failed to provide at least four responses to the Likert items in Section IV of the survey instrument. This reduced the number of two-year, public respondents from 305 to 303, the number of four-year, public respondents from 258 to 255, and the number of four-year private responses form 440 to 434. Second, if a respondent failed to indicate whether or not his/her institution offered a particular program, service, curricular offering, or intervention but did provide a contribution rating for the item, a "yes" response for "offered at this institution" was coded for that item.

The second stage of the analysis examined the perceived contribution of interventions to institutional retention rates, as indicated by the survey respondents. This analysis was completed for each institutional type/control group, and identified those practices that were reported by institutional respondents as having the highest affect on increasing institutional retention rates.

The third stage of the analysis looked at the relationship between retention practices and first-to-second year institutional retention rates and included stepwise regression analyses of the retention practices employed by institutions. Three stepwise regression analyses were conducted with retention rate as the dependent variable in order to build a model of institutional retention practices that appear to have an effect on retention rates; one regression model was developed for each institutional type/control group. A number of institutional characteristics (e.g., admissions selectivity, size, religious affiliation, proportion of overall enrollments consisting of African American students, proportion of overall enrollments consisting of Hispanic students), as well as variables to capture the interactive effects of these characteristics, were used as independent variables within each model. Institutional characteristics loaded first into each of the three models.

Findings

This section reports findings of the analysis. These findings are presented in an order that mirrors the three staged analysis described above.

1. Frequency of Retention Practices

Using a Yes/No response choice, survey respondents were asked to indicate whether or not their institution offered each of 94 programs, services, curricular offerings, and interventions that may make a contribution to retention on their campus (see Appendix A, Section IV). For the remainder of this paper, these will be referred to as "retention practices" or "practices." Two open-ended questions were offered for respondents to write in additional retention practices that they offered that were not among the listed 94. The retention practices were organized based on ten themes:

1. First-year Transition Programs: summer orientation, extended freshman orientation, freshman seminar, living/learning communities
2. Academic Advising: training for academic advisors, integration of advising with first-year transition programs, academic advising center, online advising system)
3. Assessment: placement of students in courses based on assessments, diagnostic academic skills assessment, interest assessment
4. Career Planning and Placement: career exploration workshops or courses, internships, career counseling
5. Learning Assistance/Academic Support: remedial/developmental coursework, comprehensive learning assistance center/lab, tutoring, study skills course/program/center, early warning system

6. Mentoring: peer mentoring, faculty mentoring
7. Faculty Development: instructional techniques, assessing student performance, writing across the curriculum
8. Financial Aid: pre-enrollment financial aid advising, short-term loans
9. Co-curricular Services/Programs for Specific Student Sub-populations: adult students, ESL students, first-generation students, GLBT students, racial/ethnic minority students, veterans
10. Other Activities/Programs: degree guarantee program, freshman interest groups, student leadership development, residence hall programs, fraternities/sororities

Responses from 992 institutions (303 2-year public, 255 4-year public, and 434 4-year private) were used for this stage of the analysis of postsecondary education institutions. All 94 practices are listed, along with the frequency of each practice used by the three institutional type/control groups, in Appendix C, Table C1.

Tables 4 and 5 contain data on the retention practices with the highest and lowest incidence rates reported by respondents for three institutional type/control groups. Table 4 contains a list of those practices in use by at least 80% of responding institutions, beginning with those that are common (used by at least 80% of institutions) across all the three institutional type/control groups and followed by practices common to two groups, and then those unique to only one type/control group.

Table 4. Practices with the Highest Frequency of Use by Institutional Type and Control, 2009

Item #	Item	Frequency of Use		
		2-year public	4-year public	4-year private
64	faculty use of technology in teaching	96%	96%	90%
48	tutoring	95%	97%	90%
85	college-sponsored social activities	89%	90%	89%
36	individual career counseling	88%	93%	84%
65	faculty use of technology in communicating with students	86%	88%	84%
69	pre-enrollment financial aid advising	84%	81%	84%
87	student leadership development	83%	91%	82%
57	library orientation, workshop, and/or course	81%	85%	81%
24	mandated placement of students in courses based on test scores	88%	84%	–
63	assessing student performance	83%	81%	–
62	instructional (teaching) techniques	80%	85%	–
34	internships	–	97%	93%
92	residence hall programs	–	88%	84%
41	remedial/developmental coursework (required)	88%	–	–
49	study skills course, program, or center	80%	–	–
1	summer orientation	–	93%	–
33	career exploration workshops or courses	–	89%	–

Table 4. Practices with the Highest Frequency of Use by Institutional Type and Control, 2009

Item #	Item	Frequency of Use		
		2-year public	4-year public	4-year private
45	writing center/lab	–	89%	–
11	advising interventions with selected student populations	–	88%	–
78	programs for honor students	–	85%	–
8	parent/family orientation	–	84%	–
67	interdisciplinary courses	–	84%	–
37	computer-assisted career guidance	–	80%	–
79	international students		80%	
51	mid-term progress reports	–	–	81%

Overall, the greatest number of retention practices implemented by at least 80% of institutions was found with 4-year public institutions; 22 such practices were implemented by respondents. In contrast, respondents from 2-year public institutions (13 practices) and 4-year private institutions (11 practices) identified fewer such practices that were used by at least 80% of these institutions. Regardless of institutional type or control, eight practices were used by more than 80% of all institutions. These eight retention practice are those that are in place at the greatest share of institutions in the United States. Two practices, faculty use of technology in teaching (#64) and tutoring (#48) were used by more than 90% of the institutions across institution type and control. Another five practices were implemented by more than 80% of institutions across two institutional type and control groups.

An array of retention practice themes characterize the programs most often used by institutions regardless of type and control. Two practices (#64 & #65) are Faculty Development practices, two (#48 & #57) are Learning Assistance/Academic Support practices, two (#85 & #87) are Other Activities, and one practice each are a Career Planning and Placement practice (#36) and a Financial Aid practice (#69). For 4-year public institutions, the institution type and control group with the most high frequency practices, a wider array of practice themes are represented by the 22 practices, although more than half are from three themes. Practices used by 4-year public institutions are found in the following themes:

- Faculty Development (5 practices)
  - instructional techniques (#62)
  - assessing student performance (#63)
  - faculty use of technology in teaching (#64)
  - faulty use of technology in communicating with students (#65)
  - interdisciplinary studies (#67)
- Career Planning and Placement (4 practices)
  - career exploration workshops or courses (#33)
  - internships (#34)
  - career counseling (#36)
  - computer-assisted career guidance (#37)

- Learning Assistance/Academic Support (3 practices)
  - writing center/lab (#45)
  - tutoring (#48)
  - library orientation/workshop/course (#57)
- Other Activities/Programs (3 practices)
  - college-sponsored social activities (#85)
  - student leadership development (#87)
  - residence hall programs (#92)
- First-year Transition Programs (2 practices)
  - summer orientation (#1)
  - parent/family orientation (#8)
- Academic Advising (1 practice)
  - advising interventions with selected student populations (#11)
- Assessment (1 practice)
  - Mandated placement of students in courses based on assessments (#24)
- Financial Aid (1 practice)
  - pre-enrollment financial aid advising (69)
- Co-curricular Services/Programs for Specific Student Sub-populations (1 practice)
  - honor students (#78)
  - international students (#79)

Table 5. Practices with the Lowest Frequency of Use, by Institutional Type and Control, 2009

Item #	Item	Incidence Rates		
		2-year public	**4-year public**	**4-year private**
4	freshman seminar/university 101 (non-credit)	7%	9%	11%
61	community member mentoring	8%	15%	10%
83	degree guarantee program	12%	12%	5%
84	freshman interest groups (FIGS)	3%	–	9%
20	recognition/rewards for non-faculty academic advisors	12%	–	12%
19	recognition/rewards for faculty academic advisors	13%	–	17%
94	required on-campus housing for freshman	4%	–	–
93	fraternities/sororities	4%	–	–
6	living/learning communities (residential)	5%	–	–
2	extended freshman orientation (non-credit)	12%	–	–
75	programs for female students	18%	–	–
73	commuter students	19%	–	–
92	residence hall programs	19%	–	–
7	learning communities (non-residential)	–	–	15%
68	enhanced/modified faculty reward system	–	–	18%
81	programs for veterans	–	–	18%

Regardless of institutional type or control, three practices were used by fewer than 20% of all institutions: non-credit freshman seminar/university 101 (#4), community member mentoring

(#61), and degree guarantee programs (#83). Another three practices were implemented by fewer than 20% of institutions across two institutional type and control groups. These six retention practices are those used by the fewest institutions in the United States. Overall, respondents from 2-year public institutions reported implementing fewer retention practices than did respondents from the other two groups.

2. Reported Contribution of Retention Practices to Institutional Retention Rates

Survey respondents also indicated the degree to which each implemented retention practice contributed to retention rates on their campus using a five-point scale where 5=major contribution, 3=moderate contribution, and 1=little or no contribution. Table 6 contains a list of the 15 practices with the highest mean ratings for each of the three institutional type/control groups.[6] Mean contribution ratings for all such practices were between 3.66 and 4.14. Twenty-seven unique retention practices were identified in this way. Eight practices were common across the three groups, six of which focus on improving academic performance (#46, #43, #48, #12, #76, #11, #14, and #13). The other two practices common across the three groups focus on retention programs for specific student populations, one of which concerns academic advising (#11). Four more practices were common to two institutional type/control groups, of which two also focused on improving academic performance (#44 & #39) and two others typically provide instruction on academic skills development (#3 and #5). Thirteen retention practices were unique to only one institutional type/control group: 2-year public institutions (5 practices), 4-year public institutions (3 practices), and 4-year private institutions (5 practices). All 94 items are listed, in numeric order, along with means and incidence rates for each in Appendix C, Table C2.

The most highly rated practices tended to be those that provide assistance at increasing academic performance or skills (e.g., reading center/lab [#46], tutoring [#48]), as well as retention practices for specific student populations, such as for first-generation students (#76). This focus on academic-related retention practices was found for all three institutional type/control groups.

Table 6. Practices with the Highest Mean Contribution to Retention by Institutional Type and Control, 2009

Item #	Item	Mean Contribution to Retention & (rank within group)		
		2-year public N=303	**4-year public** N=255	**4-year private** N=434
46	reading center/lab	4.14 (1)	3.86 (8)	3.86 (4)
43	comprehensive learning assistance center/lab	4.12 (2)	3.92 (4)	3.84 (5)
48	tutoring	4.11 (3)	3.84 (9)	3.75 (9)
12	increased number of academic advisors	4.01 (6)	3.98 (2)	3.87 (3)
76	programs for first-generation students	3.97 (9)	3.90 (6)	3.80 (7)
11	advising interventions with selected student populations	3.91 (10)	3.93 (3)	3.93 (2)

[6] Table 6 reports the mean contribution data only for those practices that were implemented by at least 20% of the institutions within each institutional type/control group. Table A2 provides these means for all practices, regardless of incidence rates.

Table 6. Practices with the Highest Mean Contribution to Retention by Institutional Type and Control, 2009

Item #	Item	Mean Contribution to Retention & (rank within group)		
		2-year public N=303	**4-year public** N=255	**4-year private** N=434
14	academic advising center	3.87 (11)	3.98 (1)	3.93 (1)
13	integration of advising with first-year transition programs	3.87 (13)	3.80 (13)	3.83 (6)
44	mathematics center/lab	3.99 (8)	3.76 (14)	–
39	supplemental instruction	3.84 (14)	3.91 (5)	–
3	extended freshman orientation (credit)	–	3.82 (11)	3.73 (11)
5	freshman seminar/university 101 (credit)	–	3.74 (15)	3.67 (13)
24	mandated placement of students in courses based on test scores	4.11 (4)	–	–
41	remedial/developmental coursework (required)	4.08 (5)	–	–
45	writing center/lab	4.00 (7)	–	–
25	recommended placement of students in courses based on test scores	3.87 (12)	–	–
42	remedial/developmental coursework (recommended)	3.82 (15)	–	–
94	required on-campus housing for freshmen	–	3.86 (7)	–
40	summer bridge program	–	3.83 (10)	–
78	programs for honor students	–	3.81 (12)	–
50	early warning system	–	–	3.77 (8)
69	pre-enrollment financial aid advising	–	–	3.74 (10)
59	faculty mentoring	–	–	3.68 (12)
34	internships	–	–	3.67 (14)
1	summer orientation	–	–	3.66 (15)

3. Regression Analysis of Retention Rate on Retention Practices

The third stage of the analysis was an exploratory analysis involving a series of stepwise regression analyses with institutional retention rate as the dependent variable. The regressions were conducted separately for each of the three institutional type/control groups to build retention practice models unique to each context.

In addition to retention practices, the extent research literature identifies institutional characteristics that may be related to institutional first-to-second year retention rates. As such, a number of institutional characteristics were also considered for entry into each of the regression models. These variables included institutional type, control admissions selectivity, size, proportion of total enrollments consisting of African American students, proportion of total enrollments consisting of Hispanic students, religious affiliation or control, Bible school or seminary status, and art/music/design school status. Data on these institutional characteristics were obtained primarily from the IDQ.

In addition to institutional type and control, institutional admissions selectivity was also considered due to the already well-established relationship within the retention literature on

student academic success between institutional selectivity and retention, as well as many other postsecondary student outcomes. For this study, selectivity was based on institutional admissions policy:

- Top 10%: majority of enrolled students rank in the top 10% of their high school graduating class
- Top 25%: majority of enrolled students rank in the top 25% of their high school graduating class
- Top 50%: majority of enrolled students rank in the top 50% of their high school graduating class
- Top 75%: majority of enrolled students rank in the top 75% of their high school graduating class
- Open Admissions: generally open to all students with a high school diploma or equivalent

Table 7 contains the percent of institutions in the current study with these admissions policies. Nearly all, community colleges (96%) had an open admissions policy. Admissions policies for the 4-year institutions were more evenly distributed, with the median being a top 50% admit policy. The admissions policies for both private and public 4-year institutions, however, tended toward to greater levels of selectivity.

Table 7. Percent of institutions by admissions policy for all three institution type/control groups

Admission Policy	2-year public N=303	4-year public N=223	4-year private N=387
Majority in Top 10%	0%	6.7%	5.4%
Majority in Top 25%	0.7%	27.4%	23.8%
Majority in Top 50%	1.3%	50.7%	53.0%
Majority in Top 75%	1.7%	6.7%	10.1%
Open Admissions	96.4%	8.5%	7.85%
Note: Total may not sum to 100% due to rounding			

As expected, the correlation between institutional selectivity and first-to-second year retention rates was seen for 2-year public institutions ($r = -0.123$, $p = 0.040$), 4-year public institutions ($r = -0.708$, $p < 0.001$), and 4-year private institutions ($r = -0.572$, $p < 0.001$). In general, less selective admissions policies were associated with lower retention rates.

Because institutional selectivity was found to be highly correlated with retention rate, this variable was included in all regression analyses conducted. Institutional size was also found to be correlated to retention rates, so it was included in the analysis as well. These two variables were forced into each of the models in the first step. Therefore, each regression analyses controlled for institutional type (2-year/ 4-year), control (public/private), institutional admissions selectivity, and size.

To determine whether the other institutional characteristics may explain some of the variation in first-year-to-second-year retention rates, dummy variables were added into the regression model

identifying institutions with: 1) a religious affiliation or control, 2) at least 20% of their overall enrollments consisting of African American students, and 3) at least 20% of their overall enrollments consisting of Hispanic students. Additionally, the five interaction variables were added into the regression model for each of the three institution type/control groups. These interaction variables included:

- selectivity and size
- selectivity and African American student enrollments
- selectivity and Hispanic student enrollments
- size and African American student enrollments
- size and Hispanic student enrollments

An initial F-test, with a default significance level of 0.15, was used at each stage of the stepwise regressions to initially determine which of the retention practices and institutional characteristics to retain in the models. Then, to address the issue of practical significance, the partial R^2 values (which indicate the percent of variance in retention rates that is attributed to retention practices or institutional characteristics) were then examined and only the variables that explained a minimum of approximately 0.75 % of the variance in the dependent measure were retained. The results are presented by institutional type/control group, beginning with 2-year public institutions.

2-year Public Institutions – Regression Analysis

For the 2-year public institutions, only selectivity and size were the institutional characteristic variables found to be significantly related to retention rates, so only these two institutional characteristics were retained in the stepwise regression model (Table 8). The effect of institutional selectivity was evident; higher levels of selectivity were associated with higher rates of retention, as expected. However, recall that 96% of all 2-year public institutions reported having open admissions policies. The effect of institutional size is also evident and positive.

In addition to institutional selectivity and size, seven retention practices were retained in the stepwise regression retention rate model for 2-year public institutions. Institutions with a pre-enrollment financial aid advising program have approximately a 3.8% higher first-to-second-year institutional retention rate than similar institutions who do not implement this retention practice. Institutional retention rates were also found to be higher for those institutions that implement interest assessments (by about 3.4%) and diagnostic academic skills assessments (by about 3.2%) compared to institutions that do not offer these programs. Smaller, but significant, positive effects on retention rates were found for job shadowing programs (about 2.8% higher) and mid-term progress reports (about 2.4% higher).

Also of note were two retention practices that were found to be negatively related to retention in the model: extended freshman orientation for credit and motivation and goal setting workshop/program. It is likely that these programs were implemented by institutions with low retention rates to help reduce attrition.

Table 8. Results of the stepwise regression analysis of retention rates, 2-year public institutions

Variable	Parameter Estimate	Standard Error	F Value	Pr > F
Intercept	66.94968	8.59012	59.66	<.0001
Institutional Characteristics				
Admissions policy	4.13797	1.72648	5.74	0.0172
Size	1.48466	0.57108	6.76	0.0098
Retention Practices				
Extended freshman orientation for credit (#3)	-2.64616	1.28254	3.66	0.0569
Diagnostic academic skills assessment (#26)	3.18699	1.28304	3.17	0.0136
Interest assessment (#30)	3.41480	1.27806	7.14	0.0080
Job shadowing (#38)	2.79612	1.37884	4.11	0.0439
Mid-term progress reports (#51)	2.35436	1.27921	3.39	0.0668
Pre-enrollment financial aid advising (#69)	3.78788	1.69291	5.01	0.0261
Motivation and goal setting workshop/program (#90)	-3.42023	1.35931	6.33	0.0124

The entire model only explained about 15% of the variance in retention rates for 2-year public institutions ($R^2 = 0.1491$). Based on the regression results, it appears that other factors (e.g., student characteristics, including academic preparation) may have a more substantial affect on institutional retention rates. Indeed, the rather robust presence of academically oriented retention practices employed by 2-year public institutions seems to support this contention.

4-year Public Institutions – Regression Analysis

For 4-year public institutions, only selectivity, size, and the 20% Hispanic student enrollment variables were found to be related to retention rates, and so were retained in that model (Table 9). More so than in the 2-year public institution model, the effect of institutional selectivity and size were evident in the 4-year public institution model. Again, institutions with more selective the institution's admission policy or with larger student enrollments had higher institutional retention rates. The Hispanic enrollment variable was found to be negatively related to retention rates within the 4-year public institution model: institutions with at least 20% of their total student enrollment consisting of Hispanic students had approximately a 5.6% lower retention rate than other institutions. This finding likely reflects the special needs and challenges facing this population of students and the unique characteristics of the institutions that serve them.

Five retention practices were retained in the stepwise regression retention rate model also, three of which were positively related to retention rates. Institutions with a program of writing across the curriculum have approximately a 3.2% higher first-to-second-year institutional retention rate than similar institutions who do not implement this retention practice. Institutional retention rates were also found to be higher for those institutions that implement recognition/rewards for non-

faculty academic advisors programs (by about 3.2%) or community member mentoring programs (by about 2.6%) compared to institutions that do not offer such programs.

Retention practices found to be negatively related to retention rates in the model include a mathematics center/lab (retention rates about 3.3% lower) and assessment of non-faculty academic advisors programs (retention rates about 2.2% lower). As was observed for 2-year public institutions, it is likely that programs such as these were implemented by institutions with low retention rates to help reduce attrition.

Table 9. Results of the stepwise regression analysis for retention rates, 4-year public institutions

Variable	Parameter Estimate	Standard Error	F Value	Pr > F
Intercept	82.06562	2.66188	950.49	<.0001
Institutional Characteristics				
Admissions policy	5.41559	0.57089	89.99	<.0001
Size	3.81403	0.52374	53.03	<.0001
Hispanic student enrollment	-5.57218	1.78868	9.70	0.0021
Retention Practices				
Assessment of non-faculty academic advisors (#17)	-2.15531	0.97071	4.93	0.0275
Recognition/rewards for non-faculty academic advisors (#20)	3.16659	1.07273	8.71	0.0035
Mathematics center/lab (#44)	-3.33486	1.13796	8.59	0.0038
Community member mentoring (#60)	2.61007	1.00052	6.81	0.0098
Writing across the curriculum (#66)	3.21359	0.96852	11.01	0.0011

Unlike the 2-year public institution model, however, this model explained a much higher portion (almost 68%) of the variance in 4-year public institution retention rates ($R^2 = 0.6767$). Institutional selectivity and size together explain 60% of the variance in retention rates among 4-year public institutions (partial $R^2 = 0.6004$).

Because much of the variance in retention rates is explained by institutional selectivity and size, it appears that retention, from an institutional characteristic perspective, is largely a function of these two factors. While institutions can implement practices that indeed have a positive affect on their own retention rates, and certainly can have a positive effect for individual students, the results here suggest that the affects of any one retention practice alone on institutional retention rates may not be enough to substantially improve institutional retention rates. Rather, a combination of retention practices may be necessary to increase institutional retention rates dramatically.

4-year Private Institutions – Regression Analysis

For 4-year private institutions, size and the interactive effects of selectivity and size, selectivity and African American student enrollments, and size and African American student enrollments were found to be related to retention rates and were retained in the 4-year private institution retention rate model (Table 10). While the effect of size within this model was similar to that

within the previous two institution type/control groups: larger institutions tended to have higher retention rates. However, within the 4-year private model, selectivity alone was not retained. Rather, it, along with the African American student enrollment variable, was retained in the model only through interaction effects with each other and individually with size. Larger institutions with a greater proportion of African Americans representing larger shares of their total enrollment have higher retention rates than smaller institutions with lower shares of African American student enrollments. The opposite is the case when examining the effects of selectivity and African American student enrollments. This suggests that these three institutional characteristics interact in a complex manner with institutional retention rates in a way that is not conducive to simple interpretation.

In addition, five retention practices were retained in the 4-year private institution stepwise regression retention rate model. Institutional retention rates were higher for those institutions with community member mentoring programs (by about 3.7%), programs specifically focused on GLBT retention (by about 3.1%), and job shadowing (by about 2.2%) compared to institutions that do not offer such programs.

Note that parameter estimates for two of the five practices in the model were negative. Institutions with motivation and goal setting workshops/programs had approximately a 2.7% lower institutional retention rate than those institutions that did not implement this program. A similar negative effect on retention rates was found with required remedial/development coursework programs: institutions implementing this program had retention rates about 2.2% lower than other institutions.

Table 10. Results of the stepwise regression analysis for retention rates, 4-year private institutions

Variable	Parameter Estimate	Standard Error	F Value	Pr > F
Intercept	62.80459	4.85334	167.46	<.0001
Institutional Characteristics				
Size	9.27248	1.57292	34.75	<.0001
Interactions				
Selectivity X Size	2.39389	0.54335	19.41	<.0001
Selectivity X African American student enrollment	4.05955	0.95157	18.20	<.0001
Size X African American student enrollment	3.45243	1.43863	5.76	0.0170
Retention Practices				
Job shadowing (#38)	2.20258	0.99897	4.86	0.0282
Required remedial/development coursework (#41)	-2.24474	1.00885	4.95	0.0268
Community member mentoring (#61)	3.74719	1.58123	5.62	0.0184
GLBT retention programs (#77)	3.08830	1.12008	7.60	0.0062
Motivation and goal setting workshop/program (#91)	-2.74770	1.04788	6.88	0.0092

While not as robust as the 4-year public institution model, this model explains about 52% of the variance in institutional retention rates of 4-year private institutions ($R^2 = 0.5227$). Other factors that impact retention rates are likely at work. As in the model for the other two institutional type/control groups, the effects on institutional retention rates for any single retention practice are somewhat limited, but not trivial. Taken together, the effects for the retention practices can add up substantially.

Interestingly, the effect of remedial/developmental coursework programs is found only in this model. The need for this type of retention programs, as well as programs on motivation and goal setting, perhaps reflects an effort to benefit admitted students who may not be academically prepared to successfully complete credit-bearing first-year courses. Because many of the retention practices shown to explain some of the variance in retention rates focus on academic-related issues (e.g., preparation, assessment, monitoring, or intervention), further exploration of the *academic* antecedents of first-to-second year retention may be warranted.

Conclusions— Summary of Findings and Additional Questions Raised

Our analyses of the policies used by postsecondary institutions, their relationship to retention, and the development of a retention practice model has been based on self-reports from the Chief Academic Affairs Officers (or their designees) at 1,104 postsecondary institutions in the United States. The findings suggest a number of conclusions about retention practices and their relationship to retention rates.

Use of retention practices

1. The number of retention practices used by a substantial majority of institutions, regardless of institution type or control, is limited. Most retention practices are not used extensively by a large number of postsecondary institutions (more than 80% of institutions). Only, three of the 94 practices we examined were used by more than 90% of all institutions and another five practices were implemented by more than 80% of all institutions. This suggests that while many known retention practices are in use today, their use is far from universal across institutions.

2. In general, more 4-year public institutions tended to report using more retention practices than the other institution type/control groups. At least 80% of 4-year public institutions reported implementing 22 retention practices. By comparison only 13 practices were used by a similar percentage of 2-year public institutions and just 11 practices were used by 80% or more of 4-year private institutions.

3. The most highly used retention practices represent an array of practice organizational themes; however, a plurality of practices used focus on student academic readiness or performance (e.g., assessment, monitoring, or interventions). A third of the most used practices across institutions concerned learning assistance/academic support practices.

Indeed, this research raises a number of questions related to the retention practices institutions employ.

- Why have some retention practices been adopted so widely and others have not? Does this indicate that the postsecondary retention community has narrowed the list of acceptable or adoptable practices to a small portion of all those available? Do institutions search for retention practices that are not implemented widely? If so, why might that be the case? Should future research on retention include studying practices that are used by a small proportion of postsecondary institutions?

- Why is it that more 4-year public institutions adapt a larger share of the same retention practices? Is this the case due to some combination of the mission to serve the interests of the state, available state resources, and the typical level of academic readiness of the diverse student body admitted? How do differences in institutional size play in the retention practices implemented and their relationship to retention rates?

- What is the right combination of academically focused retention practices? Is the right combination different for different institutions? To what extent should retention practices focus on issues other than academic support? How do institutions offering and students needing a particular array of retention practices connect for mutual benefit? Is this one of the ways in which institutions differentiate themselves with prospective students?

Reported Contribution of Retention Practices to Institutional Retention Rates

1. The number of retention practices that respondents across institutional type and control indicated contributed to retention rates the most was rather small. Only 8 practices were common across the three groups, and another 4 practices were common across two groups.

2. Half of the most commonly reported retention practices with the highest mean contribution to retention rates relate to increasing academic performance or skills. At a minimum, 10 of the 12 such practices common across at least two institution type/control groups have an academic focus. This finding is consistent with those from the earlier *What Works in Student Retention Studies* that found that programs perceived to be critical to retention were academically and motivationally oriented.

This research raises a number of questions related to the retention practices that are perceived by institutions as contributing more to retention rates than do other practices.

Why are some retention practices perceived to contribute to retention rates in some types of institutions more than in others? What role may differences in institutional admission selectivity policy play in contributing to these perceptions? To what extent do institutions systematically evaluate the effectiveness of their retention practices and use evaluation results to inform retention practice adaptation and development?

While certainly aligned with an educational institutions mission, why else is it that institutions report academic-related retention programs as particularly salient for increasing retention rates? Why is this so across institutional type and control groups, despite the presence of different admission selectivity practices related with each group? What does this indicate about the many retention practices in use at institutions that do not build academic skills or otherwise seek to improve academic performance?

How likely is it that individual institutions use these practices to no practical benefit? To what extent do institutions measure the effectiveness of their retention practices so that refinement of practices is undertaken at the institutional level in an informed manner? What other institutional differences may explain why these retention practices may be related to retention rates, particularly at the individual institutional or student levels?

Modeling the relationship between retention practices and retention rates

1. Institutional selectivity had the largest positive affect on retention rates for the 2-year public and 4-year public institution retention rate models. Institutional size had the largest single effect on retention rates in the 4-year private model. The affect of selectivity in this model was modified by interactions with institutional size and African American student enrollment. Within the 4-year private institutional retention rate model, the effects of relevant institutional characteristics are more complex.

2. Beyond selectivity and size, the contribution of any single retention practice to first-to-second-year retention rate appears to be moderate. It does appear that combinations of statistically significant retention practices can affect institutional retention rates to a larger extent than even some of the institutional characteristics alone. While undoubtedly important for retaining individual students, it appears that many of these retention practices must be combined to influence institutional retention rates substantially.

3. The 2-year public retention model explained only about 15% of the variance in retention rates across these institutions, and here the relationships between institutional selectivity and retention was less pronounced than with the other two type/control groups. While these two variables were again the most significant predictors of retention rates for 2-year public institutions, the regression coefficients in this model were more comparable in magnitude to selectivity and size alone. Most of this can be explained by the lack of variability in admissions policies for these institutions (96% were open admissions institutions)—the institutions simply did not vary much in selectivity using this metric.

Since the combination of institutional type, control, selectivity, and size appear to be the predominant predictors of retention, what does this portend for outcomes expectations of institutional retention practices? Are current expectations and goals for increasing institutional retention rates realistic and achievable given the relatively limited influence these institutional practices appear to have on institutional retention rates? How can further research on retention practices better discern the unique contribution of selectivity to retention, as well as the

combined affects of selectivity, other institutional characteristics, and individual retention practices?

What are more effective strategies for increasing institutional retention rates that also allow institutions to fulfill their missions(which are public, in many cases) to educate a broad citizenry? What affect should such research have on public postsecondary accountability systems? Is it appropriate for postsecondary education institutions to be held accountable for retention, and other outcomes, when their ability to increase these rates in an absolute sense may be limited?

Would the results found here be consistent with similar studies that use a different metric to measure institutional selectivity that is better able to differentiate between institutions? What else does this indicate about the effectiveness of retention practices in the unique context of 2-year public institutions?

Like all research, this study has its limitations.

- First, while the survey data represent a robust set of higher education institutions in the United States, they come from a sample of institutions that self-selected to participate. As a result, non-response bias is a possibility. Efforts to generalize from these data should be done with caution.
- Second, the use and perceived effectiveness of the retention practices is self-reported and subject to individual reporting errors. While efforts to evaluate the effectiveness of retention practices appear to have increased on college campuses over time, the degree to which data reported in this survey can be traced back to program evaluations or personal impressions is unknown.
- Third, the regression analysis considered only institutional characteristics and retention practices in its models. While the research literature on retention identifies other factors that are related to student retention, particularly student characteristics, these were not included in our model because the research questions examined primarily concerned the actions that institutions can reasonably take to influence their institutional retention rates. Undoubtedly, including other variables that measure different characteristics would change the models.
- Fourth, the data used in the analysis is at the institution level, not at the student level. Relationships among institutional averages might not translate to relationships among student characteristics, controlling for institutional characteristics. Data at both levels—institutional and student—would provide for richer analysis of the effectiveness of retention practices.
- Fifth, the analysis reported in this paper concerned institutional retention rates. The rate of retention of students within the U.S. postsecondary education system as a whole, regardless of retention at any one particular institution, is not considered. Individual students not retained at one institution may be or become enrolled at another institution. System-wide retention is an area of study worthy of additional future attention, particularly from a public policy perspective.

- Sixth, and perhaps most importantly, retention is not measured by students using a retention rate, rather it is a dichotomous status—either the student is retained or she is not. Consequently, it is important to remember that any of these retention practices may be suitable, and perhaps, exactly what is needed, for her to be retained.

The findings reported in this paper should be of value to institutional researchers involved in the implementation of institutional practices to improve student retention. The paper summarizes the most frequently-sued practices on college campuses and outlines those deemed most effective in contributing to improved retention. The paper also provides information on those practices that are significantly related to inter-institutional differences in retention rates. Collectively, the findings provide IR professionals with information that may be useful as they conduct retention studies on their individual campuses.

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Appendix A: Survey Instrument

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What Works in Student Retention?

Fourth National Survey

This study reiterates ACT's on-going commitment to help colleges and universities better understand the impact of campus practices on college student retention and persistence to degree attainment. Throughout the last three decades, ACT has conducted a number of research studies relevant to college student success. Postsecondary educators use the results from these research efforts to enhance the quality of programs leading to student success. These projects include, among others, the following.

- Three National Surveys on Retention: *What Works in Student Retention?*
- Six National Surveys on Academic Advising Practices
- Annual Report on National Retention and Persistence to Degree Rates

Your participation in this effort, the 4th National Survey on Retention, will make a significant contribution to a better understanding of retention practices.

Directions: Please complete each set of items on this survey, and then return your completed survey in the envelope provided or mail it to:
ACT, Inc.; Survey Research Services 47; PO Box 168; Iowa City, IA 52243.

ACT
FIFTY YEARS 1959|2009

SECTION I: BACKGROUND INFORMATION

1. Is there a person on your campus who is responsible for the coordination of retention programs?

☐ Yes ☐ No (Skip to Question 3.)

2. What title most closely approximates that of the individual? (Check only one.)

☐ Chief Executive/President	☐ Chief Enrollment Management Officer
☐ Provost	☐ Associate/Assistant Enrollment Management Officer
☐ Associate/Assistant Provost	☐ Director
☐ Chief Academic Affairs Officer/Campus Dean	☐ Associate/Assistant Director
☐ Associate/Assistant Academic Affairs Officer	☐ Coordinator
☐ Chief Student Affairs Officer	☐ Specialist
☐ Associate/Assistant Student Affairs Officer	

3. Approximately what percentage of your undergraduate credit hours is offered through online instruction?

_____ % ☐ Don't know/Unavailable

4. Check all of the transfer-enhancement programs below in which your institution participates.

A. Common course numbering system
- ☐ With selected college(s)
- ☐ With selected group or consortium of colleges
- ☐ System-wide
- ☐ Statewide
- ☐ None of the above

B. Articulation agreements
- ☐ With selected college(s)
- ☐ With selected group or consortium of colleges
- ☐ System-wide
- ☐ Statewide
- ☐ None of the above

C. A course applicability system (any system that informs students on the applicability of credits earned at other institutions)
- ☐ With selected group or consortium of colleges
- ☐ System-wide
- ☐ Statewide
- ☐ Multi-state
- ☐ None of the above

SECTION II: RETENTION AND DEGREE-COMPLETION RATES

1. What is your institution's ***current*** **first-year to second-year retention rate** (for first-time, full-time students)?

_____ % (percent retained) ☐ Don't know/Unavailable

2. Does your institution have a specific **goal** for its **first-year to second-year retention rate**?

☐ No (Skip to Question 3.) ☐ Don't know/Unavailable (Skip to Question 3.)

☐ Yes→ If yes: The goal for the student retention rate (% of students who will be retained – not percent increase) and the schedule for achieving that goal are:

a. _____% (percent retained goal)

b. Timeframe for achieving that goal

- ☐ No specific timeframe
- ☐ One year
- ☐ Two years
- ☐ Three years
- ☐ Four years
- ☐ Five years
- ☐ More than five years

3. Assuming a 6-year timeframe for four-year institutions and a 3-year timeframe for two-year institutions, what is your institution's ***current*** **student degree-completion** rate?

_____ % (degree-completion rate) ☐ Don't know/Unavailable

4. Does your institution have a **specific goal** for its **student degree-completion rate** (6-year graduation timeframe for four-year institutions or 3-year graduation timeframe for two-year institutions)?

☐ No (Skip to Section III.) ☐ Don't know/Unavailable (Skip to Section III.)

☐ Yes→ If yes: The goal for the student degree completion rate (% of students who complete degrees – not percent increase) and the schedule for achieving that goal are:

a. _____% (degree-completion rate goal)

b. Timeframe for achieving that goal

- ☐ No specific timeframe
- ☐ One year
- ☐ Two years
- ☐ Three years
- ☐ Four years
- ☐ Five years
- ☐ More than five years

SECTION III: FACTORS AFFECTING STUDENT ATTRITION AT YOUR SCHOOL

This section contains a list of student and institutional characteristics or factors that can affect attrition.
To what degree does each factor affect attrition <u>at your school</u>?

5	4	3	2	1	Factors
☐	☐	☐	☐	☐	1. student employment opportunities
☐	☐	☐	☐	☐	2. level of student preparation for college-level work
☐	☐	☐	☐	☐	3. relevancy of curricula
☐	☐	☐	☐	☐	4. student access to needed courses in the appropriate sequence
☐	☐	☐	☐	☐	5. student first-generation status
☐	☐	☐	☐	☐	6. accuracy of information provided by academic advisors
☐	☐	☐	☐	☐	7. availability of academic advisors
☐	☐	☐	☐	☐	8. level of academic advisors' concern for students
☐	☐	☐	☐	☐	9. student low socio-economic status
☐	☐	☐	☐	☐	10. amount of financial aid available to students
☐	☐	☐	☐	☐	11. student access to financial aid advising and information
☐	☐	☐	☐	☐	12. ratio of loans to other forms of financial aid
☐	☐	☐	☐	☐	13. level of student commitment to earning a degree
☐	☐	☐	☐	☐	14. student-institution "fit"
☐	☐	☐	☐	☐	15. level of certainty about career goals
☐	☐	☐	☐	☐	16. extracurricular programs
☐	☐	☐	☐	☐	17. student educational aspirations and goals
☐	☐	☐	☐	☐	18. commuting/living off-campus
☐	☐	☐	☐	☐	19. level of certainty about educational major
☐	☐	☐	☐	☐	20. adequacy of personal financial resources
☐	☐	☐	☐	☐	21. level of student motivation to succeed
☐	☐	☐	☐	☐	22. student physical health issues
☐	☐	☐	☐	☐	23. adequate academic/learning support services
☐	☐	☐	☐	☐	24. level of emotional support from family, friends, and significant others
☐	☐	☐	☐	☐	25. residence hall facilities
☐	☐	☐	☐	☐	26. programs to support students' transition to residence hall living
☐	☐	☐	☐	☐	27. level of job demands on students
☐	☐	☐	☐	☐	28. quality of interaction between faculty and students
☐	☐	☐	☐	☐	29. consistency of instructional quality
☐	☐	☐	☐	☐	30. out-of-class interaction between students and faculty
☐	☐	☐	☐	☐	31. student study skills
☐	☐	☐	☐	☐	32. student engagement opportunities in the classroom (active learning)
☐	☐	☐	☐	☐	33. quality of interaction between staff and students
☐	☐	☐	☐	☐	34. student mental or emotional health issues
☐	☐	☐	☐	☐	35. rules and regulations governing student behavior
☐	☐	☐	☐	☐	36. student family responsibilities
☐	☐	☐	☐	☐	37. campus safety and security
☐	☐	☐	☐	☐	38. student peer group interaction
☐	☐	☐	☐	☐	39. cultural activities
☐	☐	☐	☐	☐	40. distance from students' permanent homes
☐	☐	☐	☐	☐	41. level of intellectual stimulation or challenge for students
☐	☐	☐	☐	☐	42. student personal coping skills

SECTION IV: ON-CAMPUS RETENTION PRACTICES

Listed below is a series of programs, services, curricular offerings, and interventions that may make a contribution to retention on your campus.
First indicate if the practice is or is not offered at your school.
Then, if a practice is offered, indicate the degree to which you think it contributes to retention <u>at your school</u>.

Offered at Your Institution?

No | **Yes**

(Then, what degree of contribution to campus retention

Major Contribution to retention

Moderate Contribution to retention

Little or no Contribution to retention

5 4 3
2 1

First-Year Transition

1.	summer orientation	→	☐ ☐ ☐ ☐ ☐
2.	extended freshman orientation (non-credit)	→	☐ ☐ ☐ ☐ ☐
3.	extended freshman orientation (credit)	→	☐ ☐ ☐ ☐ ☐
4.	freshman seminar/university 101 (non-credit)	→	☐ ☐ ☐ ☐ ☐
5.	freshman seminar/university 101 (credit)	→	☐ ☐ ☐ ☐ ☐
6.	living/learning communities (residential)	→	☐ ☐ ☐ ☐ ☐
7.	learning communities (non-residential)	→	☐ ☐ ☐ ☐ ☐
8.	parent/family orientation	→	☐ ☐ ☐ ☐ ☐

Academic Advising

9.	training for faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
10.	training for non-faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
11.	advising interventions with selected student populations	→	☐ ☐ ☐ ☐ ☐
12.	increased number of academic advisors	→	☐ ☐ ☐ ☐ ☐
13.	integration of advising with first-year transition programs	→	☐ ☐ ☐ ☐ ☐
14.	academic advising center	→	☐ ☐ ☐ ☐ ☐
15.	center(s) that integrates academic advising with career/life planning	→	☐ ☐ ☐ ☐ ☐
16.	assessment of faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
17.	assessment of non-faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
18.	application of technology to advising	→	☐ ☐ ☐ ☐ ☐
19.	recognition/rewards for faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
20.	recognition/rewards for non-faculty academic advisors	→	☐ ☐ ☐ ☐ ☐
21.	specified student learning outcomes (syllabus) for advising	→	☐ ☐ ☐ ☐ ☐
22.	online advising system	→	☐ ☐ ☐ ☐ ☐

23.	campus-wide assessment/audit of advising	→	☐ ☐ ☐ ☐ ☐
Assessment			
24.	mandated placement of students in courses based on test scores	→	☐ ☐ ☐ ☐ ☐
25.	recommended placement of students in courses based on test scores	→	☐ ☐ ☐ ☐ ☐
26.	diagnostic academic skills assessment	→	☐ ☐ ☐ ☐ ☐
27.	outcomes assessment	→	☐ ☐ ☐ ☐ ☐
28.	learning styles assessment	→	☐ ☐ ☐ ☐ ☐
29.	values assessment	→	☐ ☐ ☐ ☐ ☐
30.	interest assessment	→	☐ ☐ ☐ ☐ ☐
31.	vocational aptitude assessment	→	☐ ☐ ☐ ☐ ☐
32.	personality assessment	→	☐ ☐ ☐ ☐ ☐
Career Planning and Placement			
33.	career exploration workshops or courses	→	☐ ☐ ☐ ☐ ☐
34.	internships	→	☐ ☐ ☐ ☐ ☐
35.	cooperative education	→	☐ ☐ ☐ ☐ ☐
36.	individual career counseling	→	☐ ☐ ☐ ☐ ☐
37.	computer-assisted career guidance	→	☐ ☐ ☐ ☐ ☐
38.	job shadowing	→	☐ ☐ ☐ ☐ ☐
Learning Assistance/Academic Support			
39.	supplemental instruction	→	☐ ☐ ☐ ☐ ☐
40.	summer bridge program	→	☐ ☐ ☐ ☐ ☐
41.	remedial/developmental coursework (required)	→	☐ ☐ ☐ ☐ ☐
42.	remedial/developmental coursework (recommended)	→	☐ ☐ ☐ ☐ ☐
43.	comprehensive learning assistance center/lab	→	☐ ☐ ☐ ☐ ☐
44.	mathematics center/lab	→	☐ ☐ ☐ ☐ ☐
45.	writing center/lab	→	☐ ☐ ☐ ☐ ☐
46.	reading center/lab	→	☐ ☐ ☐ ☐ ☐
47.	foreign language center/lab	→	☐ ☐ ☐ ☐ ☐
48.	tutoring	→	☐ ☐ ☐ ☐ ☐
49.	study skills course, program, or center	→	☐ ☐ ☐ ☐ ☐

50.	early warning system	→	☐ ☐ ☐
51.	mid-term progress reports	→	☐ ☐ ☐
52.	performance contracts for students in academic difficulty	→	☐ ☐ ☐ ☐ ☐
53.	organized student study groups	→	☐ ☐ ☐
54.	service learning program	→	☐ ☐ ☐
55.	ESL program	→	☐ ☐ ☐
56.	online learning support	→	☐ ☐ ☐
57.	library orientation, workshop, and/or	→	☐ ☐ ☐
Mentoring			
58.	peer mentoring	→	☐ ☐ ☐
59.	faculty mentoring	→	☐ ☐ ☐
60.	staff mentoring	→	☐ ☐ ☐
61.	community member mentoring	→	☐ ☐ ☐
Faculty Development			
62.	instructional (teaching) techniques	→	☐ ☐ ☐
63.	assessing student performance	→	☐ ☐ ☐
64.	faculty use of technology in teaching	→	☐ ☐ ☐
65.	faculty use of technology in communicating with students	→	☐ ☐ ☐ ☐ ☐
66.	writing across the curriculum	→	☐ ☐ ☐
67.	interdisciplinary courses	→	☐ ☐ ☐ ☐ ☐
68.	enhanced/modified faculty reward	→	☐ ☐ ☐
Financial Aid			
69.	pre-enrollment financial aid advising	→	☐ ☐ ☐ ☐ ☐
70.	workshops in money management	→	☐ ☐ ☐ ☐ ☐
71.	short-term loans	→	☐ ☐ ☐ ☐ ☐
Co-curricular Services/Programs for Specific Student Sub-populations			
72.	adult students	→	☐ ☐ ☐ ☐ ☐
73.	commuter students	→	☐ ☐ ☐ ☐ ☐
74.	ESL students	→	☐ ☐ ☐ ☐ ☐
75.	female students	→	☐ ☐ ☐ ☐ ☐
76.	first-generation students	→	☐ ☐ ☐ ☐ ☐
77.	gay/lesbian/bisexual/transgender students	→	☐ ☐ ☐ ☐ ☐
78.	honor students	→	☐ ☐ ☐ ☐ ☐

79. international students	→	☐ ☐ ☐ ☐ ☐
80. racial/ethnic minority students	→	☐ ☐ ☐ ☐ ☐
81. veterans	→	☐ ☐ ☐ ☐ ☐
82. other (Specify.) _____	⟶	☐ ☐ ☐ ☐ ☐
Other Activities/Programs		
83. degree guarantee program	→	☐ ☐ ☐ ☐ ☐
84. freshman interest groups (FIGS)	→	☐ ☐ ☐ ☐ ☐
85. college-sponsored social activities	→	☐ ☐ ☐ ☐ ☐
86. diversity information/training	→	☐ ☐ ☐ ☐ ☐
87. student leadership development	→	☐ ☐ ☐ ☐ ☐
88. time management course/program	→	☐ ☐ ☐ ☐ ☐
89. health and wellness course/program	→	☐ ☐ ☐ ☐ ☐
90. personal coping skills course/program	→	☐ ☐ ☐ ☐ ☐
91. motivation and goal setting workshop/program	→	☐ ☐ ☐ ☐ ☐
92. residence hall programs	→	☐ ☐ ☐ ☐ ☐
93. fraternities/sororities	→	☐ ☐ ☐ ☐ ☐
94. required on-campus housing for freshmen	→	☐ ☐ ☐ ☐ ☐
Other Programs, Services, Curricular Offerings, Interventions that contribute to retention at your school (Please specify.)		
95. _____ _____	⟶	☐ ☐ ☐ ☐ ☐
96. _____ _____	⟶	☐ ☐ ☐ ☐ ☐

SECTION V

From the 96 items in Section IV (beginning on page 3), write the **item number and text** for the 1 to 3 items among the 96 that have the **greatest positive impact** on retention at your school.

Item # _____ Text _____

Item # _____ Text _____

Item # _____ Text _____

SECTION VI

We will prepare a report containing the results of this survey. Would you agree to a brief follow-up survey or phone call should we identify your retention program for inclusion?

☐ Yes ☐ No

If yes, please provide the following information.

Name _____

Job Title _____

Mailing Address _____

Phone _____

Email _____

SECTION VII: COMMENTS

If you would like to share information or comments that would enlighten our understanding of retention problems and/or solutions at your school, please write them in the space below.

Thank you!

(Please return your completed survey in the enclosed envelope. If you no longer have the envelope, please mail your completed survey to ACT, Inc.; Survey Research Services 47; PO Box 168; Iowa City, IA 52243.)


ACT
FIFTY YEARS 1959|2009

Appendix B: Methods

ACT's Institutional Data Questionnaire (IDQ): To maintain current records, ACT annually mails the IDQ to all institutions to which students have requested their ACT scores be sent, conducts intensive follow-up activities, contacts non-responding institutions by telephone to obtain certain key data elements, and replaces dated information from non-responding institutions with information obtained from the federal IPEDS database. Following the third mailing and during the telephone administration phase of the current study (described in detail below), staff accessed institutional websites, the Higher Education Directory, and other contact information resources to determine if additional or more effective contact information could be located to elicit a completed survey from heretofore non-responding institutions.

Survey Administration Protocol: The survey administration consisted of five mailings and one telephone contact. These contacts are indicated below.

1. **First Contact (mail)**: Sent on 03/11/09, the first mailing (N=3,426) was a pre-notification letter and postage-paid return postcard. This mailing was addressed to the Chief Academic Affairs Officer at each institution in the population. The letter contained a brief explanation of the project, notice that a survey would be sent, and a request, if the survey should be mailed to someone other than themselves or to a different address, to return the postcard to ACT with the corrected information. Such information on returned postcards was entered into the database, replacing the previous contact information. From this mailing, 21 pre-notification letters were returned as undeliverable, 40 colleges were identified as closed, and five were colleges with no undergraduate program, leaving an effective N of 3,360.

2. **Second Contact (mail)**: The second mailing (N=3,360), sent on 04/07/09, was addressed to the name in the record for each institution and contained a cover letter, the survey instrument, and a postage-paid return envelope.

3. **Third Contact (mail)**: The third mailing (N=3,360), sent on 4/14/09, was a reminder postcard addressed to the name in the record for each institution in the database from which no completed instrument had been received.

4. **Fourth Contact (mail)**: The fourth mailing (N=3,259), sent on 4/24/09, was a packet of materials comprising a cover letter, the survey instrument, and a postage-paid return envelope addressed to the name in the record for each institution for which no response had been received.

5. **Fifth Contact (telephone)**: Following the fourth mailing, ACT's telecenter was provided with the names and phone numbers of individuals at institutions from which no response had been received. They began calling these individuals and sent a letter, the survey instrument, and a postage-paid return envelope to all of those who agreed to complete and return the survey.

6. **Sixth Contact (mail)**: The fifth mailing (N=2,694), sent on 6/24/09, was addressed to the president of each institution from which no completed survey instrument had been received. The packet contained a letter (explaining the nature of the study and a request that he/she forward the survey to the appropriate person for completion), a survey instrument, and a postage-paid return envelope.

Appendix C: Study Data

Table C1: Percent of institutions using programs, services, curricular offerings, and interventions by institutional type and control, 2009

Table C2: Mean ratings of perceived contribution of practices to retention, by institutional type and control, 2009

Table C3: Correlation of retention practices to retention rates by intuitional type and control, 2009

Table C1. Percent of institutions using programs, services, curricular offerings, and interventions by institutional type and control, 2009

Item #	Item	Incidence Rate*		
		2-year public	4-year public	4-year private
1	summer orientation	73%	93%	67%
2	extended freshman orientation (non-credit)	12%	33%	34%
3	extended freshman orientation (credit)	28%	25%	24%
4	freshman seminar/university 101 (non-credit)	7%	9%	11%
5	freshman seminar/university 101 (credit)	52%	76%	58%
6	living/learning communities (residential)	5%	62%	35%
7	learning communities (non-residential)	36%	45%	15%
8	parent/family orientation	45%	84%	74%
9	training for faculty academic advisors	70%	75%	74%
10	training for non-faculty academic advisors	66%	74%	46%
11	advising interventions with selected student populations	73%	88%	71%
12	increased number of academic advisors	36%	38%	31%
13	integration of advising with first-year transition programs	36%	60%	51%
14	academic advising center	64%	74%	39%
15	center(s) that integrates academic advising with career/life planning	49%	34%	29%
16	assessment of faculty academic advisors	26%	26%	33%
17	assessment of non-faculty academic advisors	37%	49%	23%
18	application of technology to advising	71%	73%	57%
19	recognition/rewards for faculty academic advisors	13%	38%	17%
20	recognition/rewards for non-faculty academic advisors	12%	35%	12%
21	specified student learning outcomes (syllabus) for advising	32%	31%	27%
22	online advising system	41%	34%	28%
23	campus-wide assessment/audit of advising	24%	33%	24%
24	mandated placement of students in courses based on test scores	88%	84%	69%
25	recommended placement of students in courses based on test scores	52%	58%	54%
26	diagnostic academic skills assessment	58%	50%	47%
27	outcomes assessment	64%	69%	63%
28	learning styles assessment	37%	38%	33%
29	values assessment	21%	22%	26%
30	interest assessment	46%	43%	40%
31	vocational aptitude assessment	37%	30%	25%
32	personality assessment	29%	34%	32%
33	career exploration workshops or courses	78%	89%	76%
34	internships	74%	97%	93%
35	cooperative education	54%	52%	23%
36	individual career counseling	88%	93%	84%
37	computer-assisted career guidance	76%	80%	51%
38	job shadowing	29%	42%	39%
39	supplemental instruction	61%	73%	54%
40	summer bridge program	37%	60%	23%
41	remedial/developmental coursework (required)	88%	76%	59%
42	remedial/developmental coursework (recommended)	46%	46%	38%
43	comprehensive learning assistance center/lab	73%	66%	58%
44	mathematics center/lab	69%	78%	49%

Table C1. Percent of institutions using programs, services, curricular offerings, and interventions by institutional type and control, 2009

Item #	Item	Incidence Rate*		
		2-year public	4-year public	4-year private
45	writing center/lab	69%	89%	74%
46	reading center/lab	50%	28%	23%
47	foreign language center/lab	24%	50%	25%
48	tutoring	95%	97%	90%
49	study skills course, program, or center	80%	79%	64%
50	early warning system	68%	75%	78%
51	mid-term progress reports	47%	64%	81%
52	performance contracts for students in academic difficulty	34%	56%	54%
53	organized student study groups	28%	45%	35%
54	service learning program	45%	73%	54%
55	ESL program	63%	58%	29%
56	online learning support	66%	46%	24%
57	library orientation, workshop, and/or course	81%	85%	81%
58	peer mentoring	31%	66%	58%
59	faculty mentoring	33%	51%	50%
60	staff mentoring	20%	36%	34%
61	community member mentoring	8%	15%	10%
62	instructional (teaching) techniques	80%	85%	74%
63	assessing student performance	83%	81%	75%
64	faculty use of technology in teaching	96%	96%	90%
65	faculty use of technology in communicating with students	86%	88%	84%
66	writing across the curriculum	43%	64%	56%
67	interdisciplinary courses	47%	84%	70%
68	enhanced/modified faculty reward system	20%	30%	18%
69	pre-enrollment financial aid advising	83%	81%	84%
70	workshops in money management	40%	53%	36%
71	short-term loans	47%	63%	38%
72	programs for adult students	31%	39%	31%
73	programs for commuter students	19%	37%	35%
74	programs for ESL students	40%	47%	28%
75	programs for female students	18%	34%	24%
76	programs for first-generation students	39%	44%	20%
77	programs for gay/lesbian/bisexual/transgender students	23%	54%	27%
78	programs for honor students	69%	85%	59%
79	programs for international students	44%	80%	58%
80	programs for racial/ethnic minority students	50%	76%	47%
81	programs for veterans	50%	53%	18%
82	programs for other student sub-populations	6%	10%	4%
83	degree guarantee program	12%	12%	5%
84	freshman interest groups (FIGS)	3%	27%	9%
85	college-sponsored social activities	89%	90%	89%
86	diversity information/training	53%	75%	54%
87	student leadership development	83%	91%	82%
88	time management course/program	49%	64%	50%
89	health and wellness course/program	58%	77%	64%

Table C1. Percent of institutions using programs, services, curricular offerings, and interventions by institutional type and control, 2009

Item #	Item	Incidence Rate*		
		2-year public	4-year public	4-year private
90	personal coping skills course/program	38%	50%	37%
91	motivation and goal setting workshop/program	40%	47%	35%
92	residence hall programs	19%	88%	84%
93	fraternities/sororities	4%	77%	37%
94	required on-campus housing for freshmen	4%	48%	58%

* Prior to computation of the incidence rates (usage percentages), two adjustments were made to the data file. First, 14 of the 1,104 respondent records were deleted because the respondents failed to provide at least four responses to the Likert items in Section IV of the survey instrument. This reduced the number of two-year, public respondents from 305 to 303, the number of four-year, public respondents from 258 to 255, and the number of four-year private responses form 440 to 434. Second, if a respondent failed to indicate whether or not his/her institution offered a particular program, service, curricular offering, or intervention but did provide a contribution rating for the item, a "yes" response for "offered at this institution" was coded for that item.

Table C2. Mean ratings of perceived contribution of practices to retention, by institutional type and control, 2009

Item #	Item	Mean Contribution to Retention		
		2-year public N=303	4-year public N=255	4-year private N=434
1	summer orientation	3.33	3.61	3.66
2	extended freshman orientation (non-credit)	3.51	3.57	3.47
3	extended freshman orientation (credit)	3.69	3.82	3.73
4	freshman seminar/university 101 (non-credit)	3.38	3.38	3.44
5	freshman seminar/university 101 (credit)	3.68	3.74	3.67
6	living/learning communities (residential)	3.14	3.68	3.38
7	learning communities (non-residential)	3.22	3.56	3.45
8	parent/family orientation	3.02	3.15	3.15
9	training for faculty academic advisors	3.62	3.46	3.39
10	training for non-faculty academic advisors	3.76	3.70	3.64
11	advising interventions with selected student populations	3.91	3.93	3.93
12	increased number of academic advisors	4.01	3.98	3.87
13	integration of advising with first-year transition programs	3.87	3.80	3.83
14	academic advising center	3.87	3.98	3.93
15	center(s) that integrates academic advising with career/life planning	3.63	3.56	3.60
16	assessment of faculty academic advisors	3.01	2.93	2.91
17	assessment of non-faculty academic advisors	3.13	3.16	3.13
18	application of technology to advising	3.29	3.30	2.99
19	recognition/rewards for faculty academic advisors	2.65	2.78	2.72
20	recognition/rewards for non-faculty academic advisors	2.61	2.85	2.88
21	specified student learning outcomes (syllabus) for advising	3.29	3.09	3.22
22	online advising system	3.22	3.39	3.03
23	campus-wide assessment/audit of advising	3.15	3.08	3.03
24	mandated placement of students in courses based on test scores	4.11	3.71	3.42
25	recommended placement of students in courses based on test scores	3.87	3.54	3.32
26	diagnostic academic skills assessment	3.71	3.54	3.27
27	outcomes assessment	3.26	2.97	3.01
28	learning styles assessment	3.26	2.89	2.92
29	values assessment	3.19	2.84	2.88
30	interest assessment	3.16	2.93	2.90
31	vocational aptitude assessment	3.14	2.89	2.83
32	personality assessment	3.01	2.64	2.67
33	career exploration workshops or courses	3.23	3.11	3.10
34	internships	3.59	3.70	3.67
35	cooperative education	3.41	3.52	3.52
36	individual career counseling	3.46	3.34	3.30
37	computer-assisted career guidance	3.10	2.96	2.92
38	job shadowing	3.29	3.27	3.12
39	supplemental instruction	3.84	3.91	3.51
40	summer bridge program	3.66	3.83	3.58
41	remedial/developmental coursework (required)	4.08	3.49	3.55
42	remedial/developmental coursework (recommended)	3.82	3.36	3.40
43	comprehensive learning assistance center/lab	4.12	3.92	3.84
44	mathematics center/lab	3.99	3.76	3.55

Table C2. Mean ratings of perceived contribution of practices to retention, by institutional type and control, 2009

Item #	Item	Mean Contribution to Retention		
		2-year public N=303	4-year public N=255	4-year private N=434
45	writing center/lab	4.00	3.72	3.54
46	reading center/lab	4.14	3.86	3.86
47	foreign language center/lab	3.68	3.19	2.95
48	tutoring	4.11	3.84	3.75
49	study skills course, program, or center	3.75	3.73	3.53
50	early warning system	3.59	3.53	3.77
51	mid-term progress reports	3.43	3.38	3.60
52	performance contracts for students in academic difficulty	3.54	3.53	3.43
53	organized student study groups	3.79	3.52	3.40
54	service learning program	3.05	3.14	3.23
55	ESL program	3.45	3.11	3.01
56	online learning support	3.43	3.19	3.07
57	library orientation, workshop, and/or course	3.19	2.92	2.74
58	peer mentoring	3.67	3.59	3.63
59	faculty mentoring	3.51	3.68	3.68
60	staff mentoring	3.63	3.62	3.56
61	community member mentoring	3.42	3.00	3.14
62	instructional (teaching) techniques	3.62	3.32	3.28
63	assessing student performance	3.58	3.27	3.25
64	faculty use of technology in teaching	3.64	3.35	3.20
65	faculty use of technology in communicating with students	3.66	3.42	3.33
66	writing across the curriculum	3.40	3.18	3.19
67	interdisciplinary courses	3.19	3.01	3.05
68	enhanced/modified faculty reward system	2.98	3.14	2.88
69	pre-enrollment financial aid advising	3.71	3.49	3.74
70	workshops in money management	3.04	3.01	2.95
71	short-term loans	3.45	3.41	3.33
72	programs for adult students	3.53	3.35	3.42
73	programs for commuter students	3.47	3.04	3.11
74	programs for ESL students	3.60	3.23	3.31
75	programs for female students	3.58	3.36	3.23
76	programs for first-generation students	3.97	3.90	3.80
77	programs for gay/lesbian/bisexual/transgender students	3.00	3.17	2.98
78	programs for honor students	3.57	3.81	3.62
79	programs for international students	3.73	3.66	3.45
80	programs for racial/ethnic minority students	3.69	3.70	3.49
81	programs for veterans	3.49	3.37	3.16
82	programs for other student sub-populations	3.63	4.20	3.57
83	degree guarantee program	2.82	2.90	3.47
84	freshman interest groups (FIGS)	2.89	3.50	3.42
85	college-sponsored social activities	3.10	3.28	3.45
86	diversity information/training	3.12	2.98	2.90
87	student leadership development	3.43	3.49	3.48
88	time management course/program	3.38	3.25	3.20
89	health and wellness course/program	3.00	2.96	2.86

Table C2. Mean ratings of perceived contribution of practices to retention, by institutional type and control, 2009

Item #	Item	Mean Contribution to Retention		
		2-year public N=303	**4-year public** N=255	**4-year private** N=434
90	personal coping skills course/program	3.31	3.07	3.15
91	motivation and goal setting workshop/program	3.40	3.19	3.14
92	residence hall programs	3.00	3.50	3.42
93	fraternities/sororities	2.40	3.12	3.47
94	required on-campus housing for freshmen	3.08	3.86	3.63

Table C3. Correlation of retention practices to retention rates by intuitional type and control, 2009

Item #	Item	Pearson r		
		2-year public N=280	**4-year public** N=253	**4-year private** N=415
1	summer orientation	-	0.18**	-
2	extended freshman orientation (non-credit)	-	-	0.13**
3	extended freshman orientation (credit)	-	-	-
4	freshman seminar/university 101 (non-credit)	-	-	-
5	freshman seminar/university 101 (credit)	-	-	-
6	living/learning communities (residential)	-	0.37***	0.20***
7	learning communities (non-residential)	-	0.16*	0.11*
8	parent/family orientation	-	0.28***	0.24***
9	training for faculty academic advisors	-	-	-
10	training for non-faculty academic advisors	-	-	-
11	advising interventions with selected student populations	-	0.16*	0.10*
12	increased number of academic advisors	-	-	-
13	integration of advising with first-year transition programs	-	0.17**	-
14	academic advising center	-	-	-
15	center(s) that integrates academic advising with career/life planning	-	-	-
16	assessment of faculty academic advisors	-	-	-
17	assessment of non-faculty academic advisors	-	-	-
18	application of technology to advising	-	-	0.18***
19	recognition/rewards for faculty academic advisors	-	0.33***	-
20	recognition/rewards for non-faculty academic advisors	-	0.31***	-
21	specified student learning outcomes (syllabus) for advising	-	-	-
22	online advising system	-	0.17**	-
23	campus-wide assessment/audit of advising	0.12*	0.14*	0.12*
24	mandated placement of students in courses based on test scores	-	-	-0.21***
25	recommended placement of students in courses based on test scores	-	-	0.14**
26	diagnostic academic skills assessment	0.17**	-	-
27	outcomes assessment	-	-	-
28	learning styles assessment	-	-	-
29	values assessment	-	-	-
30	interest assessment	0.17**	-	-
31	vocational aptitude assessment	-	0.13*	0.10**
32	personality assessment	0.13*	-	0.10*
33	career exploration workshops or courses	-	-	0.14**
34	internships	-	0.17**	-
35	cooperative education	-	-	-
36	individual career counseling	-	-	-
37	computer-assisted career guidance	-	-	0.19***
38	job shadowing	0.12*	0.21***	0.22***
39	supplemental instruction	-	-	-
40	summer bridge program	-	0.21***	-
41	remedial/developmental coursework (required)	-	-0.29***	-0.26***
42	remedial/developmental coursework (recommended)	0.12*	-	-
43	comprehensive learning assistance center/lab	-	-	-
44	mathematics center/lab	-	-	-

Table C3. Correlation of retention practices to retention rates by intuitional type and control, 2009

Item #	Item	Pearson r		
		2-year public N=280	4-year public N=253	4-year private N=415
45	writing center/lab	-	-	0.21***
46	reading center/lab	-	-	-
47	foreign language center/lab	-	-	0.24***
48	tutoring	-	-	-
49	study skills course, program, or center	-	-	-
50	early warning system	-	-	-
51	mid-term progress reports	0.16**	-	-
52	performance contracts for students in academic difficulty	-	0.21***	-
53	organized student study groups	-	0.20**	0.14**
54	service learning program	-	0.28***	0.12*
55	ESL program	-	0.22***	0.15**
56	online learning support	-	-	-
57	library orientation, workshop, and/or course	-	-	-
58	peer mentoring	-	0.22***	0.24***
59	faculty mentoring	-	0.21***	-
60	staff mentoring	-	0.16***	-
61	community member mentoring	0.17**	-	0.13**
62	instructional (teaching) techniques	-	0.22***	-
63	assessing student performance	-	-	-
64	faculty use of technology in teaching	-	0.13*	-
65	faculty use of technology in communicating with students	-	0.14*	-
66	writing across the curriculum	-	0.32***	0.13**
67	interdisciplinary courses	-	0.27***	0.24***
68	enhanced/modified faculty reward system	-	-	0.13**
69	pre-enrollment financial aid advising	0.13*	-	-
70	workshops in money management	-	-	-
71	short-term loans	-	-	0.15**
72	programs for adult students	0.12*	-	-
73	programs for commuter students	-	-	0.10*
74	programs for ESL students	-	0.22***	0.11*
75	programs for female students	-	0.21***	0.16**
76	programs for first-generation students	-	-	-
77	programs for gay/lesbian/bisexual/transgender students	-	0.27***	0.31***
78	programs for honor students	-	0.22***	0.10*
79	programs for international students	-	0.30***	0.28***
80	programs for racial/ethnic minority students	-	0.27***	0.33***
81	programs for veterans	-	0.18**	-
82	programs for other student sub-populations	-	-	-
83	degree guarantee program	-	-	-
84	freshman interest groups (FIGS)	-	0.16*	0.11*
85	college-sponsored social activities	-	-	0.19***
86	diversity information/training	-	0.266***	0.36***
87	student leadership development	-	-	0.18***
88	time management course/program	-	-	0.16***
89	health and wellness course/program	-	0.15*	0.15**

Table C3. Correlation of retention practices to retention rates by intuitional type and control, 2009

Item #	Item	Pearson r		
		2-year public N=280	**4-year public** N=253	**4-year private** N=415
90	personal coping skills course/program	-	-	0.11*
91	motivation and goal setting workshop/program	-	-	-
92	residence hall programs	-	0.32***	0.26***
93	fraternities/sororities	-	0.26***	0.14**
94	required on-campus housing for freshmen	-	-	0.20***

Note: Only statistically significant correlations are displayed. - = correlation is not statistically significant; * = correlation is significant at the 0.05 level; ** = correlation is significant at the 0.01 level; *** = correlation is significant at the 0.001 level