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ABSTRACT
        This paper describes a multi-faceted approach to
improving student retention at an urban public university. It is
noted that the students at this institution are older, working
people; few live on campus and participate in what would be
considered traditional student experiences. The paper examines the
physical setting and external environment; the internal environment;
and key events (defining the problem, listening to student voices,
and expanding data gathering and implementation of pilot projects).
Described are the actions of a Retention Committee which used
qualitative and quantitative methods to identify problems that create
barriers to student success or contribute to student departure. A
cross-cultural model, involving faculty, administrators, policy
makers, and students, was found to be useful. A committee chairperson
was chosen who could easily move back and forth among the subcultures
with their different values, modes of behavior, incentive systems,
and ways of communicating. Preliminary findings indicate that
problems of student success in beginning math classes are more
complex than was first imagined, that few faculty members who are
viewed as the best teachers actually teach freshmen, and that
advising and campus activities are major student concerns. The
elements of a model for transferring information from the research
realm into the policy arena are described. The paper concludes with a
discussion of the implications of the case study for the field of
institutional research. (Contains 16 references.) (GLR)

Student Retention:

Moving from Numbers to Action

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research of higher education. It has therefore
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STUDENT RETENTION: MOVING FROM NUMBERS TO ACTION

Abstract

We describe a multi-faceted approach to providing information to improve student retention at an urban public university. Many students at this institution are older, working people; few live on campus and participate in "traditional" student experiences. A Retention Task Force, using qualitative as well as quantitative methods, identified problems which were barriers to student success or which contributed to student departure. We outline our results to date, address strategies for involving administrators, faculty, staff, and students, and discuss future research plans. We describe elements of a model for transferring information from the research realm into the policy arena.

STUDENT RETENTION: MOVING FROM NUMBERS TO ACTION

Introduction

Institutional researchers must recognize that there is much more to addressing retention issues than producing numbers. This is especially true when the focus is on improving the educational experience. This paper describes how institutional researchers can go beyond simply reporting data, to assume an active role in policy development and program improvement.

Institutional researchers must have strong technical skills to conduct meaningful retention studies. They should have mastery of both quantitative and qualitative research methodologies. Beyond this, our experience suggests that knowledge of the organization and the ability to function effectively in the political arena are invaluable skills in moving from a research agenda to successful action.

Since the summer of 1990, we have been addressing two questions: first, "Do we have a retention problem?" and second, "If we have a retention problem, what should we ⊃ about it?" This paper presents a case description of the retention research initiative at a public urban university. The case is organized into three parts: the physical setting and external environment, the internal environment, and key events. Our analysis explains why, in this case, the initiative has moved beyond the numbers. We conclude with recommendations for further research and for improving the effectiveness of Institutional Research. We encourage our Institutional Research colleagues to pay more attention to the organizational processes through which their work moves from numbers to action, and to share their findings through case analyses such as this.

Conceptual Framework

Previous studies have identified factors that influence information utilization (Rich 1981; Kinnick 1985; Patton, 1986; Shapiro 1986; and Ewell 1989). Among these factors, according to Ewell (1989, 16) are characteristics of the organization, the researcher, the policy maker(s) and the information. Figure 1, adapted with permission from Ewell (1989, 16), shows the relationships among these factors. Rich
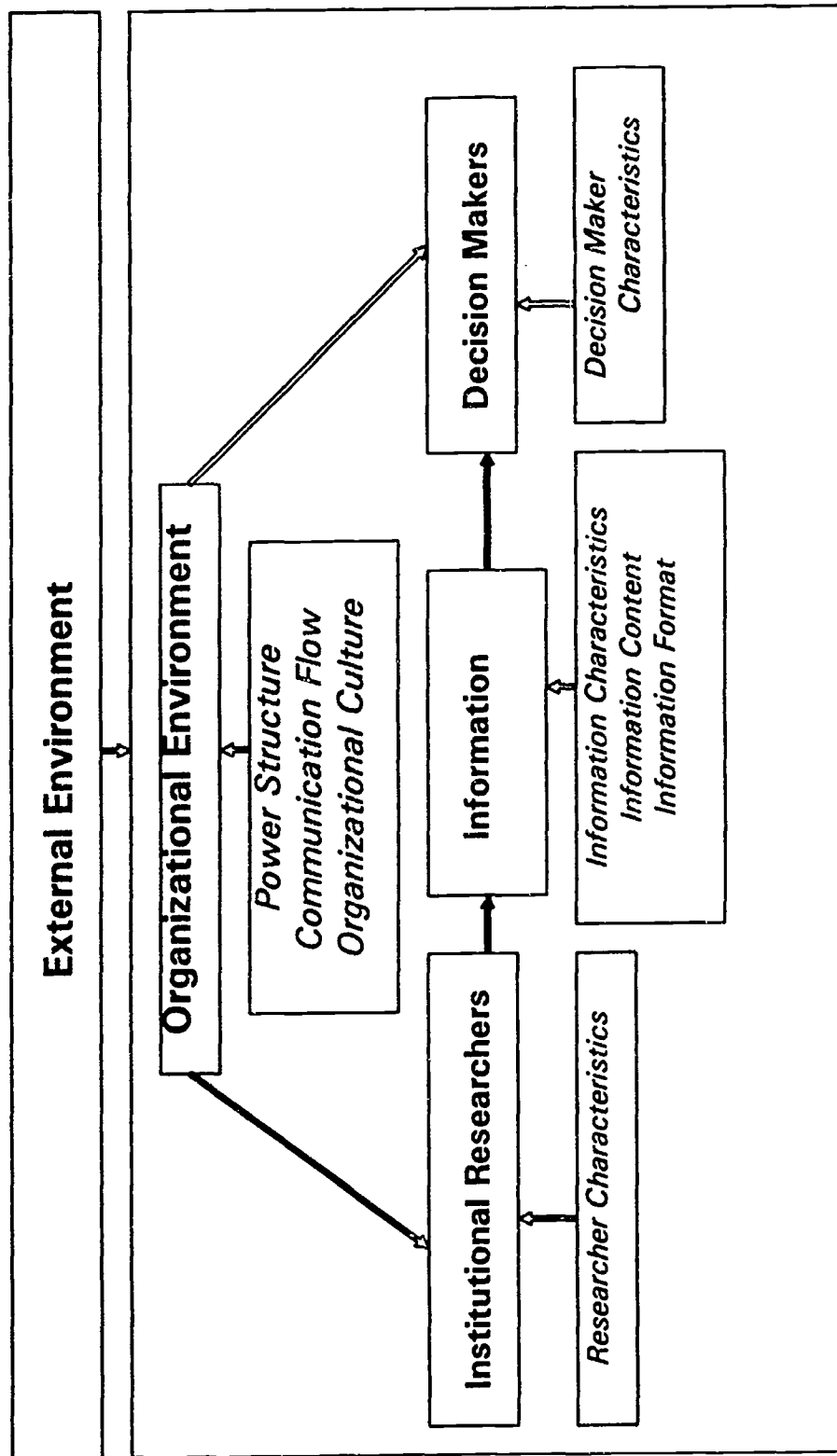
Figure 1
Factors Influencing Information Utilization
Adapted with permission from Ewell (1989, 16)

(1981) and Shapiro (1986) argue that information utilization can be understood as a process of cross-cultural communication between evaluators who speak from a "rational social scientific perspective," and decision makers who operate from a "pragmatic, political perspective" (Ewell 1989, 13-14).

Drawing on the findings of these studies we pose two major questions: 1) What factors account for utilization of retention information described in the case? and 2) How useful is the cross-cultural communication model in understanding the process of moving research findings into the policy arena?

The Case

The Physical Setting and External Environment

The University we describe is a comprehensive public urban university located in the downtown area of a mid-sized city. Approximately 15,000 students are enrolled in bachelors, masters, and doctoral programs. Approximately half the students attend classes on a part-time basis; many are employed full-time. Approximately one quarter of the students are enrolled at the graduate level. The average age of undergraduate students is 27, and of graduate students, 36. Approximately 10 percent of students live in campus housing; the remainder commute to classes.

During the past several years, considerable change has taken place at the institution. A special commission, appointed by the Governor, reviewed higher education programs in the metropolitan area, and recommended an expanded role for the University. With special funding, a number of new collaborative projects have been initiated. These collaborations involve other educational institutions and agencies, including the public school districts, local community colleges, other state-system institutions and private colleges and universities in the area. The University continues to develop its role as the hub of postsecondary education in the metropolitan area.

Recently, the fiscal environment of state government has begun to deteriorate. During the next five years, a property-tax limitation measure passed by voters in Fall 1990 will substantially reduce the funding available to higher education and other state-supported services. Institutions of higher education were required to reduce 1991-93 biennial budgets by approximately six percent, and must cut

an additional 10 to 20 percent in the 1993-95 biennium unless an alternative funding package can be instituted. As a response to reduced state allocations, public colleges and universities in the state raised tuition by 33 percent in 1991, and additional increases are contemplated. Enrollment at the institution dropped seven percent after this tuition increase. Without revenue replacement, projected cuts for 1995-97 will be even greater.

The Internal Environment

Over the past several years, the institution has experienced considerable structural turmoil and personnel turnover. Much of this is due to a rocky transition to new leadership after the retirement of a long-term president. From the mid-70s through the mid-80s the institution was led by a president best characterized as a benevolent monarch. Most major decisions were made by the president, who had been the academic vice president, and who was well respected academically and personally liked. His primary strength was in dealing with the institution's internal affairs.

His successor resigned under pressure after two years as president. Considerable administrative turnover occurred during this period of time. An acting president, who served for the next year and a half, helped to restore calm and stability. The current president arrived August 1990 and is in the process of recruiting her own administrative team. A major review of the structure and organization of the administration of the institution has resulted in a number of structural changes.

The institution has had four Provosts in six years, and a new provost is to be hired this year. The Vice Presidency for Student Affairs was eliminated earlier this year. Administration of student affairs is now conducted by a management council reporting to the Provost, while a search is underway for a Dean of Students.

Under previous administrations, research on students was not valued and was, consequently, underdeveloped. The University did not have a marketing strategy, a recruitment or retention plan, nor did it become involved in the national student assessment movement. It waited for students to arrive, admitted them and tried its best to serve support needs with limited resources. State funding formulas,

based largely on FTE rather than headcount, imposed a disadvantage on campuses such as ours which serves a large proportion of part-time students.

Key Events

Stage One: Defining the Problem.

During the past fifteen years, questions of student retention at our institution were addressed only intermittently. The assumption was that an urban university with a student body made up of older students, many of whom are employed full-time, was so different from more traditional institutions that traditional measures of student retention were not meaningful. From time to time, the Office of Institutional Research and Planning prepared reports on student attrition, using standard cohort survival methods. Analyses of cohorts of freshmen entering the University directly from high school showed low retention rates after the first term, from first to second year, and each year thereafter. Occasionally, non-returning students were surveyed to determine why they had left the university. The results of these surveys bolstered the conventional wisdom--students left because the combined pressures of job, family and school became unmanageable, and school was the easiest of the three to put aside. The information developed in these studies was read and shelved. Generally, it was felt that because of the nature of the institution, (urban, relatively large, serving many older and commuting students, and with essentially open enrollment), little could be done to improve student retention. Little information on student retention was available from comparable institutions (we suspect that few of these institutions were any more anxious than we to make the numbers public). The problem was, by and large, ignored.

In the Fall of 1990, a decision was made to re-examine student retention issues. The Provost asked a faculty member in the School of Education, familiar with the retention research literature, to chair a task group (hereafter referred to as the Retention Committee) consisting of the Director of Institutional Research and Planning and two staff members from the Office of Student Affairs. The group was asked to find out if retention was a problem at the University, and if it was, to recommend what should be done about it. The chair accepted the role contingent on receipt of a modest budget that included a graduate assistant and support for survey research.

The first step was to review information already available about retention at the University and about initiatives designed to increase retention. We reviewed literature in retention theory and retention research. Several sources (Attinasi 1989; Bean and Metzger 1985; Pascarella and Terenzini 1990; and Tinto 1986 and 1987) were especially useful and influential, given the diverse student population served by the University and the significant numbers of older, returning students served at the undergraduate level. The Retention Committee also met with Dr. Vincent Tinto, nationally known for his work on retention, in Portland in November. These initial activities were the subject of an interim report issued in late November 1990.

One significant finding was that information about patterns of retention of incoming freshman had been generally available to university administrators for 10-15 years. Despite figures which were low no matter how retention was calculated, little attention had been given to the issue. Even so, the institutional research office kept collecting, distributing and storing these data.

Based on information describing enrollment patterns of the "new from high school" freshman cohort, along with limited information on transfer student graduation rates, the task force concluded that, indeed, we had a retention problem. We urged that future efforts should be focused on improving the nature and quality of the undergraduate experience, as well as on explaining and improving retention rates. Retention was seen as a byproduct of improving the student experience, not as a goal in itself. We decided to focus on the early experiences of new students at the University (a recommendation that recurs consistently throughout the retention literature).

The report offered two major recommendations. First, more information was needed about students, in order to interpret the retention numbers. We wanted to know more about entering students, non-returning students and graduates, and about how our retention rates compared to those of similar public urban universities. We needed information on the impact of current university policies and practices, and how they facilitated or limited the progress of specific sub-groups of students. We also wanted information on the effectiveness of interventions used at other universities. We were concerned, however, that solutions be designed for our institution, rather than imported wholesale from another

university. Secondly, the report called for Committee expansion, to include more individuals with responsibility for undergraduate education.

A review of Committee activities took place after the resignation of the Provost in December, 1990. The President strongly and enthusiastically endorsed the work of the Committee and agreed that indeed its membership should be expanded. She suggested the group become more of a scholars or academic work group, involving individuals interested in studying the university, writing about findings while at the same time helping the institution to improve. Teaching faculty members from Arts and Sciences, Business, and Education were added to the Committee. These faculty members shared a strong commitment to students, and an interest in the issue of retention.

Stage Two: Listening to Student Voices.

As the Winter term began, the committee prioritized activities for the future. The most urgent activities identified for completion during the year were obtaining information on retention rates from comparable public universities and developing information on the student experience at the University. Our original intention had been to conduct a student survey to find out more about why students come to PSU, their intentions, and their goals. We decided that a better initial strategy would be to conduct a series of focus group interviews, to clarify issues we might wish to explore further in later surveys. We were especially interested in the potential of a qualitative approach for several reasons. We wanted to learn more about what issues were important to students, as defined by students themselves. We wanted to explore the relationship between various student characteristics (e.g. gender, ethnicity, enrollment patterns, student level) and the student experience. Finally, we felt the research process itself could serve as an intervention, by communicating the institution's concern about students.

Planning for the May 1991 Focus group activity was conducted during February, March and April. We received approval from the campus Human Subjects Committee, and worked with David Morgan, an expert on focus group research (Morgan 1988), to develop the research design. Moderators were asked to pose the following questions to focus group participants:

1.   Think back over your experiences at the University -- some of your first contacts, as well
      as experiences after that. Is there one experience that stands out? Tell us about that.

2.   What one thing could the University do to make things here better for you?

3.   What one thing is the University doing now that's good, and that it should keep on
      doing?

4.   There is a concern at the University that students should feel connected to the institution
      in some way. In what ways, if any, do you feel connected to particular groups, here or
      in the larger community? Is "connecting" important to you?

Once the interviews had been conducted, moderators and assistant moderators independently
summarized their notes in writing. They then gathered to compare findings and explore major themes.
Several members of the committee conducted separate analyses of the summaries and compared these
analyses to the results of the group discussion.

The Committee report was issued in three parts: an executive sum   , a short report on the
study design and methods, and a longer report containing the interview texts. Every effort was made to
protect individual student confidentiality. The three reports were sent to all members of the President's
Executive Committee. The Vice Presidents, in turn, shared the reports with their immediate
subordinates. The Executive Summary was more widely circulated, to deans, directors and managers
throughout the University.

The Committee Chair presented reports of Committee findings to meetings of the Council of
Academic Deans, the president's Administrative Council and the Enrollment Management Committee.
Feedback from administrators indicated that the reports were read and that the interview texts in
particular had generated considerable interest and discussion.

Some of the frustrations expressed and problems identified by students were of particular
concern: that the university does not demonstrate that it cares about students; that problems which have
been identified don't seem to get solved. On the positive side, students indicated that they were pleased
with the diversity of the student body. One sub-group, members of an academic support program,

presented a strikingly positive portrait of their experiences. The findings helped to identify areas of student concern that should be included in future student surveys.

Participation in the focus groups had a significant impact on the moderators and assistant moderators. Listening to students participants increased their interest in questions of student retention, and their motivation to continue involvement in the project.

During this phase of the project, the University became a member of the Public Universities Information Exchange, a national data-sharing group for public comprehensive universities. An early project of this group was an exchange of data on retention of first-time entering freshmen, new from high school. About the same time the focus group report was released, we received the report of this study, and were able to share comparative figures with the President. The figures confirmed that our retention rates for this group were quite low, even in comparison with those of other similar public universities. These national quantitative data in combination with local quantitative and qualitative information further increased the interest of the upper levels of the University administration.

The Committee requested a considerably larger budget for 1991-92, to conduct two surveys, continue membership in the national data exchange group, employ a graduate assistant, and issue several mini-grants for initiatives designed to improve the student experience. In a period of budget cutbacks, our request was a top priority on the Provost's special projects list. We were fully funded.

Stage Three: Expansion of Data-gathering and Implementation of Pilot Projects

Over the summer, the Committee developed a survey for use with new students attending the late summer student orientation. This survey served as a pilot for a more extensive survey administered to a sample of students entering the University in Fall 1991. The fall survey was sent to 500 new first-time freshmen, and 500 new transfer students. We were pleased to obtain a response rate of better than 60%. The data from the survey provided new insights into problem areas.

In Fall 1991, a mini-grant program was initiated. Faculty and staff, and students with faculty or staff sponsorship, were invited to submit proposals for projects designed to improve the undergraduate experience and to improve retention. Sixteen proposals were received, and three projects were funded:

a qualitative study of adult women undergraduate students newly transferring into the University from a community college; an intervention designed to increase the interaction between faculty and new freshmen; and a program designed to increase the historically low rate of successful completion of an entry-level mathematics course.

During the Winter and Spring quarters, the Committee began work on a survey of current students to be administered Fall 1992. The instrument will gather data to build on information gained from the focus group interviews and the survey of entering students.

During Winter term, several other significant developments took place. An undergraduate student, founder of the Returning Adult Student Association, was added to the Committee. Also joining the committee was the coordinator of a new mentoring program for women students returning to higher education. Spring term an undergraduate student parent joined the group.

As part of his doctoral research, one member of the Committee is testing the efficacy of an intervention involving non-teaching staff as mentors to new freshmen students. Another doctoral student is conducting a qualitative study of the experiences of undergraduate students participating in a special support program, and of how these experiences contribute to or detract from progress toward the degree.

Since Fall 1991, the student newspaper has carried at least four major articles focused on retention issues, including the work of the Committee. Representatives of student government and the coordinator of residential life in a student residence hall have expressed interest in the retention effort, and will participate in Committee deliberations.

In April 1992 the Provost made funds available for curriculum development projects focused on improving undergraduate education. Projects designed to develop a distinctive freshman year experience are especially encouraged. In addition, a group of faculty was asked to develop a pilot freshman year experience program to be tested in 1992-93. Dr. Vincent Tinto met with this group and discussed the content and format of typical "freshman year experience" programs.

<u>The current situation.</u>

The Committee will offer, by June, recommendations for improving the undergraduate experience. We are already learning from the mini-grants. The problems of student success in beginning math classes are more complex than was first imagined. The chair of the mathematics department and several other faculty members have become involved in the search for solutions. Too many students are not advancing successfully in mathematics courses, and current course alternatives do not meet their needs. A curricular review is underway. The group working on increasing faculty interaction with new freshmen has discovered that few of the faculty recommended by their colleagues as being the "best teachers" on campus actually teach freshmen. Data collected by this group indicate that advising and campus activities are major areas of student concern.

The Office of Institutional Research and Planning has completed a cohort survival study of sophomore and junior transfer students, as part of a Public Universities Information Exchange study. In addition, a comparison of characteristics of returning and non-returning freshmen is being conducted, with the hope of isolating characteristics which may be indicators of the probability of leaving before completing a degree.

Finally, we have submitted a request for continued funding for committee activities for the 1992-93 fiscal year. Retention continues to occupy one of the highest priority areas on campus for special funding.

In summary, the activities of the retention committee appear to have had several positive outcomes:

O   Administrators have realized that the institution has a retention problem, and that, in part, it has to do with the nature of the educational experience provided by the institution.

O   Students have expressed interest in helping to improve student retention.

O   A committee has been formed to plan a "Freshman Year Experience".

O   Faculty have been offered opportunities to develop curriculum to reshape the lower division student experience.

O   Awareness of advising as serious problem area has been increased.

O   Problems in the mathematics curriculum are being explored.

Analysis and Discussion

Two major questions framed this study: 1) What factors account for utilization of the retention

information? and 2) How useful is the cross-cultural model? We revisit the four factors affecting

utilization identified by Ewell (1989) and, with some additions and modifications, validate their

explanatory power. Further, we find the cross-cultural model to be especially useful.

First, though, a word about information "use". As described by Ewell (1989), "use" may refer to:

identifying a problem, raising awareness and concern about the problem, providing a picture of the

broader context within which the problem is embedded, selling decisions, shaping decision alternatives

and making decisions. Much of the work of the Retention Committee has involved identifying problems,

raising awareness and framing the problems in local context. In several instances, more direct action

has occurred: the decision to expand Committee funding and scope of work; the initiative to begin

planning a freshman year experience; and the reexamination of the mathematics curriculum.

Four critical variables affecting information use were identified in Figure 1: organizational

characteristics (structure of power, organizational culture and structure of communication); researcher

characteristics; decision maker characteristics; and informational characteristics (information content and

medium/format). What appears most significant in our case is the tight structural and communication

linkages between the researchers and the policy makers, facilitated through the pivotal role of the chair

of the Retention Committee (see Figure 2).

The chair is a long-term faculty member with credibility as a researcher, has served in several

key administrative roles and is currently Assistant to the President. She also has close professional ties

with director of the Office of Institutional Research and Planning, and at one time served as the Director

of Institutional Research at the institution. She has extensive informal and formal, vertical and horizontal

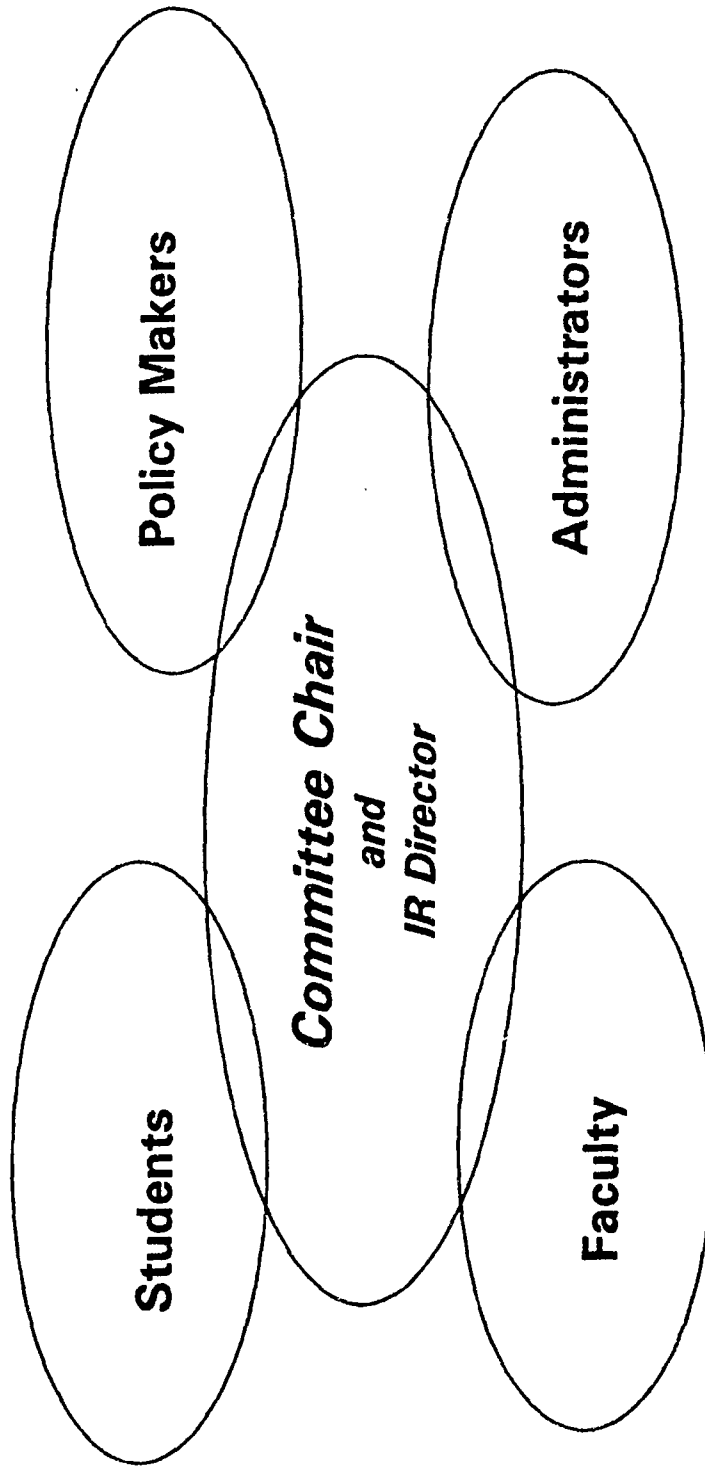communication lines to both the researchers and policy makers, and is able accepted as a member of

Figure 2
Spanning Institutional Subcultures

the faculty, administrative and policy-making subcultures. This "middleman" position has been well described by Lazarsfeld and Reitz (1975), who address issues associated with preparing sociologists for roles within the information utilization process..

The Institutional Research Office at the University reports to the Provost, but provides service to all areas of the University. University administrators and faculty generally contact the Office directly for information they need, and as a result, the Director has a wide network of contacts throughout the University. The Director sits on the University Planning Council, the Curriculum Committee, the Computing Advisory Committee, and the Enrollment Management Committee, and is an ex-officio member of the Faculty Senate.

Organizational structure, culture, and values are undergoing substantial modification within the University. The importance of the work of the Committee and the value placed on information about students and their experiences at the University have increased during this time. The University is moving from a predominantly faculty-centered focus to one that is more student-or client-centered. In the past, the institution has tried to serve anyone who arrived on the doorstep. Now, largely due to external forces, strategic choices are being made about who we should serve, in what numbers, and how services should be provided. Historically, faculty defined their own scholarship. Now, incentives are being offered to encourage faculty to apply their scholarship to local problems. Finally, the use of bureaucracy, with its hierarchical structure, to solve institutional problems is being replaced by cross-functional, collegial teams. The work of the Retention Committee has been enhanced by each of these developments; indeed, its very existence has been shaped by these developments.

In this case study, the individuals involved are important. We have already mentioned the role played by the chair. She moves easily back and forth between the researchers and the policy makers. The President, the Provost, and the Vice Provost, because of their fields of academic specialization, are comfortable with and use data. The researchers and the policy makers, though, value different kinds of information. Researchers can become enamored with problem definition and with detail and may hesitate to suggest policy. Policy makers want to know the bottom line. They want information that

helps shape short-term strategies and that helps to identify and evaluate longer-term courses of action, but may not consider the full implications of the details of analyses.

The information itself is a critical variable in influencing use. The retention information was perceived to be technically sound and to have face validity. Considerable care was taken in the design and conduct of the focus groups, in analysis of results, and in summarizing and disseminating the interview findings.

The right information was collected first. This information validated initial hypotheses and led to further, more refined questions and research that helped us learn about the local setting. The use of qualitative data and comparative national data, to complement local student cohort statistics, proved especially effective. Crowson (1987) argues that qualitative research can provide richer descriptions, better illustrate subtleties, and in some cases, provide better management information than purely quantitative research.

When the objective is action and improvement on the local level, it is unwise to rely exclusively on quantitative methods to understand retention patterns. Attinasi's (1989) qualitative study of Mexican Americans in college resulted in a rich array of recommendations for improving the student experience at one institution. Much was learned about intervening processes, how they worked and how they might be improved. We agree with Attinasi (1991 2, 6) who points out the limitations of quantitative and survey research in student outcomes-related studies:

> No matter how theoretically and analytically sophisticated, this approach will never be capable of fully informing us as to how and why particular student outcomes occur. This is because such methods do not, and cannot, adequately capture the perspectives of the individuals whose outcomes are of concern ... Progress in understanding college student outcomes such as persistence has been retarded by our failure to take into consideration the meanings the phenomenon of going to college holds for students...The focus is on the relationship between static independent and dependent variables, with little concern for the intervening process of interpretation.

The use of comparative, quantitative data from institutions similar to our own also had a considerable impact. Other institutions with similar student populations were retaining more of their students. Our problem appeared greater than we had thought originally. We needed to know more about the goals and intentions of our entering students, what happens to them at the University, and whether those who leave continue their education at other institutions.

The factors we found important, in addition to those discussed by Ewell, were the condition of the environment external to the university and the increased awareness of the student experience and retention patterns within the institution. New regional accreditation standards, federal reporting requirements and the State fiscal crisis combined to increase the demand for information about student retention and student success. Discussions with key campus policy groups about the findings of the qualitative study and on-going articles in the student newspaper about retention-related issues served to increase interest in and awareness of the retention situation. Timing was important; we did the right things first. Conducting the focus groups early gave us good information for building the surveys, and for initiating the mini-grant program that tested several interventions designed to improve the quality of the undergraduate experience and retention.

The cross-cultural model was very useful in this case. Four sub-cultures were identified (Figure 2). The Committee chair and to a lesser extent the Institutional Research director played pivotal roles in the communication process. Each subculture has different values, modes of behavior, incentive systems and ways of communicating. Students want immediate change and urge us to fix problems without further discussion. Administrators (the Vice Provost and Student Affairs professionals) are under pressure to improve service without increasing cost. They may resist change, particularly when proposed interventions have implications for budgets, and for how they do their work.

The faculty reflect their own research paradigms and attempt to carry them out, giving varying importance to quantitative research or to qualitative research. They pay a great deal of attention to research design, data collection, and analysis, with less concern for and understanding of the needs of

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the policy makers. And, unless redirected with new incentives, they may pursue research because of their own special interest and scholarship and publication agendas.

The policy makers (here the President and Provost) want to know the bottom line. What does this information suggest they should do, in terms of policies, programs, procedures, staffing, structure and resource allocations? How can they achieve more with less? How can they best invest limited resources?

Implications

This case has five major implications for the field of Institutional Research. First, Institutional Researchers must increase their awareness of how their organizations function politically (see Terenzini's (1991) three-tier conception of Institutional Research as organizational intelligence). Their positioning in the organization is critical if they are to know what problems to pursue and what information may prove useful to problem-solving. Their structural and political connections can help them to respond appropriately when opportunities arise. Direct affiliation with the policy makers is one alternative. Another alternative is to affiliate with a broker who in turn is connected to key constituent groups or sub-cultures. Still another alternative is to create and participate in cross-functional teams, such as the Retention Committee. The team leader should be able to move among the local sub-cultures. When a complex issue such as retention is being studied, and when improvement of the undergraduate experience is the goal, teams must operate as on-going problem-solving groups and not as ad hoc study groups that are abolished when a study is completed. Improvement typically occurs incrementally, from a successive series of smaller changes.

Second, organizations such as the Association for Institutional Research, and the Society for College and University Planning provide a range of professional development opportunities. More attention should be given in these to familiarizing institutional researchers with what we know about the information utilization process. Training in a particular discipline and the development of technical skills with qualitative and quantitative methods is not sufficient when the interest is in moving from numbers and narratives to action in the policy arena.

Third, the use of multiple strategies for gathering information to address issues of retention is imperative. Qualitative approaches, along with inter-institutional comparative data, can prove especially helpful in the early stages of inquiry. Retention cannot be reduced to pure numbers when educational improvement is the aim. Qualitative methods can provide an understanding of local intervening variables that taken together affect the nature and quality of the student's educational experience. The exchange of information with other comparable institutions can provide valuable insights into how other institutions approach similar problems. A comparative perspective can increase interest in and concern about local patterns of retention and can shape a more thoughtful local research agenda.

Fourth, as values shift in U.S. higher education, placing more importance on the customer, listening to and faithfully representing the student voice to policy makers is an increasingly important function for institutional research. In addition, students view such efforts positively and want to become more involved. As students become more involved, the gap between the researchers and the objects of their research narrows and informed problem-solving increases. Client-centered and client-responsive research approaches are also compatible with the growing Total Quality Management (TQM) movement in higher education.

Fifth, and last, we encourage our Institutional Research colleagues to use case approaches, such as this one, to reflect on practice within their own institutions. Such case analyses can serve to examine the usefulness of current theory in light of practice and contribute to the development of theory about the information utilization process. Findings presented as organizational cases can help us to develop better theory to guide the practice of Institutional Research.

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