Institutional researchers can provide valuable information about student populations. Which of the myriad institution-specific research studies that are currently conducted are most valuable?

Typical Institutional Research Studies on Students: Perspective and Examples

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Institutional research can enhance an institution’s competitive advantage through admission research by comparing the characteristics of inquirers who apply with those who do not; by documenting trends in the characteristics of applicants; and by conducting studies of accepted students, comparing those who matriculate with those who do not. Retention studies are an opportunity to link admission criteria to student performance in college. Studies on current students offer a basis for evaluating the academic program and student life. Finally, alumni studies present a unique chance to elicit graduates’ evaluation of their education from the perspective of their postgraduate life and work experience.

Enhancing the Institution’s Competitive Advantage Through Admission Research

Literature on admission research constitutes a theoretical and empirically based foundation to guide researchers who are designing admission studies. In an early work, Hossler and Gallagher (1987) proposed a three-stage model of college choice: the first or predisposition stage is one in which familial, societal, and economic factors generate interest and attitudes conducive to college enrollment; the search stage occurs when college-bound students proactively explore potential institutional options or choice sets and evaluate their academic and financial capabilities in relation to these potential choices; and the third and final stage is one in which students make their selection from available options. Hossler, Braxton, and Coopersmith (1989) explain why research is important at each stage of the
college choice process. In the predisposition stage, it documents the importance of parental involvement and the fact that most students make their postsecondary plans by the end of the ninth or tenth grade. Research at the search stage indicates that the role of admission test taking and academic tracking must be taken into account. Research at the final stage can enable administrators to improve marketing activities and selection of students who best fit the institution.

An extensive number of empirical studies have documented the influence of student and institutional characteristics on college choice. Student characteristics include family income (Flint, 1992) and students’ ability (Galotti and Mark, 1994). Institutional characteristics involve the quality of staff and faculty, types of degree programs, faculty-student interaction, and financial assistance (Coccaeri and Javalgi, 1995); and good academic reputation, affordability, good job placement, and well-managed facilities (Comm and LaBay, 1996). Kallio (1995) reports that graduate student decisions are affected by some of the same factors influencing undergraduate students, but they differ with a greater influence of spouse, family, and work issues. The following sections describe typical admission studies that focus primarily on the search and choice stages. The discussion highlights methodological issues, topics, and policy implications of these studies.

**Inquiry Studies.** Administrators aspiring to increase the pool of applicants to their institution may obtain valuable information from an inquiry study. The population should include those who inquired about the institution during a specific period of time, with analyses comparing the responses of those who subsequently applied and those who did not apply. Relevant topics include respondents’ number of inquiries and applications, identification of top competitor institutions, ratings on the helpfulness of information resources, evaluation of the timeliness and adequacy of the institution’s response to the inquiry, and reasons for not applying to the institution. Information on respondent characteristics, including gender, age, citizenship, racial or ethnic background, and academic qualification, should also be obtained.

**Applicant Studies.** The number of applications has implications for institutional revenue and student selectivity. Institutional research can serve a vital function in monitoring trends in applications and applicant characteristics. Applicant trend studies yield crucial information to achieve the institution’s enrollment goals. Documented trends in applicants’ demographic, personal, and academic characteristics are a basis for developing effective recruitment strategies to increase the geographic and ethnic diversity of the student population, balance the male-female ratio, and improve the academic quality of the student population.

**Accepted Student Studies.** Surveys of accepted students amount to a vehicle for enhancing understanding of students’ enrollment decision process and for identifying top competitor schools. These studies typically
address a number of questions: Which institutional characteristics are important to students' choice? How do students rate the institution and top competitors on these characteristics? Which institutions are the top competitor schools? How do students evaluate their admission experience? What role does financial aid play in students' enrollment decision?

Results from admitted student surveys can be a basis for comparing the enrollment decision processes of matriculants and nonmatriculants and of particular subgroups, such as women, academically talented students, international students, and racial and ethnic minorities. Administrators can use results from accepted student surveys to identify areas for improvement in the admission process, design recruitment strategies to attract particular subpopulations, develop financial aid policies, and identify program and institutional characteristics that need to be strengthened to increase the yield with the institution's accepted student population.

Monitoring Student Progress: Linking Admission Criteria to Student Performance

Retention research in higher education is extensive and dates back to the 1970s (Reason, 2003). Both the theoretical and the empirical retention literature are useful in designing studies and identifying the data elements required for retention research. In Preventing Students from Dropping Out, Astin (1975) identified student characteristics—such as high school grade, admission test scores, gender and race, and institutional characteristics (including type, location, and selectivity) that affect retention. In Leaving College: Rethinking the Causes and Cures of Student Attrition, Tinto (1987) presents a conceptual theory that explains retention in terms of social and academic integration into the institution. Tinto’s theory guided much of the retention research in the 1990s. Peltier, Laden, and Matranga (1999) identified these predictors of retention: gender, race and ethnicity, socioeconomic status, high school grade point average, and college grade point average. Reason (2003) proposes that the increasing diversity of college students requires reevaluation of those variables previously understood to predict retention.

There are two types of retention study: a short-term analysis or snapshot that documents the number and percentage of students in each class returning each semester and a longitudinal retention study of a particular student cohort, that is, an entering freshman class. A longitudinal study supplies a means of linking admission criteria to student performance, and it offers more in-depth information regarding the relationship of student characteristics and college experiences to retention. The institution’s administrative data is the primary database for a longitudinal retention study. The potential for research is significantly enhanced if administrative data can be merged with student survey data, such as the Cooperative Institutional...
Research Program (CIRP) entering freshman survey, the Your First College Year (YFCY) survey, and the graduating senior survey. Merging these data files is relatively simple if a common ID is used.

Astin (1993) proposes creation of a longitudinal retention file as the best long-term solution for assessment; he offers the Input—Environment—Output (I-E-O) model for this type of study. The model is based on the assumption that one needs information about the characteristics of incoming students (inputs) in order to evaluate the impact of educational programs and experiences (environment) on outcomes. Illustrative inputs include demographic variables (gender and citizenship) and admission characteristics (SAT scores and admission ratings). Self-reported academic and social college experiences represent the environment. Graduation status, grade point averages, and student satisfaction are examples of outcomes.

**Evaluating Enrolled Students’ Experience: Assessing Student Success and Satisfaction**

Through a systematic survey research program, institutional researchers can enhance understanding of students from entrance to postgraduation. Two types of student survey may be used: standardized and custom-designed. A customized instrument can focus attention on priority institutional issues. Standardized surveys are professionally designed to meet measurement criteria and provide national norms for comparison. A third option of using a customized instrument with some items common to a national survey offers the advantage of addressing priority institutional concerns and having national norms. This section presents examples of research based on each of these options.

**Entering Freshmen.** The Cooperative Institutional Research Program Survey (CIRP) is a national longitudinal survey of first-time, full-time freshmen in the United States, which has been administered for forty-one years. Entering freshman respondents furnish information on a range of topics, notably reasons for attending college, reasons for choosing this college, self-ratings of their abilities, goals, values and expectations of the college experience, career plans, and aspirations for the future. CIRP survey reports include institution specific profiles summarized by gender, with comparative national norms for institutions of similar types. Researchers can also access the data for further analyses. This is an opportunity to conduct more in-depth analyses on issues of particular concern to the institution.

**First-Year Experience.** Barefoot (2000) observed that the global emergence of first-year programs over the last two decades reflects the higher education community’s realization of the significance of the freshman year. Results from empirical studies document the significant impact of first-year college experiences on a range of student outcomes, among them academic success, intellectual growth, retention, and satisfaction. Gerken and Volkwein (2000) found that the strongest predictors of eleven of twelve college
outcomes were the vitality of student interaction with faculty and with each other during the freshman year. However, further research is needed to ensure that first-year-experience programs realize the potential for success. Upcraft, Gardner, and Barefoot (2005) noted that although the last two decades have witnessed increased efforts to improve the first year of college, many challenges remain—in particular, a low first-year academic success rate, a first-year experience less academically challenging than students expect, and inadequate attention to enhancing student learning in the first year.

Your First College Year (YFCY) survey is designed for research on the first-year experience. The survey is administered at the end of the first year and addresses several aspects of students' experience: perceived growth; level of academic adjustment; and satisfaction with the academic program, student services, and overall college experience. Also, individual responses from the YFCY are linked to CIRP survey responses obtained at the beginning of the first year. This merged data amounts to a basis for assessing changes in student characteristics, values, and goals during the first year. A brief description of studies based on YFCY data follows.

In The First Year in College: Understanding What Makes a Difference, Delaney (2004a) addressed the question, “What student characteristics and freshman year experiences significantly predict students' overall satisfaction with the first year?” Regression results identified satisfaction with sense of community, success in developing close friendships, satisfaction with campus resources and the quality and relevance of courses, and participation in student clubs as statistically significant predictors of overall satisfaction. These variables explained 53 percent of the variance in students' overall satisfaction with the first year.

In another study on the first-year experience, Delaney (2007b) examined the impact of faculty-student interaction on student outcomes. The study identified significant relationships between interaction with faculty and perceived growth in knowledge, academic adjustment, and satisfaction with courses. Regression analysis revealed that, after controlling for relevant factors, interaction with faculty significantly predicted academic performance, and satisfaction with faculty contact significantly predicted overall satisfaction.

A third study focused on students' social and cultural values (Delaney, 2007a). Results revealed that students who were committed to improving their understanding of other cultures; who held strong social, cultural values; and who perceived growth in knowledge of other races and cultures were more likely to socialize with someone of another race or culture in the first year.

Graduating Seniors' Assessment

A survey of graduating seniors is an ideal vehicle for eliciting students' evaluation of their college experience. Two major topics typically addressed in a
senior survey are students’ perception of growth in knowledge and ability and their satisfaction with programs and services. Senior survey research may be based on a custom-designed survey, a national survey, or a custom-designed instrument that includes items common to a national survey. Examples of national surveys are the Higher Education Data Sharing (HEDS) Consortium Senior Survey; the College Senior Survey (CSS), sponsored by the HERI at UCLA; and the National Survey of Student Engagement (NSSE), sponsored by the Indiana University Center for Postsecondary Research.

Nelson and Johnson (1997) identified how senior surveys could serve as a vehicle for achieving program improvement in the curriculum, career services, and student advising. Cheng’s research (2001) is an excellent example of how an externally developed senior survey may be used to construct a model for assessing the student collegiate experience and producing outcome measures in an institution’s assessment effort.

Delaney (2005) presents a model for designing senior survey research studies to achieve optimum impact on assessment and policy development. Based on trend data for 970 graduating seniors, the paper demonstrates how the link between research and policy was achieved through the conceptual organization, design, and statistical analyses of results. This model involves six steps:

1. Review the institutional mission.
2. Identify the goals of the undergraduate academic program.
3. Define the major components of the undergraduate student life experience.
4. Develop a means to evaluate academic goal achievement and satisfaction with student life.
5. Design a statistical analysis plan to address planning and policy issues.
6. Translate the results into recommendations for planning and policy development.

In Assessing Undergraduate Education from Graduating Seniors’ Perspective: Peer Institutions Provide the Context Delaney (2001a), demonstrates how a customized survey, with some items common to the HEDS senior survey, was used to compare the satisfaction and evaluation of graduating seniors at the study institution with that of their peers. The study was based on survey responses of 244 graduating seniors from the primary institution and approximately 1,500 students from a diverse group of thirty-nine peer colleges and universities in the United States. On the basis of institutional type and the national ranking schema of U.S. News and World Report, the peer institutions were classified in five categories: first-tier colleges; first-tier universities; first- and second-tier colleges; second-, third-, and fourth-tier colleges; and a diverse-tier group. Comparative findings from this study were particularly meaningful because the peers shared the same academic major and were preparing for similar careers in the field of business.
Assessing Program Effectiveness with Alumni Studies

Alumni studies are a means of determining alumni satisfaction with their education. As Hartman and Schmidt (1995) observe, understanding and promoting alumni satisfaction is important given that satisfied alumni are likely to help the college financially, offer positive word-of-mouth communication, and offer jobs to subsequent graduates. Pearson (1999) determined that alumni who were very satisfied also perceived the value of their college education to be greater, took pride in their degree, had a stronger personal commitment to the institution, and were more likely to be donors. Martin and others (2000) discovered that alumni who were more satisfied with their institution thought they were better prepared for employment.

For some time, researchers have emphasized the crucial role of alumni in assessment of higher education’s effectiveness. Williford and Moden (1989) noted that alumni offer a unique contribution in assessing the quality of their education tempered by their experiences since graduation. Khalil (1990) claimed that alumni potentially offer an objective perspective given their distance from involvement with the program. Lee Harvey (2000) recommends using perceptual studies of alumni to assess how well higher education is preparing graduates with the appropriate personal and intellectual skills needed in the workplace.

One major consideration in designing an alumni study is whether the primary focus should be on evaluating the educational program or on monitoring graduates’ personal and professional development. Recent classes should be selected if the primary purpose is to evaluate the curriculum; earlier classes should be selected if the primary purpose is to study graduates’ career paths and postgraduate personal and professional development.

In the article “Ideas to Enhance Higher Education’s Impact on Graduates’ Lives: Alumni Recommendations,” Delaney (2004b) presents a model for research with a primary focus on evaluating the curriculum. The study was based on a survey of about five hundred undergraduate alumni from a private college in the northeastern United States. Two major areas addressed were satisfaction and perceived growth attributed to the college experience. Consistent with the principles of good practice in assessment, the survey for this study was designed to reflect the goals of the undergraduate curriculum (Banta, Lund, Black, and Oblander, 1996). Results identified these significant predictors of overall satisfaction: satisfaction with a sense of community; satisfaction with preparation for one’s future career; and perception of enhanced abilities to acquire new knowledge, communicate well orally, and understand others. These findings indicate that graduates evaluate their education through the prism of several aspects of their experience: the quality of community life during college, the adequacy of career preparation, and enhanced capacity for lifelong learning and relating with others.

Discovering Success Strategies Through Alumnae/i Research (Delaney, 2002) presents a research model focused primarily on studying the career
paths and professional development of alumni. The model was designed from a review of theoretical and empirical literature on career development. Results from more than three hundred business major alumni identified a number of correlates of career success: high-risk orientation, high-achievement motivation, and a positive attitude toward globalization and opportunities to acquire broad management experience, negotiate business deals, and achieve success on a critical project. Based on these findings, the final report recommended that the college should design programs to develop attitudes correlated with success and encourage students to seek the types of career opportunities found to enhance success. Thus the study demonstrates how alumni research may be used to enhance higher education’s effectiveness in preparing students for success in their career.

**Methodological Approaches and Data Sources for Institutional Research on Students**

Quantitative and qualitative research approaches are essential to produce the necessary information to support institutional planning for student programs and services. Quantitative methods, traditionally used in institutional research, furnish valuable information about outcomes. Results are useful in summative decision making. However, qualitative methods are necessary to explain the **why** of results and to support formative decision making for improvement (Howard and Borland, 2007).

Primary and secondary data sources are available for research on students. Surveys and focus groups are examples of primary data sources; using both presents an opportunity to produce outcome data and explain the reasons for the outcomes. Examples of secondary data sources are the institution’s administrative database, consortia datasets, and national datasets available from the National Education Data Resource Center.

**Requirements for Successful Institutional Research on Students**

To realize the goal of enhancing administrators’ understanding of students through research, higher education administrators and institutional researchers need to have a shared perspective regarding the role of institutional research. As several authors have noted, administrators’ perception of the role of institutional research is crucial: “When institutional research is perceived simply as a number-crunching activity, not only does the profession lose, but so does each and every institution where this attitude prevails” (Presley, 1990, p. 106). Echoing a similar theme, Olsen (2000) observed that although the practice of institutional research involves production of data, the art is contextualizing the data and converting it into meaningful information. Terenzini (1993) describes contextual intelligence as the highest form of intelligence that earns institutional researchers legitimacy, trust, and respect.
Administrators’ Role. Administrators play a critical role in enabling institutional researchers to produce successful studies. Effective administrators articulate policy relevant questions, value research, facilitate access to resources, and use the results of research in decision making. Ehrenberg (2005), a former vice president who supervised the Office of Institutional Research at Cornell University, emphasizes the need to educate administrators about the usefulness of institutional research, particularly if they are not data-driven.

Researcher Qualifications. Several studies highlight the importance of researcher qualifications and level of education to institutional researchers’ effectiveness. Volkwein (1999) observed that the role of the institutional researcher as policy analyst requires a relatively high level of education and training as well as both analytical and issues intelligence. Terenzini (1999) noted that acquiring the methodological and analytical skills relevant to institutional research is most likely to be sound and complete when received in formal coursework in such areas as research design, measurement, sampling, statistics, and qualitative research methods. Delaney (2001b) found that institutional researchers with a doctorate reported significantly more often that their work had resulted in program or policy changes at their institution.

Characteristics of Effective Institutional Research Studies. To be effective in influencing planning and policy, institutional research studies must be based on sound methodology. They should focus on policy relevant questions and be action-oriented for decision making. Research reports should present information based on analysis of the data. Finally, to achieve optimum influence on policy, research reports should include recommendations formulated on the basis of results. Research has shown that assuming a proactive role by formulating recommendations and conducting follow-up studies enhances the potential for influencing policy (Delaney, 2001b).

Note
1. The first two surveys of the three are produced by the Higher Education Research Institute (HERI) at the University of California, Los Angeles.

References


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