EXECUTIVE COMMITTEE 1986-87

PRESIDENT
Mary Elisabeth Randall, The University of Maine at Augusta

PAST PRESIDENT
Bruce T. Shutt, University of Georgia

PRESIDENT ELECT
John F. Collins, Jr., University of Maine at Orono

VICE PRESIDENT FOR ADMISSIONS AND FINANCIAL AID
John E. Bevan, Wesley Theological Seminary

VICE PRESIDENT FOR DATA MANAGEMENT AND RESEARCH
Donald G. Gwinn, Northwestern University

VICE PRESIDENT FOR INTERNATIONAL EDUCATION
Karlene N. Dickey, Stanford University

VICE PRESIDENT FOR RECORDS AND REGISTRATION
Charles W. McKinney, University of California, Santa Barbara

VICE PRESIDENT FOR PROFESSIONAL DEVELOPMENT AND REGIONAL ASSOCIATIONS
Jeffery N. Tanner, Brigham Young University

SECRETARY TREASURER
James R. Vaillancourt, Old Dominion University

PROFESSIONAL STAFF

EXECUTIVE DIRECTOR
J. Douglas Conner

ASSISTANT EXECUTIVE DIRECTOR
Laurine D. Robinson

ASSISTANT EXECUTIVE DIRECTOR
Elbert W. Ockerman

AACRAO Office, One Dupont Circle, N.W., Washington, D.C. 20036

(Additional information about AACRAO appears on the inside back cover.)

COLLEGE AND UNIVERSITY

JAMES C. BLACKBURN, California State University, Fullerton, Editor

EDITORIAL BOARD

Roman S. Gawkoski
Marquette University

Georgeanne B. Porter
University of Missouri-Columbia

Beth L. Weckmueller
University of Wisconsin-Milwaukee

Anthony R. Schkade
University of Nebraska-Lincoln

Charles G. Eberly
Michigan State University

Linda Staffstrom
University of Arkansas

COLLEGE AND UNIVERSITY (USPS 1214-0006) is published quarterly (Fall, Winter, Spring, Summer) by the American Association of Collegiate Registrars and Admissions Officers. $14.00 a year; single copies when available. $5.00. The annual index appears in the Fall number of the following year. The editorial office is the Office of Admissions and Records, 912 Langsdorff Hall, California State University, Fullerton, CA 92634. Inquiries should be directed as follows: Manuscripts and General Content, The Editor at Fullerton, California address; Subscriptions, Back Numbers of this Publication, Membership Mailing List and Application for Membership in the Association, One Dupont Circle, N.W., Washington, D.C. 20036. Printed in the U.S.A. Second class postage paid at Athens, Ohio and at additional mailing offices. Microfilm edition is available from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106. COLLEGE AND UNIVERSITY is indexed by the ERIC Clearing House on Higher Education: Current Index to Journals in Education, Current Contents: Education, and Higher Education Abstracts.
COLLEGE AND UNIVERSITY

THE JOURNAL of the American Association of Collegiate Registrars and Admissions Officers

ARTICLES IN THIS ISSUE

AN EXPERIMENTAL MODEL FOR MARKET PENETRATION .......... William L. Caren 97
ENROLLMENT MANAGEMENT: INSTITUTIONAL APPLICATION ........ Don Hossler 106
ASSISTING STUDENT SUCCESS THROUGH AN IMPROVED STUDENT INFORMATION SYSTEM ........ Saundra M. Japley, Marilyn J. Kennedy & R. Dan Watteri 117
EFFORTS TO RECRUIT GRADUATE STUDENTS: AN ANALYSIS OF DEPARTMENTAL RECRUITING PRACTICES .......... Gary D. Malaney 126
AN ECONOMIC ANALYSIS OF GRADE INFLATION USING INDEXING .......... Jack R. Wegman 137
THE ROLE OF APPLICANTS' PERCEPTIONS IN THE CHOICE OF COLLEGE .......... Andrew M. Welki & Frank J. Navratil 147
MANDATED ADMISSIONS REQUIREMENTS AND SOUND ARTICULATION .......... Frank H. Spain 161
REVIEWS .......... David S. Webster, Eric V. Iovacchini, Robert P. Merz & James C. Blackburn 169
Contributors of Articles to this Issue

WILLIAM L. CAREN is Director of Admissions at the State University of New York, Geneseo.

DON HOSLER is Assistant Professor of Higher Education and Student Affairs at Indiana University-Bloomington.

ERIC V. IOVACCHINI is Vice Chancellor for Student Affairs at the University of North Carolina at Asheville.

SAUNDRA M. JAFFEY is Information Coordinator, Research and Planning at Mt. Hood Community College, Gresham, Oregon.

MARIJN KENNEDY is Registrar at Mt. Hood Community College, Gresham, Oregon.

GARY D. MALANEY is a postdoctoral researcher at The Ohio State University.

ROBERT P. MURZ is Assistant Vice President for Student Affairs at the University of Northern Colorado.

FRANK J. NAVARE is Dean, School of Business at John Carroll University.

FRANK H. SPAIN is Director of Community College Relations at the University of South Florida.

R. DAN WALLER is Director of Research and Planning at Mt. Hood Community College, Gresham, Oregon.

DAVID S. WEBER is an Assistant Professor in the Graduate School of Education, the University of Pennsylvania.

JACK R. WEGMAN is a faculty member at Santa Rosa Junior College, Santa Rosa, California.

ANDREW M. WELKI is Assistant Professor of Economics at John Carroll University.
An Experimental Model For Market Penetration

WILLIAM L. CAREN

The figure below illustrates four strategies for market expansion which are practiced by most organizations.

<table>
<thead>
<tr>
<th>Existing Markets</th>
<th>New Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetration</td>
<td>Promotion</td>
</tr>
<tr>
<td>Development</td>
<td>Diversification</td>
</tr>
<tr>
<td>New Programs</td>
<td>Existing Programs</td>
</tr>
</tbody>
</table>

All colleges employ each of these strategies from time to time. They target new geographic markets or market segments (promotion);
introduce new programs or services to appeal to prospective students in existing markets (development), as well as new markets (diversification); and develop strategies for promoting existing programs more effectively in existing markets (penetration).

In most cases, strategies for penetration take the form of an intensification of traditional recruitment efforts and are applied uniformly to all markets — this, despite the mounting evidence that markets differ from one another in manifold ways which can affect not only their potential for increased productivity but the type of strategies which would be most effective in achieving that increase. It follows, therefore, that the attainment of a greater congruence between the unique structural and substantive characteristics of markets and the promotional strategies employed could result in greater market penetration.

The program outlined below was conceived as a model market penetration program suitable for implementation at a public, residential, liberal arts college of 5,000 traditional students which is located in a rural community, approximately 30 miles from a major metropolitan area. The program was developed on the premise that a carefully-conceived, well-integrated and sequenced set of promotional activities designed to fit the unique conditions extant in a single market which has been selected for its high yield potential will result in significant improvement in the level of market penetration. Moreover, since any expenditure of resources has an opportunity cost — i.e., the benefits which would have accrued if the same resources had been used in other ways. It was further assumed that such a strategy would produce better results than would have been attained had equivalent resources been utilized in a more conventional fashion by treating all markets in the same manner.

SELECTING THE MARKET

Rather than rely upon conjecture or intuition to select a market — or, indeed, assuming, as colleges are wont to do, that areas currently yielding the greatest number of applications represent the markets with the greatest potential for penetration — a data base will be developed, combining information from a variety of sources, and an analysis will be conducted to determine the potential of each of the college's markets for further penetration. Data from the College Board's Enrollment Planning Service (EPS) will form
the foundation of the data base by providing information on the
college's current and potential visibility within existing recruitment
markets. EPS figures showing the college's current share of market
segments based upon SAT score report submissions, and related
market profiles showing the structure of competition, demograph­
ic trends, geographic and curricular aspirations of students, and
socio-economic profiles will be utilized in the analysis. Since EPS
data are produced on an annual basis, they provide benchmark fig­
ures against which future comparisons can be made in order to es­
timate a college's success in penetrating markets.

In the future, the data base will be augmented with data from the
College Board's Cooperative Institutional Profile (CIP), a service
designed expressly for institutions that wish to evaluate their po­
tential in markets where they currently have little or no visibility.
The CIP, which estimates an institution's potential market share
based upon the proportion of students residing in a market who as­
pire to attend institutions with similar characteristics, will be espe­
cially helpful in identifying other, potentially productive markets
where the college might employ a similar strategy.

EPS data will be supplemented with figures from the college's
files on prospective student inquiries, applications, admission and
yield ratios, and information from the State Education Department
on college-going rates and trends in high school graduates for each
market. Additionally, data from a state-wide application processing
center showing the college's proportional share of the segment of
students in each market who aspire to attend four-year units of the
state university will be added to the file. Data will be analyzed and
each market ranked in terms of its estimated potential for yielding
additional enrollments.

Logistical factors such as market accessibility and geographic
proximity to the campus will be particularly important considera­
tions since they will influence the cost of the program as well as the
nature of the resources and strategies which can be employed in
promoting the college (e.g., while faculty might become directly in­
volved in promotional activities in markets located near the cam­
pus, their involvement would be more limited in the case of mar­
kets located several hundred miles away.)

A final consideration is related to the existence of a base of sup­
port for the college within the market. In this case the existence of a
viable alumni chapter, one which could be counted on to support
and supplement the activities initiated by the campus, will be absolutely essential for a market to be considered a viable choice. After extensive analysis and considerable discussion, a market will be selected by a committee which will assume the primary responsibility for conducting the program.

**PERFORMANCE OBJECTIVES**

The primary objectives of this program will be to increase the college’s visibility throughout the selected market and to promote a positive image of the institution by sponsoring a variety of activities involving several constituent groups. Faculty, students, administrators, alumni and friends of the college will be called upon to assist in this endeavor through contact with their counterparts and relevant interest groups in the region. In this manner, the program will stimulate greater visibility and interest in the college among the population of prospective applicants, alumni, the business community and others — understanding, at the same time, that the benefits which accrue may not be readily apparent in the short run. Indeed, it is expected that this program will have consequences which go far beyond the stimulation of a few additional applications, a few more job offers for graduating seniors, or a few more donations to the annual fund.

**TIME FRAME**

The program will be initiated during the summer months with the identification of key personnel and constituencies and the development of a plan of action which will evolve over a two-year period. A summary evaluation of the project will be conducted at the end of the second year.

**ORGANIZATION AND PLANNING**

An ad hoc committee will be appointed to develop a plan of action. The committee will be chaired by the Associate Vice President for Enrollment Planning. Other members will include the Dean of Admissions and Financial Aid, the Dean for Placement and Career Services and the Director of Alumni Relations.

Strategic planning will be the mode of operation; the committee will meet frequently to react to feedback from the market, consider opportunities and constraints as they arise, and make appropriate
adjustments in the plan. The committee will work closely with a liai­son committee of the local chapter of the college's alumni associa­tion.

PROMOTIONAL PLAN

A preliminary plan will be developed by the committee including an outline of promotional activities in chronological order with an indication of the constituencies to be involved, the individual(s) responsible for coordination, and any special resources required. The preliminary plan will be widely disseminated in order to achieve maximum possible input and participation from campus constituencies. Budget projections will also be included and assurances of adequate support will be secured prior to the implementa­tion of the program.

MARKET SURVEY

The first step in a process will be to conduct a survey of alumni within the market to identify all who might contribute to the pro­gram either through direct involvement or indirectly through the provision of resources or information. Special emphasis will be placed on the identification of individuals who are in a position to influence prospective students and their families as well as those who hold positions of high visibility and status within the communi­ty.

Survey data will be used in the development of the promotional plan. It will also be used to produce an alumni publication high­lighting the connections between the market and the campus. The publication will be used throughout the campaign to focus atten­tion on the contributions that the college and its graduates have made to the community.

PROMOTIONAL ACTIVITIES

The schedule of promotional events will include a variety of tra­ditional activities, most of which will be modified in some form to enhance their effectiveness or to adjust for special conditions ex­tant within the market. For example, high school visits by college representatives, normally scheduled in the fall, will be expanded to include spring visitations. Prospective students who reside in the
market and who are listed on the college's prospect file will receive personal notes from the college representatives who will be visiting their high schools indicating the date and time of the scheduled visits.

Additionally, the college's direct mail program will be expanded to include the provision of information about the college to high school juniors as well as seniors who reside in the market. The traditional single mailing which is sent to prospective students in all markets will be augmented by special follow-up mailings targeted exclusively to students within the experimental market.

The college will also experiment with special group information sessions for prospective students and their parents. The sessions will be held in the evening at convenient locations within the market. All prospective students listed on the inquiry file, and those who have applied to the college by late November, will be invited. Posters announcing the information sessions will be sent to all high school guidance offices.

Group information sessions will be followed by another experimental program — a breakfast meeting for guidance counselors. These sessions will provide college officials with an opportunity to present detailed information about the college in a relaxed and informal setting under conditions where it will be possible to obtain the undivided attention of participants. Counselors will also be informed of the objectives of the market penetration program and an effort will be made to enlist their support.

Students enrolled at the college who reside in the market will be recruited to serve as student ambassadors. As special representatives of the college they will be assigned the responsibility to visit their high schools during college vacation periods to meet with guidance counselors, teachers and prospective students. In addition, ambassadors will also host prospective students from the market who wish to spend a weekend on campus. Finally, student ambassadors will write letters of congratulations to applicants from their home towns who have been admitted to the college.

In the event that the market selected for penetration is contiguous to the campus, or within a reasonable distance, faculty will become directly involved by offering to present lectures on special topics at high schools as well as the local community college. Schools, businesses and community agencies will be provided with a list of faculty and staff who are willing to serve the community by
lending their expertise. College music ensembles and theatre groups will schedule performances at high schools and a judged art exhibit of high school students' works will be held in the college's gallery. Artists and their parents will be invited to an opening-night reception.

ALUMNI SUPPORT

The local chapter of the college's alumni association will play a key role in facilitating and supplementing the activities initiated from the campus. They will take an active role in recruiting activities by assisting the college's representative at the local college night. The chapter will co-sponsor, with the college, a teacher-of-the-year award, selecting a recipient from candidates nominated by high school honor societies. They will also co-sponsor a scholarship available exclusively to prospective students who will be graduating from local high schools; guidance counselors will be asked to nominate outstanding students for this award.

Alumni will also play an active role in reinforcing the interest of accepted students. For example, volunteers will host informal get-togethers in their homes for accepted students and their parents. Since the get-togethers will be scheduled during the college's spring vacation, student ambassadors will also be invited to attend. Alumni will also write letters and make phone calls to admitted applicants.

Promotional activities sponsored by the alumni association will culminate in an awards banquet sponsored by the local chapter. Scholarship recipients, art competition award winners, teacher-of-the-year, and outstanding alumni will be recognized for their achievements. Prominent public officials, education leaders and business executives will be invited as well. A special effort will be made to attract media attention in order to give the event maximum visibility.

THE MEDIA

A limited experiment will be conducted using print media advertising. Announcements of appropriate college-sponsored events will be sent to high school and local community newspapers. Selected advertisements will also be placed in the publications of such non-profit organizations as the local philharmonic and theatre.
guild — organizations which sponsor activities with which the college would like to be associated.

News releases describing developments on campus will be targeted to the market media throughout the year. Finally, the names of all scholarship winners and others planning to attend the college will be sent to local newspapers along with their senior pictures and an announcement relating to the outstanding characteristics of the freshman class that they will be joining.

OTHER COLLEGE/COMMUNITY CONNECTIONS

The plan also includes activities designed to enhance the relationship between the college and employers in all sectors of the market. For example, the college's Job Developer, a member of the Placement staff, will emphasize the identification of employment opportunities for graduates by arranging meetings with personnel representatives from all major employers within the market. The meetings will be followed by a luncheon which will bring selected faculty and administrators from the college together with corporate personnel officers. A similar function will be scheduled for local education leaders who will meet with faculty members from the college's Department of Education. Finally, the college's Job Locator, a member of the Financial Aids staff, will make a special effort to identify employment opportunities within the market for students who return home during the summer months.

SUMMARY

The market penetration plan described here could, with some modification, be adapted for use at a number of colleges. The concept is based on the premise that recruitment markets often differ in ways which affect not only their potential for yielding greater productivity but also the type of promotional strategies which will be most successful in achieving that end. If this assumption is correct, then it makes good sense to evaluate the potential of each market in some comprehensive and systematic way and, to the extent that it is practicable, to formulate differential promotional strategies to achieve the maximum return on invested resources.

From a more pragmatic point of view, this market penetration
program also presents an opportunity to experiment with innovative promotional activities, and to assess the notion that promotional activities which are selected to suit the unique characteristics of a market will have a cumulative impact which is far greater than that which would have been achieved without such an effort. Additionally, the implementation of such a plan could produce an impact of such proportions that the residual effects could be sustained with the investment of minimal resources. Suffice to say that such an experiment provides an opportunity to test a great many assumptions and to develop strategies which may be applied successfully in a variety of other contexts.

A market penetration program similar to that which is described above has been implemented at the State University of New York College at Geneseo. After one year of operation, significant results have been achieved including a dramatic increase (39 percent) in the number of applications received from students who reside in the market. Moreover, feedback from the market suggests that the second phase of the program will result in even greater penetration. Additionally, the college has identified several new promotional strategies which, when combined with more traditional approaches, appear to produce much more effective results. The program has been an excellent learning experience and one which has given college officials a new perspective on the way in which we conceive of and evaluate our recruitment strategies.
Enrollment Management: Institutional Applications

DON HOSSLER

Admissions Management or Enrollment Management?

The term enrollment management has become part of the jargon of the admissions field, as well as some administrators in areas such as financial aid, student affairs, and institutional research. The term suggests that institutions can manage their student enrollments. Furthermore, it implies that those institutions that are engaged in "enrollment management" have a model in use which enables them to have more direct control over their enrollments. The increasing use of the term is leading many administrators to ask how enrollment management systems can be created. To date, however, the evidence suggests that enrollment management has simply become a new term for the work of admissions offices.

A survey conducted by The College Board (Novak and Weiss, 1984, p. 1) reported that almost 70% of all respondents indicated that they were using one of the four enrollment management models described by Kemerer, Baldridge and Green (1982). Closer examination of the results raises serious doubts about the accuracy of these self-reports. Only 15% of the respondents (Novak and Weiss, 1984, p. 2) indicated that the financial aid office shared responsibility for enrollment management activities. Approximately 22% reported that either the registrar or the student affairs offices shared responsibility for the enrollment management plan (p. 2). Although 55% of the sample said they had a formal enrollment management plan, only 14% of the same respondents indicated that they had developed a formal retention plan (pp. 3-4). Overall, the results of The College Board Survey seem to contradict the self-reported number of institutions engaged in enrollment management.

Although the term enrollment management is being widely used, the results of this survey suggest that many of these institutions are involved in what Huddleston (1984) has described as "admissions management" rather than enrollment management. Admissions
management concerns itself only with the recruitment and admission of new students. The term can be used to describe the traditional marketing and recruiting activities of most college admissions offices. Enrollment management, however, is a more assertive attempt on the part of institutions of higher education to influence their enrollments. It can be defined as:

a process or activity that influences the size, shape, and characteristics of a student body by directing institutional efforts in marketing, recruitment, and admissions as well as pricing and financial aid. In addition, the process exerts a significant influence on academic and career advising, the institutional research agenda, orientation, retention studies, and student services. Hossler, 1984, p. 6

Enrollment management is not simply a new term for marketing and recruitment activities, it is a complex and holistic approach to analyzing and influencing collegiate enrollments.

Whereas an admissions management system focuses exclusively on marketing and recruitment, an enrollment management system is concerned with student enrollments from the time of the initial inquiry through graduation and post-graduation. A comprehensive enrollment management system is concerned with the functions and activities found in the figure which follows.

THE ENROLLMENT MANAGEMENT CONTINUUM

<table>
<thead>
<tr>
<th>Admissions Management</th>
<th>Enrollment Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>marketing recruitment</td>
<td>marketing and choice research</td>
</tr>
<tr>
<td></td>
<td>recruitment financial aid</td>
</tr>
<tr>
<td></td>
<td>strategic planning institutional research and evaluation</td>
</tr>
<tr>
<td></td>
<td>marketing recruitment financial aid</td>
</tr>
<tr>
<td></td>
<td>academic advising and course placement</td>
</tr>
<tr>
<td></td>
<td>orientation student retention programs</td>
</tr>
<tr>
<td></td>
<td>learning assistance</td>
</tr>
<tr>
<td></td>
<td>career planning and placement</td>
</tr>
<tr>
<td></td>
<td>student services</td>
</tr>
</tbody>
</table>
Given the range and complexity of enrollment management activities perhaps it is most surprising that so few institutions appear to be using an integrated enrollment management system.

Enrollment Management Models

In practice, there are probably few institutions which have attempted to develop an enrollment management system which is as comprehensive as the model outlined at the right end of the continuum. Each college and university has its own set of unique strengths and weaknesses. These unique qualities reflect the most critical needs of individual campuses and determine the scope of enrollment management activities. This is one of the most important guidelines for developing an enrollment management system on individual campuses — there is no “ideal” enrollment management model. A selective public four-year institution with a large applicant pool may be more concerned with attracting a desired mix of students. These needs are evident by their use of mathematical equations which help to predict student success, their courtship activities and an emphasis on the academic quality of existing programs. A less selective private institution with a shrinking applicant pool may be more concerned with establishing new programs to attract new market segments, student retention, and learning assistance programs. These priorities will shape the enrollment management model which is developed on both of these campuses.

In addition to the perceived enrollment needs of students, organizational and environmental variables also influence the type of enrollment management model which emerges. Strong support from senior administrators facilitates more rapid organizational change then does the absence of such support. Collegial decision-making traditions and the perceived threat posed by trends in student enrollments will also influence the creation of an enrollment management system. These organizational and environmental variables will be examined in the context of the four enrollment management models described by Kemerer, Baldridge and Green (1982).

Kemerer, Baldridge and Green have identified four enrollment management models. As suggested by the contents of the next figure, each model requires varying degrees of institutional support and the centralization of administrative activities in order to function effectively.
Generally as the degree of centralization required to make a system increases, the degree of administrative support in order to create and maintain the system also increases.

The enrollment management committee requires the least administrative commitment or centralization. Using the committee approach, a group of faculty and administrators are charged with reviewing all of the factors that influence student enrollments. These factors may include marketing and recruitment activities, financial aid, student retention, and academic programs. The selection of the chairperson of the committee can frequently be a good indicator of institutional support and the degree of anxiety the institution is experiencing over student enrollments. As concern and support increases, the greater the likelihood that a senior level administrator such as the Academic Vice-President or the Vice-President for Student Affairs will chair the committee.

Creating a committee is often a good place to begin to explore enrollment related issues. Initially it does not require change. In addition, a committee can be an effective way to educate large numbers of faculty and administrators about the factors that influence enrollments. It also can open the lines of communication among diverse administrative offices in a non-threatening setting.

The designation of an enrollment management coordinator is also one of the four archetypal models identified by Kemerer,
Baldridge and Green. This model is also a decentralized approach. The enrollment management coordinator has no direct authority over the various elements of an enrollment management plan. Each functional unit continues to operate independently. The task of the enrollment management coordinator is to keep offices working cooperatively, to encourage change when necessary, and to keep issues related to student enrollments in the forefront of the institutional agenda. Typically the enrollment management coordinator will have little formal authority. The coordinator may, however, have a great deal of informal authority. If the administrators and faculty are concerned about enrollments, if the coordinator reports directly to the president, or if the coordinator has a high level of credibility, the coordinator may have sufficient informal authority to accomplish the tasks that need to be done in order to develop an effective enrollment management system. Like the enrollment management committee, little re-organization is required when using the coordinator's model. The formal organizational structure of offices remain the same.

In both of the first two examples, it is unlikely that the institution is experiencing any immediate crisis in the area of student enrollments. Both of these approaches will take longer to mature and are less likely to produce rapid results. Committees seldom result in rapid organizational responses and the enrollment management coordinator must rely on good will and cooperation in order to succeed.

When colleges and universities perceive themselves to be under duress they will usually want faster results than either of these two approaches are likely to produce. Kemerer, Baldridge and Green (1982) also discuss two enrollment management models which are more likely to produce dramatic results.

The matrix model involves greater centralization than either the committee or the coordinator approaches. In the enrollment management matrix model, a senior level administrator, such as the academic vice-president, takes administrative responsibility for enrollment management activities. In a pure matrix model, there are no changes in the administrative structure of the campus, but those administrative offices which are seen as having important roles meet together in meetings chaired by this senior level administrator. The representation at these meetings might look very similar to meetings called by the enrollment management coordinator, but...
the leadership of a senior level administrator tends to make other mid-level administrators more cooperative. Increased cooperation can mean more effective results and faster movement on problems.

Another advantage of the matrix model is that the senior level administrator gains greater insights into the issues that effect enrollments. This perspective will usually be carried to meetings with the president and other vice-presidents. The matrix model frequently leads to greater integration of enrollment management efforts.

On a continuum, the most centralized model is the enrollment management division. In this model, the important elements of an enrollment management system are centralized under the leadership of one senior level administrator. Although the offices included within an enrollment management division may vary, areas such as admissions, financial aid, new student orientation, advising, career planning and placement, and student retention will often become part of one centralized division. The administrative head of this division reports directly to the president and is a full member of the institutional leadership team. This model can involve a great deal of re-organization and will not be undertaken lightly on most campuses. Therefore, this approach is most likely to evolve slowly on campuses where there is no perceived need to change, or to occur very rapidly when the institution perceives itself to be near a point of crisis. Slow change requires little in the way of organizational support, rapid change requires the support of both faculty and administrators which is difficult to garner unless these groups become concerned about the viability of the institution.

Contingency Factors

One of the errors being made by many administrators that have been attracted to the enrollment management concept, is the assumption that there is one best model. Since there seems to be a proclivity among administrators to want a well-defined span of control, most would-be enrollment managers are attracted to the enrollment management division model. In most instances this is not the model with which to start. Issues of centralization and environmental factors have already been discussed in this paper. In order to see the subtleties and complexities which may dictate the adoption one of the four models, or a hybrid model, specific institution-
al contexts need to be examined. A discussion of these contractual issues will follow.

One of the most important considerations in assessing which model is most appropriate for your campus is to determine the degree to which student enrollments are a concern. Frequently, the most effective way to assess the level of concern and the degree of satisfaction with the status quo is to bring together a committee of those whose functions or interests indicate a concern with student enrollments. Ideally, a senior level administrator will be part of this group. The committee begins to examine both the external and internal factors which influence student enrollments. This committee becomes the enrollment management committee. This is an important point to recognize, regardless of the enrollment management model that ultimately emerges, a committee is usually the place to begin. This also can be used to illustrate another feature of these four models, in many cases they are evolutionary, each one leading to more and more centralization over time.

The enrollment management committee will discover ways in which offices could communicate more effectively and ideas that could be implemented to attract and retain more students. It is unlikely that any committee would review all of the factors that influence enrollments and arrive at the conclusion that there is nothing more that could be done to enhance institutional enrollment management efforts. In terms of developing an enrollment management system, the critical questions center around the perceived support for organizational change. In spite of ideas that may emerge from the committee, this perceived need can range across a continuum of low levels of support to high levels of support.

In addition to the perceived need for change, the decision-making style of the administration can also influence the development of an enrollment management model. For instance community colleges are more likely to use hierarchical and centralized decision-making styles whereas four year institutions are more likely to use collegial and/or decentralized decision-making styles. This becomes important because if a senior level administrator in a hierarchical governance system decides that an enrollment management model is desirable, it may be implemented despite the fact that there is generally a low level of support for organizational restructuring.

In situations where there is a low level of support for administra-
tive re-organization, the enrollment management committee or coordinator models are the most likely approaches to be used. Both of these models can help to systematize enrollment related activities without major organizational changes. In situations where offices such as admissions, financial aid, the registrar, and student affairs have developed a sense of mutual respect and good cooperation a decentralized committee or coordinator model can be just as effective as more centralized models.

In cases where there are low levels of support and cooperation, would-be enrollment managers may need to engage in subversive change strategies. That is, they may need to educate other administrators and faculty about enrollment issues. They may need to look for opportunities to link aid and recruitment strategies and be ready to show the connections between learning assistance programs and retention. In low support situations, those desiring change will have to be opportunists who operate without a clearly defined set of goals, following opportunities to link enrollment related issues as they emerge.

In institutions where there are moderate to high levels of concern over student enrollments, the coordinator or matrix models may eventually develop. Here again, however, this is not likely to happen quickly. First an enrollment management committee is likely to be established. In situations of moderately high concern at least one senior vice-president will probably be a member of the committee and perhaps be asked to chair the committee. As the issues that influence enrollments emerge, a vice-president may finally come to the conclusion that a more formal structure is needed. This may come in the form of an appointed coordinator or in the establishment of a formal matrix model. In order for the coordinator model to work, the coordinator will need to be respected and to have some perceived power in order to overcome resistance. The matrix model has the advantage of more perceived authority and this usually produces more cooperation among key functional areas.

In situations where there are high levels of concern for student enrollments, there will also be more support for whatever changes are deemed necessary in order to strengthen the institution's ability to attract and retain students. In such contexts highly centralized approaches, such as the enrollment management division model are more likely to be created. Even in these instances, however, the
first step is likely to be the creation of a committee. The committee then makes recommendations that the campus to create a more assertive administrative structure to attract and retain students. In the highly centralized enrollment management division model, communication occurs rapidly and recruitment and retention programs are more systematically organized.

Although most administrators are attracted to the centralized enrollment management division model, few institutions are actually in the midst of an enrollment crisis. Many campuses are concerned about enrollments, but few see themselves as being in a crisis situation. This means that even on those campuses where there is interest in more systematic efforts being directed toward enrollments, there will be resistance to administrative re-structuring. Perhaps the greatest obstacle will be convincing the president that a new senior level administrative position should be created. Thus, on most campuses something less than a highly centralized enrollment management division will be created.

Returning to the original question of “how do I create an enrollment management system,” the answer is that this is a complex process and that there is no ideal system or method for creating a system. Even the four models are not representative of all of the possibilities. An enrollment management division may actually only include admissions, financial aid, and institutional research on some campuses, while the vice-president of the division acts more as a coordinator when working with the division of student affairs on orientation programs and student retention programs. A committee chaired by a senior vice-president may function somewhat like a matrix model even though it has no formal status in the organization. Some campuses may have no formal enrollment management plan, and yet in an informal and cooperative manner they may very effectively influence institutional enrollments.

Examples of all of these variations and the process by which they were created can currently be found on several campuses. DePauw University in Greencastle, Indiana, for example, has no formal enrollment management plan, however, in an evolutionary manner David Murray has become the informal enrollment management coordinator there. Tom Snyder at the University of Wisconsin-Oshkosh has emerged as an Assistant Vice-Chancellor and is the de facto enrollment manager. Tom’s responsibilities include graduate programs, however, most of his efforts are focused
on admissions and financial aid, less so on student persistence. The
comprehensive model that emerged under Tom Huddleston at
Bradley University was never an intentional plan, it simply evolved.

Johnson County Community College in Overland Park, Kansas
is intentionally developing an enrollment management system.
They started with a committee and briefly worked with the coordi­
nator concept. Currently they are establishing a matrix model.
DePaul University in Chicago, as the result of potential enrollment
crisis quickly went from a coordinating model, through a matrix
approach, and has established an enrollment management division.
under the leadership of Pat Ewers, the Vice-President of Academic
Affairs and Anne Kennedy, the Associate Vice-President for En­
rollment Management.

Although the enrollment management concept is attracting in­
creased attention, this focus on administrative structure may indi­
cate that the would-be enrollment managers have not grasped the
most substantive issues in the enrollment management concept.
Most administrators already have experience with administration,
that is they have some sense of how to effectively manage an organ­
ization. Concepts such as student-institution fit, environmental
management and research topics such as non-profit marketing and
student college choice, the impact of financial aid, and student re­
tention are not easily mastered. There is little evidence to suggest
that would-be enrollment managers are developing skills in these
areas. Perhaps instead of asking organizational questions, a more
appropriate list of questions would include:

1. Do we have a staff member who can conceptualize an ecosys­
tem model(s) appropriate for this institution?
2. Can we identify a staff member who can conduct research in
the areas of student college choice, retention, and financial
aid?
3. Do we have a staff member who can work effectively with fac­
culty and other administrators to develop sound advising, ori­
extation, and learning assistance programs?
4. Can we develop an information base which can be used to
show faculty the relationship between academic programs
and student matriculation and persistence?
5. Do we have the kind of information management technology
(and the staff to operate it) that will enable us to effectively
track and communicate with potential and current students?
6. Does a cooperative working environment exist among the offices admissions, financial aid, registration, student life, learning assistance and career planning? If the organization can answer yes to most of these questions an effective enrollment management system can develop under almost any organizational structure. If the answer is no, then no structure will result in effective enrollment management activities. In the future, at least as many questions should be addressed to matters of staffing and expertise and rather than an exclusive focus on structure.

BIBLIOGRAPHY

COMMUNITY COLLEGES across the country have begun to search their souls in the wake of declining resources, increasing demands for accountability, and concerns that the "open door" has become a "revolving door." This soul searching has led many institutions to concentrate their energies on more precise identification of student objectives and on monitoring student progress toward achieving those objectives.

In the spring of 1979, the deans of students of thirteen Oregon community colleges formed a consortium and initiated a project focused on the problem of "high-risk" students (Searcy, 1980). The Oregon consortium reviewed and inventoried existing programs in several areas including student assessment, developmental education, career development and faculty advising.

Research revealed serious shortcomings in methods used to gather student information. Few of the colleges had systems for identifying high-risk students, and none had a formal student tracking system. These critical information gaps made it difficult, if not impossible, for the colleges to identify students needing assistance and the type of help required. Not surprisingly, it was nearly impossible to articulate issues and concerns or to develop effective policies to help these students. The consortium's major achievement was to raise levels of awareness about needed student information and to provide a framework for institutional self-evaluation and improvement.

At one Oregon institution, Mt. Hood Community College (MHCC), the focus on high-risk students resulted in strategies to insure better student success. The college staff began to address the issue of high-risk students in 1980-81 when a Student Success Task Force was formed under the leadership of the college president. Composed of representatives from management, faculty,
support staff, and students, the task force was charged with reviewing all institutional policies affecting student progress and making recommendations for improvements that might increase the prospects for student success. The Guided Studies and Student Intentions policies and procedures described in this paper are just two of the student success strategies resulting from the Student Success Task Force.

GUIDED STUDIES PROGRAM

The decision to begin a guided studies program at Mt. Hood Community College was prompted by the results of an evaluation of the developmental education program. These results revealed that few students remained in developmental education courses for more than one term, contrary to the popular belief that students spent at least three or more terms in developmental education courses.

The data also showed that students with clearly identified deficiencies were still allowed to enroll in college-level courses that required use of the very skills they lacked. For example, a student with minimal reading skills would be directed to enroll in developmental reading. However, the same student also could enroll in transfer history or business classes which required a high level of reading competence. Some students repeatedly enrolled in developmental education courses, but did not demonstrate ability to move on to regular college-level work. Others received satisfactory grades in developmental work and moved on, although their skills were not adequate for the next level of study. These findings indicated it was not sufficient to identify high-risk students for developmental work alone. There was clearly a need for a systematic procedure to assess, monitor, and guide the high risk student’s total program of study.

A Special Students Committee was formed in response to the study and the work of the Student Success Task Force. The committee was charged with finding better ways to serve students with poor academic preparation. Its members developed a program to identify students with scholastic deficiencies and intervene in their educational programming. They proposed a Guided Studies program to serve students deficient in eight categories:

- Reading
- Writing
The committee members also proposed procedures for guiding high-risk students:

1. Continue to use Comparative Guidance Placement (CGP) test to identify and categorize student deficiencies.
2. Ask faculty to identify courses in their disciplines in which students with reading, writing, or mathematics deficiencies would not be successful, as well as courses in which students with one or more deficiencies might still be successful. For example, a student exhibiting a math deficiency probably would not succeed in calculus, but might succeed in history.
3. Establish a system to guide students to enroll only in appropriate developmental work and/or courses they could complete successfully.
4. Have the Special Students Committee work on standard operating procedures — i.e., counseling and registration processes, letters to “guided students,” and monitoring reports, progress and appeals.
5. Allow identified guided students who rejected the recommended guided program to be put in a special category for monitoring purposes, but permit them to enroll in courses of their choice.

The Special Students Committee presented its proposal to faculty curriculum committees, the student executive board, and the deans’ council for reaction, input and direction. After final review and approval, the Guided Studies Program was implemented in Fall, 1984. Each student identified as a guided studies student was assigned to a counseling staff member and a faculty program advisor. During orientation, students were strongly encouraged to enroll in appropriate developmental courses to correct identified deficiencies; they could also enroll in other courses correspondent with their abilities. Students were required to get approval from a counseling staff member for all classes they selected. This process included approval of class adds or drops after the initial registration.
Every course was computer coded with the faculty assigned success/difficulty rating. Similarly, every guided studies student was coded by their deficiencies. With the coding system built into on-line registration, students were only able to register for courses which matched their skill levels. If a “mismatch” occurred, the student was not permitted to register for the course and was referred back to a counselor. For example, a student coded as a low-level reader would not be permitted to register for a literature class coded as requiring reading competence. Counselors retained the prerogative to override any “mismatch” if special consideration seemed reasonable.

Guided students were required to earn passing grades in their developmental coursework to be reclassified as regular students; they also had to demonstrate the same skill level as students admitted on a regular basis. Students enrolled in developmental courses who showed improvement at the end of one term, but were not ready for reclassification to regular status, received a grade of “K” signifying continuing progress. These students were required to continue their developmental studies.

Students who received “K” grades in the same developmental course for two terms were not permitted to enroll in the same course for a third term without special advisor approval. They could appeal through the Academic Progress Review Committee, but were suspended if denied. Financial assistance to students (i.e. veterans’ benefits and financial aid) was not jeopardized if the student demonstrated continuing progress for two terms. If a student received approval for a third term of developmental work, it had to be taken in addition to a full-time class load.

Results to Date

At the end of Fall Term 1984, Admissions and Records staff members evaluated 728 transcripts of students involved in the Guided Studies Program. Of these, 160 students (or 22 percent) successfully completed their programs; they were sent letters of congratulations, and became regular students.

Five hundred fifty-one students, or 73 percent, remained in some portion of the Guided Studies Program for Winter Term. Seventeen students, or 2 percent, chose not to accept the recommendations for a guided program. However, their progress was monitored, and only one was able to succeed academically.
One of the most valuable outcomes of the new Guided Studies Program was that it encouraged the developmental education instructors to establish firm, measurable entry and exit criteria for students. Further, it required faculty members to articulate clearly basic course prerequisites. Using their input, lists of courses approved for Guided Studies students are refined and updated on an ongoing basis. Most important, however, the Guided Studies Program clearly communicated academic standards, and led the high-risk student through a realistic program of study with increased assurance of success.

STUDENT INTENTIONS REPORTING SYSTEM

Student attrition was another key issue the Student Success Task Force examined, prompted by the college’s recent declining enrollment, which began in 1983 after more than a decade of continuous or relatively stable growth. Both traditional and non-traditional market populations were increasingly limited, so focus on retaining existing students seemed to be a natural alternative. The Student Success Task Force served to focus attention on enrollment patterns and to identify ways to counter attrition from within the college system. When attrition was approached from this perspective, the objectives became more than just maintaining enrollment levels.

The committee began to focus on the need to help all students fulfill their educational objectives. They realized that in doing so, they could help curb the immense waste of resources that occurs when students drop out and fail to achieve their final goals.

In tackling the issue of student attrition, the Student Success Task Force first had to define attrition in the community college. For example, two individuals enroll for the first time. One is an established bookkeeper taking a few accounting courses to upgrade job skills. The other is a recent high school graduate aspiring to be an engineer. Although neither returns winter term, each represents attrition from a statistical perspective.

The bookkeeper never intended to return a second term, having upgraded his or her skills in the first term. This does not represent an attrition problem; the student may or may not return occasionally for additional courses. But if the aspiring engineer does not return the following term, there could be an attrition problem. In any case, making judgments about the nature of attrition requires
precise knowledge of student intent. Without such knowledge, student outcomes can only be evaluated on the basis of instructional statistical goals rather than student goals.

The Student Success Task Force thus concluded that they needed a systematic collection of information on student intentions. Investigative research found that results of a 1980 California Longitudinal Study (Hunter and Sheldon, 1980), provided a useful starting point for developing a viable means of collecting information. In addition, funding as a member of a national project on “Using Student Outcomes Information in Program Planning and Decisionmaking” (Ewell, 1983) laid the necessary resource foundation to begin work.

Starting in Fall of 1983, the admissions and records office staff was asked to solicit educational intent data from every student as part of the student registration process. Information collected was kept brief and concise to impact minimally the speed of the on-line registration process. Three questions were developed: one requested the student educational goal; another requested student motive for seeking a higher education; and a third requested data on how long the student intended to remain in school. Background questions on previous educational experience and current employment status also were developed and included as a part of the registration process.

After the first week of instruction, when the majority of class “add” and “drop” activity had been processed, an individual course profile report was generated and distributed directly to the instructor of each course. In addition to summary statistics for the intention and background questions the course profile report included the average GPA for returning students enrolled in the class, the five most often occurring student-declared majors, the average age of students in the class, and other demographic data. This class “snapshot” enabled the faculty member to tailor the class to the unique needs of these particular students. For example, a composition instructor might discover by way of the report that many students in the class are history majors. The instructor then might decide to encourage papers related to history, the students’ identified major.

Additional student intentions reports summarized by discipline, by division, and by total enrollment were distributed to program managers. It became clear that one of the most important uses of
the data was for program planning and evaluation. Several managers analyzed patterns of enrollment. In one case, the computer education department analyzed percentages of new and returning students and found that the largest percentage of new students who had never previously attended the institution were enrolling in classes scheduled over the weekend. This prompted the department to offer even more weekend classes and boosted enrollment in computer education.

Rather than being presented with a broad overview of instructional areas, faculty and managers were able to review and analyze their own discrete programs, courses and student profiles through the individual discipline and course profiles.

**Results to Date**

The collegewide intentions reports presented a clearer picture of who attends Mt. Hood Community College. The data were useful for scheduling, marketing, comprehensive planning purposes, and understanding attrition.

As an example, Fall 1985 data revealed that more than one-fourth (26 percent) of the students at MHCC indicated their educational goal was to earn a two-year degree; another quarter (24 percent) identified the four-year degree as their educational goal; and 38 percent enrolled to take only one or a few classes.

As for student motivation, most students had job-related motives. A full 48 percent indicated they were acquiring higher education to either get a job, keep a current job, or get a better job. Twenty-nine percent were enrolled for personal enrichment reasons, with another 16 percent exploring career options.

It is interesting to note that a full 27 percent of Fall Term 1985 MHCC students had already completed two or more years of college. Collegewide summary statistics are displayed below:

**INTENTIONS DATA — FALL TERM 1985 SUMMARY**

<table>
<thead>
<tr>
<th>Educational Goal</th>
<th>Motive</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take one class</td>
<td>Get a job</td>
<td>2112</td>
<td>25%</td>
</tr>
<tr>
<td>Take a few classes</td>
<td>Enhance current job</td>
<td>1072</td>
<td>13%</td>
</tr>
<tr>
<td>Earn 2-year degree</td>
<td>Get a better job</td>
<td>2206</td>
<td>25%</td>
</tr>
<tr>
<td>Earn 1-year certif.</td>
<td>Personal enrichment</td>
<td>257</td>
<td>3%</td>
</tr>
<tr>
<td>Earn GED</td>
<td>Explore career</td>
<td>312</td>
<td>4%</td>
</tr>
<tr>
<td>Earn 4-year degree</td>
<td>Other</td>
<td>1959</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>444</td>
<td>5%</td>
</tr>
</tbody>
</table>
In addition to the vast opportunities for analyses of the college-wide data, the intentions information created a rich resource bank for generating ad-hoc reports. After a full year of data collection and analysis, one report was generated describing students who indicated that their intent was to earn a one-year certificate. Transcripts of those students were analyzed closely to discern why they did not achieve the degree in the one-year timeframe. Through this process several students were identified who had earned the certificate, but did not know that they were eligible for it.

Analysis of the intentions information helped to identify a gap in the college information system and then prompted admissions and records office staff to fill the gap. Finally, the intentions data offered a "true" picture of intentions from the student perspective. Coupling these data with student outcomes data collected through the annual follow-up study reveals how well student-defined needs are being met. As a result, percentages of students graduating, student persistence, and student outcomes can be measured and explained with greater precision and sensitivity. This in turn will allow the faculty and administrators to respond to demands for accountability without making questionable assumptions about student objectives and/or attrition.

**SUMMARY**

Mt. Hood Community College faculty and administrators look forward to seeing the result of their efforts to provide students, faculty and managers with appropriate information for developing
wise student personnel policies and individual guidance. Although ultimate responsibility for achievement rests with the student, MHCC staff are in a better position to advise, assist, and intervene, when necessary. Finally, although much has been accomplished, there is even more to be done. The information now collected must be analyzed continuously to provide feedback for further enhancement and modification of the student information system. Finding better ways to serve students thus becomes a continuous, progressive effort.

REFERENCES
Efforts to Recruit Graduate Students: An Analysis of Departmental Recruiting Practices

GARY D. MALANEY

THE CONCERN OF faculty and administrators regarding the recruitment of graduate students appears to be on the rise; however, literature on this subject is still in a stage of infancy. While much has been written regarding undergraduate recruitment, few publications have been devoted to the recruitment of graduate students.

Malaney (1984) discussed the extant literature on graduate student recruitment, and he indicated that the previous literature on this subject had been limited to an emphasis on "special" students, such as women and minority groups (Atelsek & Gomberg, 1978; Henry, 1980; Brooks & Miyares, 1977) or non-special students in specific departments (Czinkota, 1980; Malaney, 1983; McClain, Vance, and Wood, 1984). In an effort to expand the base of literature in this area, Malaney (1984) studied the entire population of new graduate students at a single institution, and he also wrote a conceptual article on an organizational perspective of graduate student recruitment (Malaney, 1985). Recently, Olson and King (1985) studied all domestic graduate students at a single institution.

Most of the previous studies on graduate student recruitment have used surveys focusing on the attitudes of students. That attitudes of departmental faculty and administrators have been ignored is a serious oversight in recruitment literature, especially at the graduate level where the recruitment of graduate students is concentrated in the academic departments. Graduate student recruitment is not and cannot be effectively centralized like undergraduate recruitment because of the discipline-specific nature of graduate education.

Because of this decentralized aspect, there exists great variation among departments regarding the use of recruiting practices.
Some departments have quite sophisticated recruiting programs, while other departments do almost nothing. Several variables can be attributed to the range of interest in recruitment. For instance, a lack of money, time, and/or knowledge can lead to little effort. Litten, Sullivan, and Brodigan (1983) noted that another basic problem is that many academicians simply dislike the notions of marketing and recruitment. They equate the practices with commercialism and selling used cars. This stance was reiterated by Kotler and Fox (1985).

The purpose of this study is to provide some findings from an exploratory study related to the various practices that departments use to recruit graduate students. Specific practices as well as the number of practices are discussed. The paper also discusses which departments are most likely to do the most recruiting. The vehicle for this information is a survey research study in which graduate studies committee chairpersons from each graduate academic unit at a large public research university were surveyed regarding their departmental recruiting practices.

METHODOLOGY

Population and Respondents. The population in this study is made up of faculty members who serve as the graduate studies committee chairpersons for their academic units. There are 114 graduate academic units at the University, and they represent organizationally a mixture of schools, departments, academic faculties, and graduate programs. Each unit has a graduate studies committee chairperson whose responsibilities include handling most issues related to graduate education in that particular department. The reader should note that the terms academic unit and department are used interchangeably in this paper.

The graduate studies committee chairpersons were sent questionnaires, which were distributed in two waves during March, 1985. The total response rate was 103 out of 114 graduate studies committee chairpersons or 90.3 percent. Out of the 11 unrepresented departments, six departmental chairpersons responded to the survey, and their responses were added to the data file. These figures mean that 109 out of 114 units or 95.6 percent of the units are represented in the data.

Recruitment Variables. Two sets of recruitment variables are analyzed in this study. The first set pertains to the types of recruiting
practices that departments use before a student expresses an interest in a program. On the questionnaire, respondents were presented with a list of 12 practices, and they were asked to identify which practices their departments used. The second set of recruitment variables pertains to activities done after an inquiry from an interested student, and that set consisted of nine practices.

Scales were created from each set of recruitment variables in order to determine the extent of the recruitment in departments. The first scale, RECRUIT1, was computed by simply tabulating the number of positive responses to the 12 practices that departments used prior to a student expressing interest in a program. This computation produced a 13-point scale which ranged from zero to 12 practices. For the purposes of analysis, the 13-point scale was recoded into a 8-point scale because there were so few responses in the low and high categories. The three lowest categories (0, 1, and 2 practices) and the four highest categories (9, 10, 11, and 12 practices) were placed into single categories.

RECRUIT2 was computed in the same manner by tabulating the number of responses to the practices that departments used after a student expressed interest in a program. This computation produced a 10-point scale ranging from zero to nine practices. This scale was recoded to a 6-point scale by placing the four lowest categories (0, 1, 2, and 3 practices) and the two highest categories (8 and 9 practices) into single categories.

Other variables. For purposes of analysis, three variables are studied in an effort to link types of departments with the number of recruiting practices they use. For the first variable, the academic units were distinguished by whether the doctorate or the master’s degree is the highest degree offered by the unit. It was thought that doctorate-granting departments might use more and different practices than master's-granting departments simply because of the different types of students involved.

The second variable is the area of graduate study as defined by the institution. All 114 academic units were placed into ten areas of study which correspond roughly to the colleges in the university. These areas of study have been known to differ on various other matters.

The third variable is the size of the academic unit, and size was defined as the number of students in the unit during Autumn, 1984. Size is viewed as a crucial variable, given that recruitment is
seen as possibly having a direct impact on the number of students in a department.

ANALYSIS

Frequencies of Recruitment Variables. In Table 1, frequency distributions are provided on the types of recruiting practices that departments use prior to any expressed interest from students. The three predominant forms of recruitment at this early stage are faculty meeting with prospective students at professional conferences, faculty making personal contacts with other school or colleagues, and mass mailing of flyers/posters. Departments using these practices totaled 79.6, 72.3, and 72.1 percent, respectively. The two least used practices are providing summer internships to undergraduates and attending Career Day programs at other institutions. Departments using these practices totaled only 15.5 and 22.8 percent, respectively.

TABLE 1
Departmental Recruiting Practices Used Prior to Expressed Interest of Students

<table>
<thead>
<tr>
<th>Activity</th>
<th>Yes</th>
<th>No</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass mailing of form letters</td>
<td>33.3%</td>
<td>67.7%</td>
<td>102</td>
</tr>
<tr>
<td>Mass mailing of flyers/posters for posting</td>
<td>72.1%</td>
<td>27.9%</td>
<td>104</td>
</tr>
<tr>
<td>Personal letters to schools or colleagues</td>
<td>61.0%</td>
<td>39.0%</td>
<td>100</td>
</tr>
<tr>
<td>Telephone calls to schools or colleagues</td>
<td>48.0%</td>
<td>52.0%</td>
<td>100</td>
</tr>
<tr>
<td>Personal contact with schools or colleagues</td>
<td>72.3%</td>
<td>27.7%</td>
<td>101</td>
</tr>
<tr>
<td>Contact alumni</td>
<td>46.1%</td>
<td>53.9%</td>
<td>102</td>
</tr>
<tr>
<td>Attend Career Day programs at other schools</td>
<td>22.8%</td>
<td>77.2%</td>
<td>101</td>
</tr>
<tr>
<td>Have faculty make visits to other schools</td>
<td>36.6%</td>
<td>63.4%</td>
<td>101</td>
</tr>
<tr>
<td>Sponsor visits of prospective students</td>
<td>44.6%</td>
<td>55.4%</td>
<td>101</td>
</tr>
<tr>
<td>Provide summer internships to undergraduates</td>
<td>15.5%</td>
<td>84.5%</td>
<td>103</td>
</tr>
<tr>
<td>Meet with students at professional conferences</td>
<td>79.6%</td>
<td>20.4%</td>
<td>103</td>
</tr>
<tr>
<td>Undergraduate name exchanges with other schools</td>
<td>34.3%</td>
<td>65.7%</td>
<td>99</td>
</tr>
</tbody>
</table>
One might assume from these data that departments are generally doing what is easiest and least expensive in terms of money and time. For instance, meeting students at professional conferences and talking to colleagues are activities that faculty generally do, so they require no extra effort or money. While preparing and mailing flyers and posters do require money, they are fairly easy to do, especially if the institution has an office to assist in the design and production of the posters and flyers.

On the other hand, providing summer internships is quite costly for departments. It also calls for some type of application and selection process which is demanding on faculty time. Attending Career Day programs is also time consuming and it can be quite expensive depending on where one goes and how many programs one attends.

In Table 2, frequency distributions are displayed with regard to the types of recruiting practices that departments use after an expressed interest from a student. As the data show, the typical response from a department would be to send a letter and a brochure, one of which would probably have information about graduate associateship positions. Departments are more likely to have the centralized admissions office and the residence halls office send applications and housing information, rather than doing so themselves.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Yes</th>
<th>No</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send letter</td>
<td>95.3%</td>
<td>4.7%</td>
<td>106</td>
</tr>
<tr>
<td>Send brochure</td>
<td>94.3%</td>
<td>5.7%</td>
<td>105</td>
</tr>
<tr>
<td>Make telephone call</td>
<td>39.8%</td>
<td>60.2%</td>
<td>103</td>
</tr>
<tr>
<td>Send application directly</td>
<td>55.2%</td>
<td>44.8%</td>
<td>105</td>
</tr>
<tr>
<td>Have Admissions Office send application</td>
<td>67.0%</td>
<td>33.0%</td>
<td>100</td>
</tr>
<tr>
<td>Send information about graduate associateships</td>
<td>86.7%</td>
<td>13.3%</td>
<td>105</td>
</tr>
<tr>
<td>Send information about housing</td>
<td>22.1%</td>
<td>77.9%</td>
<td>104</td>
</tr>
<tr>
<td>Have Office of Residence and Dining</td>
<td>35.3%</td>
<td>64.7%</td>
<td>102</td>
</tr>
<tr>
<td>Halls send housing information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invite students to visit campus (at own expense)</td>
<td>63.3%</td>
<td>36.7%</td>
<td>98</td>
</tr>
</tbody>
</table>
Bivariate Analysis. In looking first at the relationships between the recruitment scales and Highest Degree Offered, one should note that over 80 percent of the units offer the doctorate degree, which means less than 20 percent offer the master's degree as the highest degree. Therefore, caution is recommended in interpreting the relationships associated with Highest Degree Offered.

The data in Tables 3 and 4 show a slight tendency for master's programs to use fewer recruiting practices than doctoral programs, and this effect is most pronounced at the low end of the recruiting scales. For instance, in the relationship between RECRUIT1 and Highest Degree Offered, 29.4 percent of the Master's units use zero to two practices, while only 9.2 percent of the Ph.D. units use that number of practices. A stronger relationship is observed when RECRUIT2 is substituted for RECRUIT1. In Table 4, over thirty-three percent of the Master's units use zero to three practices, while only 4.5 percent of the Ph.D. units use that number of practices. At the high end of the scales, there is a tendency for the Ph.D. units to use more recruiting practices, but the difference here between the Ph.D. and Master's units is not as great as at the low end of the scales.

One can speculate regarding why these observations occur. For instance, doctoral-granting departments may simply have more money to spend on recruiting. Or, they may place a greater value in obtaining doctoral students than master's-granting departments place on obtaining master's students. An explanation of the differ-

### TABLE 3

RECRUIT1 by Highest Degree Offered by Departments

This table provides the bivariate distribution in percentages of the relationship between the number of recruiting practices used prior to the expressed interest of students and the highest degree offered by the academic units.

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>Number of Practices</th>
<th>0-2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9-12</th>
<th>N</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's</td>
<td>29.4%</td>
<td>11.8</td>
<td>5.9</td>
<td>11.8</td>
<td>11.8</td>
<td>11.8</td>
<td>5.9</td>
<td>17</td>
<td>100.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ph.D.</td>
<td>9.2%</td>
<td>14.9</td>
<td>8.0</td>
<td>13.8</td>
<td>14.9</td>
<td>14.9</td>
<td>10.3</td>
<td>87</td>
<td>99.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>15</td>
<td>8</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>11</td>
<td>13</td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 4
RECRUIT2 by Highest Degree Offered by Departments

This table provides the bivariate distribution in percentages of the relationship between the number of recruiting practices used after the expressed interest of students and the highest degree offered by the academic units.

<table>
<thead>
<tr>
<th>Number of Practices</th>
<th>Highest Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Master’s</td>
</tr>
<tr>
<td></td>
<td>0-3</td>
</tr>
<tr>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>3-5</td>
<td></td>
</tr>
<tr>
<td>6-7</td>
<td></td>
</tr>
<tr>
<td>8-9</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>10</td>
</tr>
</tbody>
</table>

ence between before-interest and after-interest recruiting may simply be that the perceived value of a doctoral student increases after the student expresses an interest in a program, and it is at this point that a department decides to spend the most effort.

Turning to the area of graduate study, the data indicate that the number of recruiting practices used by departments is somewhat dependent upon the area of study. As can be seen in Table 5, the two areas that clearly differ from the norm are Agricultural Sciences and Mathematical and Physical Sciences. The departments in Agricultural Sciences are more likely to use a high number of recruiting practices, and the departments in Mathematical and Physical Sciences are more likely to use a low number of recruiting practices. Of the 14 departments in Agricultural Sciences, 11 are in the high range of more than five practices. Of the six departments in Mathematical and Physical Sciences, five are in the low range of fewer than six practices.

The Arts and the Humanities also deviate from the norm. Five out of the seven departments in the Arts are in the high range, while six out of the nine departments in the Humanities are in the low range. It should be noted however that the departments in these two areas of study are clustered around the four middle categories moreso than the departments in Agricultural Sciences and Mathematical and Physical Sciences.

A comparison of Tables 5 and 6 shows that the departments in
Mathematical and Physical Sciences increase their recruiting activities after students show an interest in their programs. Four out of the seven departments in this area are in the high range in Table 5. While only one of six departments in this area are in the high range in Table 6, there is a slight drop from Table 5.

### TABLE 5
**RECRUIT1 by Area of Graduate Study**

This table provides the bivariate distribution in raw numbers of the relationship between the number of recruiting practices used prior to the expressed interest of students and the area of graduate study.

<table>
<thead>
<tr>
<th>Area of Study</th>
<th>0-2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9-12</th>
<th>TOTAL N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Sciences</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Agricultural Sciences</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>The Arts</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Sciences</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Humanities</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Mathematical and Physical Sciences</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Professional Biological Sciences</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td><strong>TOTAL N</strong></td>
<td>13</td>
<td>14</td>
<td>8</td>
<td>14</td>
<td>15</td>
<td>10</td>
<td>13</td>
<td>101</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 6
**RECRUIT2 by Area of Graduate Study**

This table provides the bivariate distribution in raw numbers of the relationship between the number of recruiting practices used after the expressed interest of students and the area of graduate study.

<table>
<thead>
<tr>
<th>Area of Study</th>
<th>0-3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8-9</th>
<th>TOTAL N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Sciences</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Agricultural Sciences</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>The Arts</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Sciences</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Humanities</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Mathematical and Physical Sciences</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Professional Biological Sciences</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td><strong>TOTAL N</strong></td>
<td>10</td>
<td>16</td>
<td>27</td>
<td>26</td>
<td>16</td>
<td>8</td>
<td>103</td>
</tr>
</tbody>
</table>
The departments in the Arts as well as the departments in the Humanities increase their recruiting efforts after students express interest in their programs. Five out of nine departments in the Humanities are in the high range in Table 6. Six out of eight departments in the Arts are in the high range, and the departments are no longer clustered in the middle categories. In fact, four of the departments in the Arts are now in the top two categories.

A possible explanation of the differences in the number of recruiting practices used among the areas of study is linked to the attitudes of departmental and college leaders. If recruitment is viewed as important, then money is likely to be allocated for this purpose. One could speculate that in areas where there is no clear pattern, the deans of the colleges have not provided direction or funding for recruitment, so departments are basically on their own. On the other hand, if a dean did provide special funds for all departments for recruiting purposes one would expect departments to participate in those activities. Of course, in graduate education, it is still the department that controls issues related to their own programs.

**TABLE 7**

RECRUIT1 By Size of Academic Unit

This table provides the bivariate distribution in percentages of the relationship between the number of recruiting practices used prior to the expressed interest of students and the size of the academic units as defined by the total number of students enrolled during Autumn, 1984. Small units have 0 to 28 students, medium units have 29 to 64 students, and large units have 65 to 960 students. Each category has roughly one-third of the total number of students.

<table>
<thead>
<tr>
<th>Size</th>
<th>0-2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9-12</th>
<th>N</th>
<th>Total%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>21.2%</td>
<td>21.2</td>
<td>3.0</td>
<td>9.1</td>
<td>21.2</td>
<td>6.1</td>
<td>6.1</td>
<td>12.1</td>
<td>33</td>
<td>100.0%</td>
</tr>
<tr>
<td>Medium</td>
<td>5.4%</td>
<td>10.8</td>
<td>13.5</td>
<td>16.2</td>
<td>10.8</td>
<td>18.9</td>
<td>10.8</td>
<td>37</td>
<td>37</td>
<td>99.9%</td>
</tr>
<tr>
<td>Large</td>
<td>11.8%</td>
<td>11.8</td>
<td>5.9</td>
<td>14.7</td>
<td>11.8</td>
<td>23.5</td>
<td>5.9</td>
<td>14.7</td>
<td>34</td>
<td>100.1%</td>
</tr>
<tr>
<td>N</td>
<td>13</td>
<td>15</td>
<td>8</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>11</td>
<td>13</td>
<td>104</td>
<td></td>
</tr>
</tbody>
</table>


Turning now to the size of academic unit, the data in Table 7 show a slight tendency for small departments to use fewer pre-interest recruiting practices. The effect is most pronounced in the two lowest categories which contain 42.4 percent of the small departments, 16.2 percent of the medium departments, and 23.6 percent of the large departments.

In Table 8, the distribution between RECRUIT2 and the size of the academic unit is provided. These data show the same tendency found in Table 7. As was the case in the relationship between size and RECRUIT1, the effect is most pronounced at the low end of the scale where 26.5 percent of the small departments use zero to three practices while only 2.7 percent of the medium departments and none of the large departments use this number of practices.

A possible explanation as to why larger departments use more recruiting practices is that they must work harder to maintain their desired critical mass of students. Smaller departments may find it is unnecessary to recruit the desired number of students needed to maintain their programs.

### TABLE 8
**RECRUIT2 By Size of Academic Unit**

This table provides the bivariate distribution in percentages of the relationship between the number of recruiting practices used after the expressed interest of students and the size of the academic units as defined by the total number of students enrolled during Autumn, 1984. Small units have 0 to 28 students, medium units have 29 to 64 students, and large units have 65 to 960 students. Each category has roughly one-third of the total number of students.

<table>
<thead>
<tr>
<th>Number of Practices</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Total%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>26.5%</td>
<td>2.7%</td>
<td>0.0%</td>
<td>190.0%</td>
</tr>
<tr>
<td>4</td>
<td>17.6%</td>
<td>13.5%</td>
<td>17.1%</td>
<td>99.9%</td>
</tr>
<tr>
<td>5</td>
<td>23.5%</td>
<td>21.6%</td>
<td>31.4%</td>
<td>99.9%</td>
</tr>
<tr>
<td>6</td>
<td>14.7%</td>
<td>27.0%</td>
<td>31.4%</td>
<td>99.9%</td>
</tr>
<tr>
<td>7</td>
<td>5.9%</td>
<td>29.7%</td>
<td>8.6%</td>
<td>99.9%</td>
</tr>
<tr>
<td>8-9</td>
<td>11.8%</td>
<td>5.4%</td>
<td>11.4%</td>
<td>99.9%</td>
</tr>
<tr>
<td>N</td>
<td>34</td>
<td>37</td>
<td>35</td>
<td>106</td>
</tr>
<tr>
<td>Total%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSION

While the data presented in this paper provide information regarding the number of recruiting practices used by various types of departments, there are important missing elements. Two of those elements pertain to the results of those recruiting efforts, for instance, the relationship between the quality or quantity of the students and the number of recruiting practices used.

In this study, respondents were asked to provide their opinions regarding their satisfaction with the quality of their current students. The cross-tabulation of this variable with RECRUIT1 and RECRUIT2 produced weak positive relationships, which indicate that as the satisfaction with the quality of students increases so does the number of recruiting practices used by a department. Of course, the causal direction of the relationship is not known here. Perhaps the most important question is whether a large number of recruiting practices or specific types of practices actually yield higher quality students or more students. Further research will have to be undertaken in order to answer this question.

REFERENCES
An Economic Analysis of Grade Inflation Using Indexing

JACK R. WEGMAN*

INTRODUCTION

The intention of the project reported here was to provide a methodology with which to measure efficiently grade inflation. The underlying assumption throughout is that grade inflation, like price inflation, may be measured by assigning a weighted average of grade values in conjunction with grade distributions. The goal of the grade inflation analysis presented here is to provide a means with which to address at least two important questions: (1) has grade inflation occurred during some specific time period and, if it has, to what extent, and (2) given that grade inflation has occurred, what has been its trend?

Grade inflation, like price inflation, does not provide a particularly interesting issue until it can be placed into a context. Price inflation represents the degree to which a specified market basket of goods and services has increased in cost over a specified period of time relative to a base period. The familiar Consumer Price Index (CPI) produced monthly by the U.S. Bureau of Labor Statistics is an index that attempts to measure changes in the cost of living due to price inflation. Naturally, cost of living data is important in the context of wage negotiations as well as general claims with regards to the standard of living holding all other variables constant. Furthermore, and most importantly, is the fact that price inflation depreciates the value of the medium of exchange, i.e., price inflation represents a "hidden tax" levied against income. By analogy, grade inflation when placed in the context of education goals and aca-

*University of Pittsburgh and Santa Rosa Junior College. This paper was presented to the Department of Economics, History, and Political Science at Santa Rosa Junior College on March 15, 1985.
Academic standards have far-reaching effects. Besides calling into question academic standards, grade inflation reduces the value of the medium exchange, in this case, the value of the degree or grade earned. Grade inflation may affect the value of the degree awarded in the eyes of the potential employer, as well as the reputation of the awarding institution. Finally, by depreciating the value of the degree or academic standard, the institution in question may find it more difficult to attract promising students, as well as instructors of high quality.

Along with these practical considerations are also ethical issues of considerable weight. In this paper, grade inflation shall be used in the sense that there is a tendency for the distribution of grades to become skewed towards the A and B grades even when all grades are considered. This tendency towards A and B grades is in conflict with the more traditional, i.e., “normal” distribution. The ethical considerations become important when it is understood that grade inflation results in treating similar individuals differently, or different individuals similarly with respect to quality of work.

Imagine a case where, as a result of lowering the standards for a grade, an individual today receives a grade that would not have been received last year for the same amount of effort, e.g., an A this year as opposed to a B last year. At first blush, it is not clear that today’s individual is worse-off from this change in grading policy. What of the individual that received an A last year? There can be no question that these two individuals have been measured by different yardsticks, yet the grade does not reflect these changes.

Even worse than the discrimination is the possibility that the value of the first individual’s grade may become less valuable in the marketplace if a new inflationary policy becomes widespread at this particular institution. The marketplace could include potential employers, as well as potential transfer institutions or graduate programs. Even more to the point is the result that the first individual’s grade loses its value in spite of the effort that was spent in achieving that grade; a hidden tax. An even unhappier situation arises when individuals in last year’s class receive lower grades than they would have received had they postponed taking the class. In this case, it is clear that last year’s student is made worse-off by the change in grading procedure that transpired in the one year interim. Assuming no material changes in course content, it is obvious that last year’s student has been the victim of discrimination.
It makes no more sense to treat equal individuals unequally within differing time periods than it does to treat them unequally over similar time periods. Yet, this is what grade inflation does. Within the context of academic standards and educational ethics, grade inflation becomes an increasingly important issue since it represents de facto discrimination and hidden taxation. Furthermore, inflationary grading policies at the general level, i.e., all institutions adopt a more liberal grading policy, undermine the entire process and value of assigning grades. This is not the same as undermining the value of education qua education, but it does mean that a heroic rethinking of the value of grading as a part of the educational process may be in order.

MEASURING GRADE INFLATION

Economists have developed two different methods for measuring price inflation. The measurement of price inflation involves the calculation of an index of prices relative to a base period. One index, called a Laspeyres index, measures the cost relative to a base period, of purchasing the base-year quantities at the given-year prices. Since the cost of the base-year quantities at the given-year prices is $P_c \times Q_b$, the Laspeyres index is $L = \frac{P_c \times Q_b}{P_b \times Q_b}$. More simply, the Laspeyres index is measuring the cost of goods and services purchased in a base period compared to the cost of purchasing the identical goods and services today at current prices. The difference between the two costs is the rate of inflation.

A second measure of price inflation is the Paasche index. The Paasche index measures the cost of purchasing the given-year quantities at given-year prices relative to their cost at base-year prices. That is, the Paasche index measures the cost of purchasing goods and services today compared to what the identical goods and services would have cost had you purchased them in a previous year. Since the cost of given-year quantities at base year prices is $P_b \times Q_c$, the Paasche index is $P = \frac{P_c \times Q_c}{P_b \times Q_c}$. The difference between the two costs is the rate of inflation.

The difference between the Paasche and Laspeyres indices is a subtle one: the Paasche measures the cost of a current bundle of goods and services relative to their cost in a base period, while the Laspeyres measures the cost of a base-year bundle of goods and services relative to their cost in a current year. It is to be expected that a certain symmetry exists between the two indices: should it
turn-out that a bundle of goods and services costs more today than it did yesterday, then it follows that a bundle of goods and services today would have cost less yesterday provided that the goods and services are identical. In the study reported here, the Paasche method has been employed with no loss in the force of the general methodology.

In this project, grade inflation will have occurred if a certain set of students received a greater number of grade points for their efforts today than they would have received had they taken the same courses in a previous year. The index measuring these two grade point levels has been called the Paasche Grade Index. Grade deflation would have occurred where today's student earned fewer grade points for his efforts than he would have received had he taken the same courses in a previous year. Finally, should the index indicate that the current (today's) student earned the same number of grade points regardless of the year in which he/she actually completed the courses, then it must be the case that no grade inflation has occurred, although there may have been significant changes in the distribution of all grades.

The development of a price index requires the implicit assumption that there have been no qualitative changes in the bundle of goods and services being measured, or that any qualitative changes can be imputed into the new set of prices. This assumption is a necessary one since we are trying to isolate price changes only. Implicit in the grade inflation analysis is the assumption that the quality of students in the base period is not greatly different from the students in the current year with respect to their skill levels.

Furthermore, it is assumed that the only variable changing is grade distributions. Should it turn-out that these conditions have not changed over time, then it must be the case that there has been no significant change in grade distributions. On the other hand, should it be demonstrated that a significant change in grade distributions has occurred over time, then a careful examination of these ceteris paribus assumptions will assist in explaining the increase in nominal and real grades. The importance of these two assumptions cannot be overstated. Should the assumptions become too far removed from real cases, then a significant portion of the conclusions may become suspect.

For example, assume that it is demonstrated that there has been a shift in grading distributions, but that there has been an attend-
ant increase in the quality of students as measured by skills tests. Obviously, any claim to grade inflation must be tempered by these other considerations. This would be true if there were changes in quality of instruction, course content, etc. By not taking these qualitative changes into account, the grade inflation statistic would overstate the actual amount of inflation. On the other hand, an increase in grade inflation along with lower course requirements, skills scores, etc., would understate the actual increase in grade inflation.

The procedure for addressing the level of grade inflation involved the establishment of a grade inflation index. The index was used to compare grade distributions for some current period with the grade distributions for an arbitrarily selected base period. It must be noted that the inflation statistic becomes less accurate as the current period gets further away from the base period due to changes in faculty, course content, examination procedures, etc.

The base period used in this study was 1959-1968. The period being compared with the base period is 1972-1981. Hence, the grade distributions for two ten-year periods is being compared. The grade distributions represent those of Santa Rosa Junior College for courses listed as transferable to either the California State University or University of California systems. Changes in the qualitative characteristics of the sample populations are not relevant to this analysis since we are measuring grade distribution changes only. The process of developing a grade inflation index was as follows: determine a base period. The base period is usually a period of relatively stable grade distributions (prices). Determine the total number of grade points earned during this period by assigning a weight to each grade. Hence, the grade of A was assigned the value (price) of 4 grade points, a grade of B was assigned 3 grade points, etc. Inflation would have occurred if the total number of grade points earned in a subsequent period is greater than the total number of grade points earned in the base period for the same number of students.

To give the analysis more of an economic flavor, assume that the student receives an allowance for earning a certain grade, e.g., $4 for an A, $3 for a B, etc. In this case, the total number of grade points earned represents the total nominal income earned by each student body or class. The total number of grade points earned represents the total nominal income earned by each student body or class. Hence, we are comparing the incomes earned by students
today based upon today's grade distributions to those incomes that would have been earned by the same students in a previous period. The process of adjusting the nominal incomes to real incomes (inflation adjusted incomes) is to determine the income that would have been earned by this class had they taken the same courses but been subject to a different grade distribution. The inflation statistic is measuring the change in nominal incomes due to changes in grade distributions holding all other variables constant. To illustrate:

The average grade distributions for the period 1972-1981 is as follows:

**AVERAGE GRADE DISTRIBUTIONS (1972-1981)**

- A: \(2137 \times 4 = 8548\)
- B: \(2792 \times 3 = 8376\)
- C: \(2847 \times 2 = 5694\)
- D: \(636 \times 1 = 636\)
- F: \(817 \times 0 = 0\)

The 1972-1981 period saw 9229 grades assigned with a collective grade point total of 23,254 points. A grades were 23.2%, B grades were 30.3%, C grades were 30.8%, D grades were 6.9%, and F grades were 8.9%.

Even a brief examination of the grade distributions for the two periods indicates a significant shift in the grade distributions towards the A and B levels. However, in spite of the inflationary nature of these increases, there is also the deflationary effect of the increase in F grades as a percentage of the total number of grades awarded. In fact, the only information available thus far is that grade inflation has probably occurred between the two periods. Certainly, the extent of the inflation cannot be determined from the data which, for all practical purposes, leaves the analysis at a low level of sophistication.

In the determination of the Paasche Grade Index (PGI), the base years grade distributions (1959-1968) were used and applied to the number of students in the current period (1972-1981). In this sense, it was assumed that the 1972-1981 student class had taken their classes from and were graded by the 1959-1968 faculty. Note that differences in the total number of grades awarded, age/sex composition differences and any other variables are considered irrelevant to this analysis. The only important consideration is grade
distributions, and in this case it is assumed that 9229 grades awarded in the 1972-1981 period were distributed by the 1959-1968 faculty. More clearly, of the 9229 grades awarded in the 1972-1981 period, 8.2% were A grades as opposed to 23.2%, B grades were 23.5% as opposed to 30.3%, C grades were 47.9% as opposed to 30.8%, D grades were 16.7% as opposed to 6.9%, and F grades were 3.7%, as opposed to 8.9%. By following this procedure, the entire range of grades was taken into account so that the increases in A and B grades was offset by the increase in F grades during the 1972-1981 period. This weighted average adjustment takes into account all movements within the sample distribution. The adjusted distribution of 1972-1981 grades according to the 1959-1968 grade distribution follows:

1972-1981 GRADE DISTRIBUTIONS ADJUSTED FOR INFLATION (1959-1968 Base Period = 100)

<table>
<thead>
<tr>
<th>Grade</th>
<th>1972-1981 Distribution</th>
<th>Adjusted Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>757 x 4 = 3028</td>
<td>3028</td>
</tr>
<tr>
<td>B</td>
<td>2169 x 3 = 6507</td>
<td>6507</td>
</tr>
<tr>
<td>C</td>
<td>4421 x 2 = 8842</td>
<td>8842</td>
</tr>
<tr>
<td>D</td>
<td>1541 x 1 = 1541</td>
<td>1541</td>
</tr>
<tr>
<td>F</td>
<td>341 x 0 = 0</td>
<td>0</td>
</tr>
</tbody>
</table>

AVERAGE GRADE DISTRIBUTIONS (1959-1968)

<table>
<thead>
<tr>
<th>Grade</th>
<th>1959-1968 Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>380 x 4 = 1520</td>
</tr>
<tr>
<td>B</td>
<td>1088 x 3 = 3264</td>
</tr>
<tr>
<td>C</td>
<td>2213 x 2 = 4426</td>
</tr>
<tr>
<td>D</td>
<td>771 x 1 = 771</td>
</tr>
<tr>
<td>F</td>
<td>170 x 0 = 0</td>
</tr>
</tbody>
</table>

The preceding table indicates that within the period 1959-1968, a total of 4622 grades were assigned to some number of students enrolled in university transfer courses. Based on the grade distribution indicated, a collective total of 9981 grade points was earned. This number is derived by adding the number of grade points earned per grade, e.g., 380 A's at 4 grade points per A equals 1520 grade points. It may further be demonstrated that A grades constituted 8.2% of total grades earned, while B grades constituted 23.5%, C grades constituted 47.9%, D grades constituted 16.7%, and F grades constituted 3.7%. This distribution of grades was con-
considered the base period in this study. All subsequent periods shall be compared to this distribution when determining grade inflation. The analysis indicates that the collective total grade points of the 1972-1981 class is 19,918 when distributed according to the grading policies of the 1959-1968 faculty. Trivially, the decrease in the total number of grade points that would have been earned by the 1972-1981 class indicates that grade inflation occurred between the two periods. That is, the 1972-1981 class received 3336 more collective grade points from the 1972-1981 faculty than they would have received from the 1959-1968 faculty. In terms of grade inflation, those 3336 grade points represent a 16.7% increase in grade points relative to what would have been earned in the 1959-1968 period.

By using the same methodology, but basing the analysis on the 1972-1981 distribution as the base period, it could be shown that 4622 grades reported in the period 1959-1968 would have been worth 11,655 collective grade points compared to the 9,981 grade points that were actually received. Clearly, the 1959-1968 student would have been better-off had they been fortunate enough to attend this college in the 1972-1981 period if only grades are considered.

The method for calculating the inflation rate for the period was the comparison of the actual grade points earned (23,254) to the grade points that would have been earned in the base period (19,918), and noting that the current year's grade points are 116.7% of the base period points. Therefore, the rate of inflation was 16.7%. The inflation statistic indicates that the current period student earned 16.7% more than the base year student. This rate of inflation, depending upon the grading procedures of the instructor, could have translated into an increase of one to two full grades over the grades received by the base year student for the same amount of effort.

By employing the same procedure, a grade inflation index for annual changes may be determined by simply calculating the changes in grade distributions on an annual basis. This is a useful strategy, since it isolated significant shifts in grade distributions, thereby enabling the investigator to pinpoint the period in which the greatest changes occurred. A Paasche Grade Index using the year 1959 as the base year and calculating annual grade distribu-
tion changes and inflation rates for all post-1959 years until 1981 would appear as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>100.0</td>
<td>99.6</td>
<td>95.5</td>
<td>96.6</td>
<td>96.9</td>
<td>96.4</td>
<td>95.2</td>
<td>95.3</td>
</tr>
<tr>
<td>1960</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1966</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1967</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1968</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1969</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1971</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1972</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1973</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1974</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To clarify the procedure, all years subsequent to 1959 were compared to the distribution of grades offered in 1959. Without providing the specific data, the grade distributions for 1959 were as follows: A = 9.9%, B = 26.5%, C = 43.9%, D = 15.6%, F = 4.2%. All subsequent year grade distributions were compared to this distribution regardless of population size, age/sex composition, or original grade distribution. Each index number represents the percentage of the base year grade distribution that is the current year distribution. Obviously, the 1965 student is the worst case since he/she earned only 95.2% of what he/she would have earned in 1959. On the other hand, the 1974 class is earning 115% of what they would have earned had they taken the same courses in 1959. It is interesting to note that grades actually declined during the period 1960-1968, while grades rose rapidly from 1969 to 1974. Grades begin to decline in 1975 and continue to do so through 1981.

**A MODEST PROPOSAL**

The economic interpretation of the preceding analysis indicates that grade inflation had occurred between the period 1959-1968 and 1972-1981. Students enrolled in courses in the 1972-1981 period received more points (greater income) than their counterparts in the 1959-1968 period. Whether or not this increase in income constitutes discrimination cannot be determined from the data. Discrimination would result when a person is paid more than a second worker for the same kind and amount of effort. Should it turn out that it can be demonstrated that the 1972-1981 student worked harder than the 1959-1968 student, then no discrimination can be proven. On the other hand, should it be demonstrated that the
1972-1981 student worked either less than or equal to the 1959-1968 student, then discrimination has taken place.

The project reported here was an effort to provide a methodology with which to measure efficiently grade inflation. The methodology merely provides a tool with which to address a subject that is often viewed with considerable emotion. Often times, even an attempt to discuss academic standards is viewed as infringement upon academic freedom and is met with no little consternation. Perhaps for good reason: either the available data are presented in such a way that it provides no specific claims and no conclusions can be drawn from it, or the discussion takes place without data.

At a minimum, a grade inflation index provides a starting-point from which to assess the magnitude of grade distribution changes. Even so, the existence of grade inflation does not, by itself, indicate a dangerous situation or a situation that requires remedy. It only indicates a change in grade distributions. The changes could be the result of a number of factors: changes in the quality of the students and/or faculty, a change in grading philosophy, a shift in the age/sex composition of the student class, a change in the length of the semester, etc. Any correlations between these changes and changes in grade distributions should be welcomed. Happily, it is not within the scope of this investigation to address these possible explanations, but to propose that the magnitude of the ethical and practical issues discussed above requires the constant review and discussion of grading policy and practices.

BIBLIOGRAPHY
The Role of Applicants' Perceptions in the Choice of College

AANDREW M. WELKI AND FRANK J. NAVRATIL

C O M P E T I T I O N A M O N G C O L L E G E S and universities for students increases as the pool of traditionally-aged college-bound students diminishes. Aside from actions maintaining the size of incoming classes, schools have intensified efforts to lure top high school students in an attempt to maintain both market share and quality level. Undertaking any policy implicitly assumes that the university understands how potential students perceive it. Further, the university must possess some set of variables it can use to influence the decision of the potential student.

The choice of a college involves a variety of different influences and previous research reflects this fact. The examined influences include: distance[11], pricing policy[5], financial aid[3, 9, 10, 11, 14], the college's printed materials[4], the personal characteristics of the student[7, 10, 15], and the perception or image of the university relative to its competitors[12, 13]. In addition, others examined the choice between public and private schools[6].

In this paper a case study approach has been used to examine how perceived differences in characteristics between the potential matriculant's top choices affect the probability of matriculation. A questionnaire developed originally by Maguire and Lay[12, 13], and modified slightly for use by the John Carroll University admissions office was the source of the data. The Maguire and Law questionnaire has been widely used during the last decade by private colleges to gain a better understanding of their markets. Respondents include both matriculants and nonmatriculants. Their responses to 27 questions served as the initial set of independent variables for this study.

A theoretical model of decision-making attributable to T. A. Domenich and D. McFadden[8] was used to determine the influ-
ence that perceived characteristic differences exert on the matriculation decision. In the first section, the theoretical underpinnings of the college choice process are developed. Maximization of expected utility by college bound students produces the empirical model that is estimated. In the second section, a discussion of the questionnaire and background data on the university are provided. Summary statistics for the 27 characteristics with emphasis on the differences in perceptions between matriculants and nonmatriculants are presented in the third section. The fourth section contains the empirical results and their policy implications, followed by a short summary.

I. THEORETICAL MODEL OF COLLEGE CHOICE PROCESS

Economic theory is often applied to decisions regarding educational investments. The usual starting point for the analysis is Becker's [2] famous comparison of the presented discounted value of the costs and benefits from an incremental investment in education. If the present discounted value of the benefits (B) exceeds the present discounted value of the costs (C), the rational individual will choose to undertake the investment.

If C exceeds B, the individual should not invest. B includes present and future increased earnings due to the investment, as well as the consumption value (including any psychic income) of the investment. C includes the direct costs, such as tuition, room and board, plus the opportunity cost of the incremental education. Opportunity cost is generally measured by the earnings which must be foregone in order to undertake the further investment in education.

Recent work by economists [9, 10] on the college choice process places the above notions into a utility maximizing context. This approach is fully compatible with the Becker approach, and it has the advantage of allowing the direct derivation of an empirical model that can be used to determine the most important factors in the college-choice decision.

Students (within the context of their families, since the analysis is of traditionally-aged high school seniors) are assumed to choose a college which maximizes their expected utility. The utility associated with the choice of any particular college is assumed to depend upon a vector of the particular student's attributes \(A_{i1}, A_{i2}, \ldots, A_{iM}\), a vector of the particular school's attributes \(S_{j1}, S_{j2}, \ldots, S_{jN}\),
and a stochastic error term, \( \epsilon_{ij} \). For simplicity, a linear utility function is assumed.\(^1\)

The expected utility (\( U^* \)) that student \( i \) derives from the choice of college \( j \) (\( C_j \)) can be expressed as:

\[
U^*_i(C_j) = U^*_i([A_{i1}, A_{i2}, ..., A_{iM}], [S_{j1}, S_{j2}, ..., S_{jN}], \epsilon_{ij})
\]

\[
= a_j + \sum_{m=1}^{M} b_m A_{im} + \sum_{n=1}^{N} c_n S_{jn} + \epsilon_{ij}
\]

where \( a_j, b_1, ..., b_M, c_1, ..., c_N \) are unknown parameters.

In similar fashion, if student \( i \) considers college \( k \), his expected utility from this choice can be expressed as:

\[
U^*_i(C_k) = U^*_i([A_{i1}, A_{i2}, ..., A_{iM}], [S_{k1}, S_{k2}, ..., S_{kN}], \epsilon_{ik})
\]

\[
= a_k + \sum_{m=1}^{M} b_m A_{im} + \sum_{n=1}^{N} c_n S_{kn} + \epsilon_{ik}
\]

If students (and their parents) are rational and they attempt to maximize their expected utility, they will choose college \( j \) whenever \( U^*_i(C_j) > U^*_i(C_k) \). Let \( E \) be a dichotomous variable that takes on a value of one whenever college \( j \) is chosen, while it is equal to zero if any other college, \( C_k \), is chosen. Then

\[
\Pr[E_i = 1] = \Pr[U^*_i(C_j) > U^*_i(C_k)]
\]

Equation 3 states that the probability that a student enrolls in college \( j \) is equal to the probability that the expected utility obtainable from choosing college \( j \) exceeds the expected utility obtainable from college \( k \). Rewriting the inequality in terms of equations 1 and 2 yields:

\[
\Pr[E_i = 1] = \Pr[(e_{ik} - \epsilon_{ij}) < (a_j - a_k) + \sum_{n=1}^{N} c_n (S_{jn} - S_{kn})]
\]

In this formulation, the conditional probability that a particular college is chosen depends upon the differences between that college's attributes and those of other colleges in the student's choice set. College attributes that enhance utility should have positive coefficients (\( c_n \)), while attributes that, in the student's opinion, re-

---

\(^1\)For further discussion, see Amemiya[1].
duce utility should have negative coefficients. Notice that, in this formulation, the attributes of the individual student do not affect the choice of college, as they are netted out in combining equations 1 and 2.

Equation 4 is definitionally equivalent to a cumulative probability distribution, \( L \), which depends on the unknown parameters \((a_j - a_k)\) and \(c_1, c_2, \ldots, c_N\).

\[
\Pr[E_i = 1] = L[(a_j - a_k) + \sum_{n=1}^{N} c_n(S_{jn} - S_{kn})] = L(V)
\]

In order to estimate the parameters, it is necessary to specify a particular distribution for \((\epsilon_{ik} - \epsilon_{ij})\). We assume that \( L \) follows the logistic distribution, so that the probability of enrollment in college \( j \) is given as:

\[
\Pr[E_i = 1] = \frac{1}{1 + e^{-v}} \text{ where } v = (a_j - a_k) + \sum_{n=1}^{N} c_n(S_{jn} - S_{kn})
\]

Maximum likelihood techniques estimate the coefficients in \( v \). Under this method, if it is further assumed that no self-censoring bias has occurred, the resulting estimators are consistent.

II. DATA

The data used in this study are responses to an annual survey conducted by John Carroll University. Each fall, the University's admissions office sends out a four-page questionnaire to all students who were accepted for initial enrollment at John Carroll during the previous recruiting year. The data reported here were collected in the fall of 1984 and during the summer of 1985 for each year's freshman class.

Among other questions, the students were asked to provide information comparing John Carroll and another college. Students

\footnote{Other forms that are commonly assumed are the uniform distribution (which results in the linear probability model) and the normal distribution (which results in the probit model). For more information, see Amemiya\cite{1}, especially pp. 1502-07.}

\footnote{The survey is a modified form of that used by Maguire and Lay for Boston College. Several private colleges use similar instruments based on the Maguire-Lay framework. The complete survey is available from the authors.}
who chose to matriculate at John Carroll, were asked to compare John Carroll to the school they would have enrolled in if they had not chosen John Carroll. Students who matriculated at other schools were asked to compare John Carroll to the school in which they are enrolled.

The focal interest of the present study is the final page of the survey which lists twenty-seven qualities considered important to the choice of college. The student ranks John Carroll and the appropriate comparison school on each quality using a five point Lickert scale, with a "1" indicating "unsatisfactory" and a "5" indicating "excellent." Besides these qualitative measures, the present analysis retains mileage between the student's permanent address and John Carroll University.

A conventional criticism of Lickert scale numbers when they are used in economic work is that normally they require unrealistic assumptions regarding interpersonal utility comparisons in order to give an interpretation to the empirical results. As an example, if two persons each rate a particular quality "3," there is usually no basis to determine whether their attitudes are identical. Similarly, one person's "4" may be an equivalent attitude to another's "3." This problem forces researchers to make unrealistic assumptions (such as assuming that each numerical value has the same level of utility or indifference for every respondent).

In the present study, each respondent rated both schools between 1 and 5. Following the algebraic form of the choice model shown in equation 4, the student's alternative-school rating for each quality is subtracted from that student's rating of John Carroll. This creates a scale that can range between +4 (when the student rates John Carroll "5" in a particular category and the alternative "1") and -4 (for the opposite case). Forcing each respondent to make two answers for each of the qualitative aspects used in the study, and then subtracting one of those responses from the other eliminates the problem of equating absolute numerical responses across individuals. Instead, the less restrictive assumption that relative rankings (or comparisons) are similar across respondents must be imposed.

Consider three respondents: A, B, and C. A rates John Carroll a "4" on faculty reputation and her alternative "3." B gives John Carroll "5" and the other college a "4." C scores the schools "4" and "2" respectively. The methodology of this paper treats the re-
responses of A and B the same (a mild preference by each in favor of John Carroll), while C is considered to show a stronger preference in favor of John Carroll.4

The timing of the survey may cause a problem. In 1984, the survey arrived at the student's home in time for it to be answered during Thanksgiving break. By this time, the student has spent close to three months at the chosen school. The rating that school receives undoubtedly depends on that student's experience during those first three months.5 In 1985, the survey was sent to the student's home address in July, with a request that the questionnaire be returned quickly.

Preliminary Analysis

Questionnaires were sent to all applicants who were accepted for admission to John Carroll.6 The data was edited to eliminate accepted applicants who did not attend college, as well as those who indicated that they had no alternative school. Perhaps due to the nature of the questions, there were few problems with nonresponses to individual questions that caused returned surveys to be excluded from the analysis. The number of usable responses in each category is shown at the bottom of Table 1. The response rate was higher for matriculants and nonmatriculants in 1985 than in 1984. Matriculants responded at a rate of 39.7% in 1984 and 58.9% in 1985. Nonmatriculant response rates were 26.7% in 1984 and 31.3% in 1985. The response rates for all categories appear to be high enough to minimize concerns regarding sampling bias due to the nature of the mail-back survey technique.

The figures in Table 1 are the mean differences between the student's rating of John Carroll and his/her rating of the alternative

4Because the differences for each qualitative aspect enter the model in linear terms, there remains the problem of assuming equal effects between any two points on the interval between -4 and +4. In this paper no effort has been made to determine the validity of this assumption and no alternative estimation procedures are conducted.

5There is no reason to expect that the experience at school favors either school under comparison.

6For purposes of this study, this is the appropriate population. Those who did not apply to the university or who were not accepted should not be sampled because their choice sets regarding future activities do not include enrolling at John Carroll University.
# ROLE OF APPLICANTS' PERCEPTIONS

## TABLE 1

### MEAN RATINGS OF CHARACTERISTICS FOR MATRICULANTS AND NON-MATRICULANTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Matriculants</td>
<td>Non-matriculants</td>
<td>Matriculants</td>
<td>Non-matriculants</td>
<td>Matriculants</td>
<td>Non-matriculants</td>
<td>Matriculants</td>
<td>Non-matriculants</td>
</tr>
<tr>
<td>FINANCIAL AID</td>
<td>.637</td>
<td>.205</td>
<td>.708</td>
<td>.360</td>
<td>4.11²</td>
<td>7.26²</td>
<td>2.32³</td>
<td>.62</td>
</tr>
<tr>
<td>DISTANCE FROM HOME</td>
<td>.695</td>
<td>.376</td>
<td>.805</td>
<td>.363</td>
<td>5.32²</td>
<td>10.34²</td>
<td>2.11³</td>
<td>.63</td>
</tr>
<tr>
<td>ACAD</td>
<td>.530</td>
<td>.357</td>
<td>.505</td>
<td>.293</td>
<td>9.00²</td>
<td>10.92²</td>
<td>.90³</td>
<td>.32</td>
</tr>
<tr>
<td>NUMEROUS/FEMALE</td>
<td>.014</td>
<td>.106</td>
<td>.152</td>
<td>.280</td>
<td>2.13³</td>
<td>3.97³</td>
<td>1.24</td>
<td>.32</td>
</tr>
<tr>
<td>SOCIAL STATUS</td>
<td>.204</td>
<td>.408</td>
<td>.328</td>
<td>.360</td>
<td>1.43</td>
<td>8.44²</td>
<td>4.82³</td>
<td>.36</td>
</tr>
<tr>
<td>TREP</td>
<td>.572</td>
<td>.364</td>
<td>.573</td>
<td>.310</td>
<td>8.96²</td>
<td>10.49²</td>
<td>.96³</td>
<td>.39</td>
</tr>
<tr>
<td>PARENTAL PREFERENCES</td>
<td>.700</td>
<td>.459</td>
<td>.706</td>
<td>.370</td>
<td>10.05²</td>
<td>13.93²</td>
<td>.16</td>
<td>.07</td>
</tr>
<tr>
<td>SISE</td>
<td>.102</td>
<td>.422</td>
<td>1.19</td>
<td>.644</td>
<td>10.29²</td>
<td>12.32²</td>
<td>6.60</td>
<td>.16</td>
</tr>
<tr>
<td>CASUALITY</td>
<td>.073</td>
<td>.349</td>
<td>.238</td>
<td>.284</td>
<td>3.06²</td>
<td>5.37²</td>
<td>1.70³</td>
<td>.32</td>
</tr>
<tr>
<td>QUALITY</td>
<td>.543</td>
<td>.338</td>
<td>.676</td>
<td>.416</td>
<td>7.91²</td>
<td>12.46²</td>
<td>1.27</td>
<td>.03</td>
</tr>
<tr>
<td>COST</td>
<td>.290</td>
<td>.627</td>
<td>.281</td>
<td>.621</td>
<td>2.23³</td>
<td>3.96³</td>
<td>.70</td>
<td>.06</td>
</tr>
<tr>
<td>ADMIN</td>
<td>.430</td>
<td>.411</td>
<td>.542</td>
<td>.491</td>
<td>6.16²</td>
<td>8.46²</td>
<td>1.10</td>
<td>.55</td>
</tr>
<tr>
<td>CAPTURE</td>
<td>.906</td>
<td>.116</td>
<td>.968</td>
<td>.099</td>
<td>0.17²</td>
<td>0.35²</td>
<td>.01³</td>
<td>.11</td>
</tr>
<tr>
<td>COHESION</td>
<td>.008</td>
<td>.616</td>
<td>0.082</td>
<td>.212</td>
<td>3.17²</td>
<td>9.17²</td>
<td>1.80³</td>
<td>1.82</td>
</tr>
<tr>
<td>AFROH</td>
<td>.155</td>
<td>.669</td>
<td>.133</td>
<td>.490</td>
<td>7.44²</td>
<td>10.21²</td>
<td>3.01³</td>
<td>.29</td>
</tr>
<tr>
<td>CARE</td>
<td>.372</td>
<td>.287</td>
<td>.652</td>
<td>.481</td>
<td>7.92²</td>
<td>12.23²</td>
<td>8.46³</td>
<td>.99</td>
</tr>
<tr>
<td>CAREER</td>
<td>.619</td>
<td>.276</td>
<td>.648</td>
<td>.256</td>
<td>6.83²</td>
<td>8.56³</td>
<td>0.54</td>
<td>.13</td>
</tr>
<tr>
<td>ATHLETIC PROGRAMS</td>
<td>.294</td>
<td>.611</td>
<td>.372</td>
<td>.651</td>
<td>2.39³</td>
<td>5.29³</td>
<td>2.13³</td>
<td>.32</td>
</tr>
<tr>
<td>ATHLETIC FACILITIES</td>
<td>.361</td>
<td>.608</td>
<td>.291</td>
<td>.327</td>
<td>3.09²</td>
<td>7.00²</td>
<td>1.13³</td>
<td>1.30</td>
</tr>
<tr>
<td>B whim</td>
<td>.132</td>
<td>.103</td>
<td>.238</td>
<td>.160</td>
<td>2.61²</td>
<td>6.14²</td>
<td>1.66³</td>
<td>.78</td>
</tr>
<tr>
<td>SF</td>
<td>.941</td>
<td>.325</td>
<td>.902</td>
<td>.017</td>
<td>7.73²</td>
<td>10.32²</td>
<td>.21</td>
<td>1.13</td>
</tr>
<tr>
<td>LOCATE</td>
<td>.520</td>
<td>.306</td>
<td>.516</td>
<td>.373</td>
<td>8.13²</td>
<td>13.03²</td>
<td>1.16</td>
<td>.06³</td>
</tr>
<tr>
<td>RASHON</td>
<td>.320</td>
<td>.114</td>
<td>.450</td>
<td>.226</td>
<td>4.91²</td>
<td>7.24²</td>
<td>2.16</td>
<td>1.18</td>
</tr>
<tr>
<td>RELIC</td>
<td>.322</td>
<td>.670</td>
<td>1.44</td>
<td>.543</td>
<td>5.16²</td>
<td>6.02²</td>
<td>1.08</td>
<td>.04</td>
</tr>
<tr>
<td>HOUSE</td>
<td>.609</td>
<td>.439</td>
<td>.630</td>
<td>.356</td>
<td>6.54²</td>
<td>6.64³</td>
<td>0.29</td>
<td>1.96</td>
</tr>
<tr>
<td>ABILITY</td>
<td>.154</td>
<td>.106</td>
<td>.233</td>
<td>.238</td>
<td>2.60²</td>
<td>2.58³</td>
<td>1.36</td>
<td>1.32</td>
</tr>
<tr>
<td>EMPLOY</td>
<td>.604</td>
<td>.659</td>
<td>.681</td>
<td>.633</td>
<td>9.04²</td>
<td>11.09²</td>
<td>0.82</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Number of Respondents: 279

²Significant at the .01 level.
³Significant at the .05 level.
⁴Significant at the .10 level.
school and corresponding t tests. For the nonmatriculant, the latter is the college in which the student enrolls. Each difference is the rating of John Carroll University minus the rating of the other school. Consequently, a positive number implies a more favorable rating for John Carroll. Examination of the mean values of the differences for the twenty-seven characteristics reveal very sharp differences between the matriculants and the nonmatriculants for both years.

For matriculants, the average differences are predominantly positive. In 1984, SOCIAL, COST, COURSES, ATHLET and ATHFAC are negative. In 1985, only two of these factors have negative average differences for matriculants. Perceptions regarding SOCIAL and ATHFAC may have been influenced by construction of a recreation and intramural athletic complex at the university that was opened in April 1985. Largest perceived differences exist for religious opportunities, size of school, parental preference, and the location of the campus. The next-to-last column of the table shows t tests that are used to determine if there were any changes in matriculant perceptions between 1984 and 1985. Eight of the twenty-seven characteristics reveal statistically significant changes in matriculant perceptions from one year to the next. Several of these changes (for FINAID, SOCIAL, ATHLET and ATHFAC) can reasonably be attributed to policies implemented by University administrators.

Not surprisingly, on average, the nonmatriculants rate the alternative school more favorably than JCU. All differences are negative except for two, religious opportunities and the student-faculty ratio. Nonmatriculants perceive these two attributes as strong points of the University. As the last column of Table 1 shows, only LOCAT has a statistically significant change in the average difference between 1984 and 1985 for nonmatriculants. The change in LOCAT and DIST for the two groups between 1984 and 1985 is quite interesting since these are factors over which policymakers have little influence. While the average perceptions of John Carroll increased for both of these variables from 1984 to 1985, the opposite occurred for nonmatriculants.

Two points should be noted. For the nonmatriculants, unlike the matriculants, there is no set of traits where the average perceived difference exceeds one in absolute value. In addition, the size of the rating difference between JCU and the other school is generally
larger (in absolute value) for the matriculants. There are eight cases where the opposite is true. These smaller rating differences for nonmatriculants imply a greater similarity between the school they attend and JCU, perhaps suggesting a less clear-cut choice for the decisionmaker.

The t tests used to compare the average perceptions of matriculants versus nonmatriculants confirm the dichotomy of responses for the two groups. In general, matriculants have a statistically significant more positive perception of John Carroll than nonmatriculants do. In 1984, the two groups agree only in one case, social activities. For 1985, the matriculants’ views of all of the variables are significantly more favorable toward JCU at the 0.01 level of significance.

IV. RESULTS OF LOGIT ESTIMATION

Table 2 presents the empirical results of the multivariate logit model. Separate equations were estimated for each year, to determine the stability of various factors from one year to the next. The dependent variable assumes a value of 1 if the student matriculates at JCU and a zero value otherwise. All independent variables measure differences between the student’s rating of John Carroll and the appropriate alternative school. The model estimates the probability of attending JCU conditional upon the differences in the student’s view of the two schools.

Columns 1 and 3 of the table contain the coefficient estimates using the entire set of twenty-seven characteristic differences as independent variables. An examination of the zero-order correlation matrix and the results of the logit estimation suggested a high degree of collinearity among the independent variables. The full model is the baseline model which provides a benchmark to determine which variables or groups of variables can be removed from the estimating equation without significantly affecting the informational content of the model. In the baseline model, about one-half of the coefficients do not differ statistically from zero, suggesting that some of these variables may be excluded from the model because they do not affect the choice of where to matriculate.

Variables are deleted from the baseline model in a stepwise fashion. Deleting a variable is equivalent to assuming that the coefficient of that variable is constrained to equal zero. The test statistic to determine whether or not a particular restriction is acceptable
TABLE 2

RESULTS OF MULTIVARIATE LOGIT ESTIMATION

(Independent Variable = 1 if matriculant; 0 if nonmatriculant)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum Likelihood Coefficient Estimates</td>
<td></td>
<td>Maximum Likelihood Coefficient Estimates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>MILES</td>
<td>.001</td>
<td>-.00008</td>
<td>.001</td>
<td>-.00008</td>
</tr>
<tr>
<td></td>
<td>(1.52)</td>
<td>(.105)</td>
<td>(1.52)</td>
<td>(.105)</td>
</tr>
<tr>
<td>FINAID</td>
<td>.220</td>
<td>.241</td>
<td>.358</td>
<td>.295</td>
</tr>
<tr>
<td></td>
<td>(2.21)**</td>
<td>(2.56)**</td>
<td>(3.38)**</td>
<td>(3.11)**</td>
</tr>
<tr>
<td>DIST</td>
<td>.137</td>
<td>.371</td>
<td>.347</td>
<td>.347</td>
</tr>
<tr>
<td></td>
<td>(1.64)</td>
<td>(4.25)**</td>
<td>(4.50)**</td>
<td>(4.50)**</td>
</tr>
<tr>
<td>FAC</td>
<td>.192</td>
<td>.319</td>
<td>.220</td>
<td>.220</td>
</tr>
<tr>
<td></td>
<td>(.97)</td>
<td>(1.42)</td>
<td>(1.42)</td>
<td>(1.42)</td>
</tr>
<tr>
<td>HF</td>
<td>.041</td>
<td>.220</td>
<td>.041</td>
<td>.220</td>
</tr>
<tr>
<td></td>
<td>(.28)</td>
<td>(1.47)</td>
<td>(1.47)</td>
<td>(1.47)</td>
</tr>
<tr>
<td>SOCIAL</td>
<td>-.419</td>
<td>-.377</td>
<td>-.0037</td>
<td>(.025)</td>
</tr>
<tr>
<td></td>
<td>(2.99)**</td>
<td>(3.10)**</td>
<td>(2.05)***</td>
<td>(2.05)***</td>
</tr>
<tr>
<td>TREP</td>
<td>.363</td>
<td>-.268</td>
<td>.363</td>
<td>-.268</td>
</tr>
<tr>
<td></td>
<td>(1.79)**</td>
<td>(1.20)</td>
<td>(1.20)</td>
<td>(1.20)</td>
</tr>
<tr>
<td>PARPREF</td>
<td>.436</td>
<td>.502</td>
<td>.436</td>
<td>.502</td>
</tr>
<tr>
<td></td>
<td>(3.57)**</td>
<td>(4.40)**</td>
<td>(3.57)**</td>
<td>(4.40)**</td>
</tr>
<tr>
<td>SIZE</td>
<td>.325</td>
<td>.357</td>
<td>.325</td>
<td>.357</td>
</tr>
<tr>
<td></td>
<td>(2.71)**</td>
<td>(3.25)**</td>
<td>(3.25)**</td>
<td>(3.25)**</td>
</tr>
<tr>
<td>GRAD</td>
<td>-.155</td>
<td>-.190</td>
<td>-.155</td>
<td>-.190</td>
</tr>
<tr>
<td></td>
<td>(.88)</td>
<td>(1.17)</td>
<td>(1.17)</td>
<td>(1.17)</td>
</tr>
<tr>
<td>QUALSB</td>
<td>.090</td>
<td>.512</td>
<td>.090</td>
<td>.470</td>
</tr>
<tr>
<td></td>
<td>(.61)</td>
<td>(2.63)**</td>
<td>(2.63)**</td>
<td>(2.63)**</td>
</tr>
<tr>
<td>COST</td>
<td>.331</td>
<td>.205</td>
<td>.331</td>
<td>.205</td>
</tr>
<tr>
<td></td>
<td>(3.09)**</td>
<td>(2.05)**</td>
<td>(3.09)**</td>
<td>(2.05)**</td>
</tr>
<tr>
<td>ADMISS</td>
<td>.121</td>
<td>.191</td>
<td>.121</td>
<td>.191</td>
</tr>
<tr>
<td></td>
<td>(.97)</td>
<td>(1.55)</td>
<td>(.97)</td>
<td>(1.55)</td>
</tr>
<tr>
<td>CAMPUS</td>
<td>.362</td>
<td>.137</td>
<td>.362</td>
<td>.137</td>
</tr>
<tr>
<td></td>
<td>(2.99)**</td>
<td>(1.08)</td>
<td>(2.99)**</td>
<td>(1.08)</td>
</tr>
<tr>
<td>COURSES</td>
<td>.421</td>
<td>.585</td>
<td>.421</td>
<td>.585</td>
</tr>
<tr>
<td></td>
<td>(2.24)**</td>
<td>(2.90)**</td>
<td>(2.24)**</td>
<td>(2.90)**</td>
</tr>
<tr>
<td>ACPROC</td>
<td>.573</td>
<td>.656</td>
<td>.573</td>
<td>.656</td>
</tr>
<tr>
<td></td>
<td>(3.05)**</td>
<td>(3.15)**</td>
<td>(3.05)**</td>
<td>(3.15)**</td>
</tr>
<tr>
<td>GENREP</td>
<td>-.131</td>
<td>.032</td>
<td>-.131</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>(.63)</td>
<td>(.132)</td>
<td>(.63)</td>
<td>(.132)</td>
</tr>
<tr>
<td>ALREP</td>
<td>-.165</td>
<td>-.420</td>
<td>-.165</td>
<td>-.420</td>
</tr>
<tr>
<td></td>
<td>(.80)</td>
<td>(1.95)*</td>
<td>(.80)</td>
<td>(1.95)*</td>
</tr>
<tr>
<td>ATHLET</td>
<td>-.029</td>
<td>.030</td>
<td>-.029</td>
<td>.030</td>
</tr>
<tr>
<td></td>
<td>(.19)</td>
<td>(.196)</td>
<td>(.19)</td>
<td>(.196)</td>
</tr>
</tbody>
</table>
### TABLE 2 - Continued

<table>
<thead>
<tr>
<th>Variable</th>
<th>1984 (1)</th>
<th>1985 (2)</th>
<th>1985 (3)</th>
<th>1985 (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATIIFAC</td>
<td>.077 (.48)</td>
<td>.200 (1.34)</td>
<td>.246 (2.09)**</td>
<td></td>
</tr>
<tr>
<td>HONAP</td>
<td>-.492 (2.37)**</td>
<td>-.456 (2.45)**</td>
<td>-.210 (1.03)</td>
<td></td>
</tr>
<tr>
<td>SF</td>
<td>.376 (2.27)**</td>
<td>.481 (3.36)***</td>
<td>.493 (2.89)***</td>
<td>.530 (3.47)***</td>
</tr>
<tr>
<td>LOCAT</td>
<td>.281 (2.65)***</td>
<td>.357 (3.63)***</td>
<td>.388 (3.57)***</td>
<td>.354 (3.64)***</td>
</tr>
<tr>
<td>HSCOUN</td>
<td>-.266 (1.43)</td>
<td>.123 (.711)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELIG</td>
<td>.071 (.56)</td>
<td>.226 (1.81)*</td>
<td>.268 (2.32)**</td>
<td></td>
</tr>
<tr>
<td>HOUSE</td>
<td>.110 (.75)</td>
<td>-.295 (2.14)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADLIT</td>
<td>-.420 (2.58)***</td>
<td>-.303 (2.14)**</td>
<td>-.062 (1.363)</td>
<td></td>
</tr>
<tr>
<td>EMPPOPP</td>
<td>.717 (3.38)***</td>
<td>.713 (3.98)***</td>
<td>.392 (1.97)**</td>
<td></td>
</tr>
<tr>
<td>CONSTANT</td>
<td>-.073 (.32)</td>
<td>.104 (.65)</td>
<td>.143 (.617)</td>
<td>.016 (.091)</td>
</tr>
</tbody>
</table>

Log Likelihood Function: \(-165.82\), \(-174.07\), \(-170.69\), \(-181.2\)

Likelihood Ratio Test Statistic: 292.4 (28), 275.9 (13), 465.13 (28), 444.11 (12)

| n  | 464 | 464 | 606 | 606 |

---

**Notes:**
- Absolute value of t-ratio appears in parentheses below coefficient.
- Degrees of freedom in parentheses under test statistic.
- *significant at the .10 level.
- **significant at the .05 level.
- ***significant at the .01 level.

(from a statistical standpoint) is equal to two times the difference between the value of the unrestricted and the restricted models' log likelihood function. The test statistic is distributed as chi-square. This test can be performed on individual variables as well as groups which are deleted, and both tests (the latter relative to the baseline model shown in columns 1 and 3 of Table 2) were performed after
each deletion. No statistically significant results occurred until the attempted deletion of those variables appearing in the models listed in columns 2 and 4 of the table.  

The restricted model includes variables for both financial aid and costs (primarily tuition costs). This permits these variables to exert separate influences on the probability of attendance. It is important to note that both of these variables are measured in the same qualitative terms as the other independent variables, unlike most economic models in which dollars are normally the units of measure for both financial aid and costs. The present model allows each respondent to take into account his wealth and/or income constraint, the influences of family size and family life style, and other background variables when assessing the relative costs and any financial aid package that is offered. On purely theoretical grounds, one approach does not appear inherently superior to the other.

Financial aid grants generate an income effect which increases the likelihood a student will attend a particular school. COST, on the other hand, isolates the relative price influence associated with the choice of a college. Other things constant, a relatively more expensive college will have a lower probability of attendance.

Empirical results for the restricted model generally display the expected signs for 1984, and all coefficients have positive values for 1985. Certain traits stand out as being particularly prominent. The probability of matriculation for 1984 is strongly influenced by parents' preference, noting the role of parents in the college decision process; employment opportunities after graduation, reflecting the job consciousness of college students; cost; specific academic programs; and the student-faculty ratio, probably capturing the ability to obtain some personalized attention. Two physical attributes, the location and attractiveness of the campus are also important in 1984.

Eight of the thirteen variables that are included in the restricted model for 1984 are included in the 1985 restricted model. The coefficients of most of these variables are remarkably similar for both years. Only COST has a change of more than 0.10, and that coefficient declined, even though the University increased tuition by

---

*Tests used the 5% level of significance. Given the similarities of several characteristics included in the survey, it is not surprising that many could be dropped from the model without materially affecting its explanatory power. For more information, see Amemiya[1].*
Role of Applicants' Perceptions

Twelve percent between 1984 and 1985. Much of this increased revenue was returned to students through a large increase in financial aid. That policy appears to be quite effective for the University, as the coefficient of the financial aid variable increased (and became more statistically significant), while the opposite occurs for the cost variable. Indeed, in 1985, the financial aid variable has a stronger influence on the enrollment decision than cost, which is the opposite of 1984 results.8

The three variables with negative coefficients in the restricted model for 1984 are not included in the final equation for 1985. The results for SOCIAL (negative in 1984 and not in the restricted equation for 1985) and ATHFAC (significant in 1985) may be attributable to the completion and full year of recruiting with a new recreational complex.

For 1985, the most important variables are: parental preferences, distance from home (which was not in the 1984 restricted model), location, student-faculty ratio, and size of the school. Employment opportunities, which was highly significant in the 1984 restricted model, does not even appear in the equation for 1985. On the other hand, religious opportunities are important for 1985 while that variable is excluded from the restricted model in 1984.

V. Concluding Remarks

In this study the influence that applicant perceptions have on the college enrollment decision was addressed. A survey completed by applicants to John Carroll University for the fall enrollment in 1984 and in 1985 compared John Carroll with the most relevant alternative college on twenty-seven attributes. This list included questions regarding costs and financial aid.

The empirical results reveal significant differences between the perceptions of matriculants to JCU and those who chose to go elsewhere. A multivariate logit analysis of the enrollment decision showed that parental preference, cost and financial aid opportunities, campus attributes (location and style), the student-faculty ra-

8Because both of these variables are expressed in differences on a five-point Lickert scale, it is impossible to discuss the merits of a dollar reduction in tuition vis-à-vis a dollar increase in financial aid. We cannot be certain which policy would be more cost-effective in terms of increasing the likelihood that a student will enroll at John Carroll.
tio, and academic programs were among the most important influences.

The results indicate that at least two policy decisions made by administrators during the 1984-85 academic year resulted in more positive perceptions of the University. A dramatic increase in financial aid resulted in statistically significant more positive perceptions by matriculants in 1985 than in 1984. Tuition rose by twelve percent between the two years, yet applicants' perceptions of costs did not change, suggesting that the increase in financial aid offset the higher tuition. Second, the University constructed additional recreational and student activities facilities, which also enhanced perceptions of the school among both matriculants and nonmatriculants.

REFERENCES

Mandated Admissions Requirements and Sound Articulation Principles

FRANK H. SPAIN

AS A LONGTIME STUDENT and practitioner of admissions/articulation/registrar functions, with experience in the private and public sectors of three different states, I am interested in dual topics, reflecting a blend of the general (national) and of the specific (State of Florida) dimensions. Those topics are mandated admissions requirements and sound principles of articulation.

While it is true that many requirements in Florida are currently state-mandated, it is equally true that many such mandated requirements were conceived, initiated, and implemented through voluntary action of concerned professionals in a proactive mode. Examples of such voluntary cooperative endeavors are referenced later in the text. Other mandates had other origins.

The State of Florida has almost mandated that there shall be mandates. With the 1986 legislative session barely underway, 173 of the 220 bills in the hopper dealt with education. Seventy-nine percent is a substantial majority. Another Florida dimension is the critical role of the community colleges. They are full-fledged partners with the high schools and universities in admissions, articulation, and in all other areas.

Articulation in Florida is three tiered, practiced between and among the high schools, the community colleges, and the universities. Legislative mandate designates the State University System as the limited access postsecondary system at the lower division. By mandate the community college system is designated as the open access system for the high school graduate. Further, upon receiving the A.A. degree, students are guaranteed admission within the university system.

Presented at the 1986 annual meeting of AACRAO in Baltimore.

161
It is perhaps interesting and productive to examine the state mandate concept from the standpoint(s) of: ORIGINATION, PERPETUATION, FRUSTRATION, and ARTICULATION.

**ORIGINATION**

Why have state-mandated admissions requirements originated? The typical legislator would respond: “You educators abdicated and we had to do it for you . . .”

On the other hand, the educator would declare: “The legislature meddled and abrogated our authority . . .” No doubt, the answer is somewhere in between abdication and abrogation. And no doubt, too, the problem originated partly in the 60’s and 70’s. During those turbulent decades of counter-culture and anti-institution activism, colleges and universities simultaneously had unparalleled enrollment explosion. Higher education did well just to hold on — never mind lead its various publics: students, parents, media, legislatures, and most important of all, the general public.

Prudent observers remember that the pendulum does still swing, and have experienced or read, more than once, about going back to the basics. The authors of *A Nation at Risk*, the several other national commission reports, and the 300 local and state reports, draw a picture for all to see.

Even in the best of times, “school” can never get too far out in front of “society.” Education is very limited in how much it can lead. Its assigned, or assumed, role is to mirror the values of society. To lead too aggressively could lead to professional suicide. The Turkish proverb puts it very well: “He who would tell the truth should already have one foot in the stirrup.” Whatever else our state legislatures may be, they are microcosms of our society, usually with re-election as the top priority, followed by constituency representation.

Lately, those constituencies are greatly obsessed with “quality education.” How did “quality,” a noun of long-standing, excellent reputation become a routine adjective? The public has to have “quality” education, “quality” institutions, and even “quality” prisons, etc. Be that as it may, society has demanded quality education . . . which begins with quality admissions.

Some attribute the mushrooming origination of state mandates, in part, to informants from within education. One sorehead with “an axe to grind” can have a terribly counterproductive impact,
even with an anonymous letter. Give that sorehead with the axe a connection in the legislature, and the results can be devastating.

At the other end, recommendations of academic discipline task forces could ultimately lead to mandated admissions requirements, and some should — following adequate study and preceded by reasonable lead time. Could one imagine a Foreign Language Task Force not recommending more K-12 and postsecondary language courses? Department chairs whose enrollments are slipping can be most innovative at recommending “quality” curricular changes that lead to admissions reforms — perhaps mandated ones.

State-mandated requirements, however, originate primarily out of deep dissatisfaction of the general populace, a populace disenchanted with the products of our educational system. As a microcosm of all of society, state legislatures are catalysts which translate, or articulate, or mandate lay concerns to professional educators. Legislators hold up the mirror, “society,” into which the educational leadership looks. The perceived reflections dictate education’s reaction. Hence, the ORIGINATION of state-mandated requirements.

PERPETUATION

As night follows day, PERPETUATION follows origination. Legislation leads to legislation dependence, to over-use, to abuse, and, even legislative over-dose, for several reasons:

- A politician who has campaigned successfully almost must undo, redo, or overdo that which was done by the predecessor. Legislators compulsively want to make their mark via their legislation. They must be sure that they are identified with, and remembered for their legacy. Many educational leaders are likewise motivated. In the legislature, this legacy is called “legislation,” in our educational institutions it’s called “reorganization.”
- No matter how bad, once a law, always a law. The only way to change it is with another law, which guarantees perpetuation.
- Being human, legislators make mistakes. Since they can only rectify those mistakes through more legislation, corrective legislation is acceptable; but careless or capricious legislation is never cost effective.
- The legislature may deliberately test the populace, drop a bomb, in order to be judged in the “court of public opinion.”
The legislature must justify its existence and its expenditures, in and out-of-session — often 12 months out of the year.

There is always the "cause and effect" influence. For example, one state senator who in earlier years actively led the move to raise high school graduation requirements (which in turn happened to raise the percentage of high school drop-outs) subsequently supported a Drop-Out Prevention Act with equal fervor. She’s also a candidate for commissioner of education. Her chief opponent, another legislator, but one who prefers that government not interfere too much in education, declared: “We have reformed the reforms.”

Legislation does beget legislation, hence perpetuation.

ARTICULATION

The healing treatment for mandate-created frustration is articulation — blue ribbon articulation, even quality articulation. Sound articulation principles demand that educational administrators:

1) first of all, build and maintain good intrainstitutional articulation. Effective articulation does begin at home.
2) slow down the rate of change; in one sitting, the Florida State Board of Education unanimously approved three major changes in State University System (SUS) admissions requirements, as it increased the number of required course credits, boosted the minimum SAT or AFCT score, and hiked the required grade-point average. A sliding admissions scale was also approved. The dramatic three-year increase in first-time-in-college (FTIC) admissions requirements is reflected in Table “I.”
3) make concerted efforts to synchronize fully high school graduation requirements for college-bound students and university admissions requirements for those students. Table II reveals less than such full synchronization in areas such as foreign language, interpretation of electives, and g.p.a.
4) always keep the horse before the cart. As in building construction, the foundation comes first — both in initial construction and in any renovations. Reform from the kindergarten up, not from postsecondary down.
5) provide adequate lead time between the announcement and
### TABLE I

**SUS FTIC Admission Requirements**

<table>
<thead>
<tr>
<th>Units</th>
<th>1984-85 &quot;BEFORE&quot;</th>
<th>1987-88 &quot;AFTER&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLISH</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>NATURAL SCIENCE</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>SOCIAL SCIENCE</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>FOREIGN LANGUAGE</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ENGLISH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOREIGN LANGUAGES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOCIAL SCIENCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>12</td>
<td>19</td>
</tr>
</tbody>
</table>

#### II. TEST:

<table>
<thead>
<tr>
<th></th>
<th>1984-85</th>
<th>1987-88</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH SCHOOL GRADUATION</td>
<td>850/18</td>
<td>900/19</td>
</tr>
<tr>
<td>1.5 G.P.A.</td>
<td>2.00</td>
<td>2.50</td>
</tr>
</tbody>
</table>

### TABLE II

**1987-88 Units/G.P.A.**

<table>
<thead>
<tr>
<th>HIGH SCHOOL GRADUATION*</th>
<th>UNIVERSITY ADMISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 ENGLISH</td>
<td>4</td>
</tr>
<tr>
<td>3 MATH</td>
<td>3</td>
</tr>
<tr>
<td>3 NATURAL SCIENCE</td>
<td>3</td>
</tr>
<tr>
<td>3 SOCIAL SCIENCE</td>
<td>3</td>
</tr>
<tr>
<td>- FOREIGN LANGUAGE</td>
<td>2</td>
</tr>
<tr>
<td>9 ELECTIVES**</td>
<td>4</td>
</tr>
<tr>
<td>2 OTHER</td>
<td>-</td>
</tr>
<tr>
<td>24 TOTAL</td>
<td>19</td>
</tr>
<tr>
<td>1.5 G.P.A.</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Includes University-bound **Interpretation differs widely
the implementation of change (regardless of the source of such change).

6) capitalize upon the fact that regional accreditation associations were founded to promote and improve K-12/postsecondary dialogue.

7) be absolutely certain that administrators, faculty, and staff are on the side of the angels. Always remember that one positive attitude can be far more important than all the processes combined. In one research study (Locket, 1981), 10 of 12 obstacles to articulation were found to be related to attitude.

8) seize or create any reasonable opportunity to mold general public opinion. As one story goes, a very bright, young Miami woman's high school units didn't quite fit the mandated university admissions configuration. Following a University of Florida denial, she accepted her Harvard scholarship and went there! This happened in a state that has an avowed commitment to stem the out-of-state "brain drain!" The story should be used to its maximum, especially to inform the general populace.

9) fully serve, at the interstate level and in 1990's style, the out-of-state, the stop-out, the part-time, and the non-traditional student in the admissions/articulation arena.

10) understand the direct relationship between growth in legislation and the decline in their control over their destiny and that of their clients. As the legislature becomes more proactive, the education profession becomes more reactive.

11) acknowledge that even as bad as self-perpetuating legislation is, and as self-perpetuating as bad legislation is, upon becoming desperate, get involved in the perpetuation of legislation—corrective legislation. Appropriate articulation with the legislature can be most productive. When legislation corrects or neutralizes bad legislation, more is better.

**FRUSTRATION**

Anyone who has lived through the origination and the perpetuation of legislative mandates knows classic FRUSTRATION. Frustration grows when administrators:

- learn Tuesday morning that Monday's game plan for Tuesday's game is invalid;
• know that the best high school counseling and advising have been rendered worthless by a quick change in university signals;
• observe student and perhaps family lives turned upside down by forces beyond their control;
• are less than confident of information and advice they dispense or receive;
• have to effect changes demanded by those who seem to believe that the more blood on the floor, the higher the quality;
• implement drastic changes in standards, with little or no warning — standards written by those who, themselves, might not be able to meet them;
• try to bridge the chasm between mandated high school graduation requirements for college-bound students and college admissions requirements for those same students;
• are not really sure whether the 1987 admissions requirements are terrific or that those for 1984 were lousy;
• find 9 out of 10 of their colleagues unsure or incorrect about specific mandated high school graduation or university admission requirements and even worse a university professor, whose specialty is School Law, is equally incorrect.

Frustration continues to grow when they
• observe that the obsession with mandated assessment has produced the mode of pre-womb to post-tomb testing;
• know that the articulation chain is only as strong as its first link, and then, further, realize that when that first link is a mandated link, they have no control over that first link . . . that is really counterproductive.

CONCLUSION

Any colleague inclined to become discouraged by state mandates should take heart from sound reasons for considerable optimism about education and articulation in Florida:
• The 27-year-old, voluntarily written, and unanimously endorsed General Education Policy is still valid today.
• The unique Statewide Articulation Agreement, voluntarily endorsed in 1971, was expanded in 1983 to include the secondary sector, and such representation was added to the Articulation Coordinating Committee. The expanded version of
the agreement also added vocational education, both to the agreement and coordinating committee membership.

- Conceived and initiated by the Florida Association of Collegiate Registrars and Admissions Officers in the early sixties, and expanded to include the common transcript concept, Common Course Numbering (mandated in 1975) is progressively proving its viability as it enters its second decade.

- The 1985 legislature clearly delineated responsibility for remedial or compensatory education by assigning such responsibility essentially to the community colleges.

- A March, 1986, report by the Florida Institute of Education revealed 198 voluntary, written, university/high school cooperative agreements and 154 voluntary, written, university/community college agreements in place throughout the state.

- The chancellor, the community college executive director, and the executive director of the Postsecondary Education Planning Commission (PEPC), have breakfast together at least once a month, just to compare notes. Also, for the past two years PEPC, the SBCC, and the university Board of Regents have held joint annual articulation and coordination summit sessions.

- For about 15 years, each of the nine public universities has had a Community College Relations (articulation) office with the specific mission to serve as an advocate for the sending institution, for the student, and for the receiving university.

In short, Florida's K-12, community college, and university systems are becoming much less distant and far more dynamic. They are improving as bilingual or trilingual partners — partners talking more effectively to each other; partners communicating more effectively with the legislature; and most important of all, partners projecting their missions more effectively to the general populace. With sound articulation in the field and at the summit, Florida has unparalleled articulation opportunities and responsibilities.
BOOK REVIEWS


Since 1967, Jack Gourman has been publishing books which rank colleges, universities, and individual programs of study offered, such as chemistry, English, and history. Thousands of high school, college, and municipal libraries own these books, and at least a few people have lavishly praised them. The recent Carnegie Foundation Survey of the Transition from High School to College, 1984-85, revealed that 15% of American high school seniors said that they had used Gourman's books in selecting a college. But a careful look at Gourman's current book in which undergraduate schools and programs are ranked, *The Gourman Report: A Rating of Undergraduate Programs in American and International Universities*, shows that its faults are so numerous and so serious that it is of little use. (For a detailed critique of most of Gourman's previous books, see "Who is Jack Gourman and Why Is He saying All Those Things about My College?" in *Change*, November/December, 1984, pp. 14-19 & 45-56.)

In Gourman's new... *Rating of Undergraduate Programs*... as in his nine other books, he has expressed his gratitude to all those who he says gave him much of the information upon which his book is based — "educators and administrators at the schools themselves" (p. 2) and "the multitude of college and university faculty members, presidents, administrators and trustees/regents who provided information..." (p. ii). However, after searching long and hard, I have never been able to find a single faculty member, administrator, or trustee at any college or university who will admit to ever having been contacted by Gourman or anyone acting on Gourman's behalf for any information whatsoever.

As is the case with all of the materials published in *College and University*, the opinions expressed by Mr. Webster are his own and not necessarily those of the American Association of Collegiate Registrars and Admissions Officers.
In Gourman's 1985 book on undergraduate education, he ranks institutions and various features of them on a three-point scale, with the possible scores ranging from 5.00 down to 2.01. Often a great many schools are clustered together, with each one's score only .01 or .02 above or below the score of the next school. His ten top-rated psychology departments, for example, score 4.95, 4.94, 4.93, 4.92, 4.91, 4.90, 4.88, 4.87, 4.86, and 4.84 (p. 106). This very close grouping of scores might be expected to result in many ties, but Gourman — as in his other nine books — avoids ties like the plague. Although his book contains more than 100 tables ranking departments or other features of colleges in their supposed order of excellence, no two departments or features are tied with the same score.

A third strange feature of this book is that Gourman confers lower scores on many small, highly regarded liberal arts colleges than most knowledgeable people would think that they deserve. For example, in Massachusetts he rates Amherst (4.13), Williams (3.91), and Wellesley (3.43) lower than both Boston University (4.27) and the University of Massachusetts at Amherst (4.15). In New York state, he ranks Sarah Lawrence (3.51) and Hamilton (3.44) below the City University of New York's College of Staten Island (3.58) and its John Jay College of Criminal Justice (3.57). In Ohio, he ranks Oberlin College (3.66) below Ohio State University (4.63), the University of Cincinnati (3.94), and Ohio University (3.90).

In Gourman's preface, he has written:

The most significant change in this Fifth Edition is, of course, in the ratings themselves. The evaluations of each school and curriculum listed are based on completely new research accomplished over a period of almost three years. (p. i)

Thus, it is quite disconcerting to find that many of Gourman's ratings are almost precisely the same as in the previous edition. For example, in Gourman's list of the 50 colleges and universities he claims are the best for "prelegal education" (p. 121), 45 of them have the identical rank and score, down to the hundredth of a point, as they did in the previous edition. Similarly, in his ranking of the 58 schools supposedly best for "premedical education" (p. 122), 50 of them have a rank order and score, down to the hundredth of a point, identical to those they had in the previous edition.
In Gourman’s state-by-state list of colleges and universities in which he confers a number on each of hundreds of institutions for the alleged quality of its undergraduate education, the situation is much the same. For Alabama, Gourman rates 26 schools. Two appear in his 1985 edition for the first time. Of the remaining 24, all boast the identical score, down to the hundredth of a point, that they received in the previous edition.

With all of his book’s faults, the most serious one is Gourman’s failure to describe his methodology in such a way that the reader can understand what procedures he followed in compiling his ratings. His description of his methodology (pp. 1-3) is so vague that it is simply impossible to learn what Gourman did. In the past, Gourman has told various people who sought to learn more about his methods that he has written a very long, extremely detailed description of his methodology that he eagerly wanted to publish along with his rankings. Sadly, however, his publishing company, National Education Standards of Los Angeles, refused to let him do so, on the grounds that publishing this enormous methodology section would “price the books out of the market.” What Gourman does not mention, when he tells this story, is that National Education Standards is owned entirely by Gourman and other individuals.

It is time for students, their parents, college administrators, and librarians to stop relying on the rankings published by Mr. Gourman.

David S. Webster
The University of Pennsylvania


Although written in technical language, Professor Dodd’s law review article offers the higher education administrator, in particular, those individual admissions officers and registrars responsible for institutional written representations, a perspective that needs to be understood.
Her article focuses on the concept of educational law which currently holds that the enrollment relationship between a student and a university is contractual in nature. This evolving historical concept she asserts is not a contract in the traditional sense. The terms and conditions are found in a multitude of various documents, catalogs, bulletins and circulares that are prepared by the institution and made available to students. Professor Dodd argues that the basic legal elements of a contract are not strictly followed in this relationship. Courts, however, have consistently held that this relationship is contractual in nature, but their findings do not follow the general principles of contract law. She argues throughout this article that a better concept to apply would be tort law as opposed to contract law.

She begins her article by tracing the evolution of the courts use of contract law in defining the enrollment relationship between the student and an institution. She points out that this relationship first started in tuition dispute cases. At first, the courts reviewed this relationship much like a business relationship not involving the student but rather involving a parent and the institution.

In following this historical perspective, she notes that this relationship actually lacks a true business bargained-for relationship. This, therefore, is an argument against using contract theory in defining this relationship.

Only in serious, unreasonable or arbitrary exercises of power by an institution will courts find a breach of the implied student institutional contractual relationship. This line of reasoning is the genesis of her argument for the use of an arbitrary and capricious standard in judging whether or not a student has suffered any harm as a result of actions by the institution. This reasoning better fits tort law theories.

She accurately points out that the frequent lack of a written contract or a catalog may also have contributed to the development of a generalized contract theory in these situations. Courts imply that there is a contractual relationship based upon an accumulation of documents theory. Courts generally like to defer to the judgment of academic officials, and therefore, the theory of contract law has been manipulated to put a heavy burden on students. She argues that if this relationship is contractual it might be a contract of adhesion. Adhesion contracts are those where a cloutless consumer must agree to accept the oppressive terms of a merchant.
The terms of the student institutional relationship are often written by school administrators not lawyers, who do not envision them to be binding and held under strict contract law. When these documents are drafted, the drafters cannot possibly envision every conceivable situation.

There is also a question as to when does a student receive the contractual information and when does the contract begin. Few students probably have received all of the relevant information prior to paying their fees and registering. Therefore, the student must accept the offer of the institution before knowing everything that is required of them.

By using tort law theory, Dodd argues that the courts can look at the reasonableness of the enrollment relationship between the student and the institution. They can look at any breach of duty owed the student when assessing whether the breach of duty was the cause of injury or harm to the student. The burden still rests on the student in these situations.

Tort theory which is favored by Dodd is generally based upon the relationship of persons to others. She points out that the relationship between a student and an institution is possibly closest to the familial relationship. She accurately points out that tort law, particularly, the concept of negligence is applicable in a number of other situations involving the students relationship to the institution.

Dodd’s argument is a strong and reasonable one. It seems to make the most sense considering the applicability of tort theories to many of the other situations involving institutional and student relationships. Irrespective of whether contract law or tort law should be applied in accessing a students enrollment relationship to the institution, this article offers a warning to drafters of institutional documents and the administrators of the policies related to these documents that reasonableness, fair play and breach of duty might be a new standard applied by courts when reviewing enrollment relationships.

Eric V. Iovacchini
The University of North Carolina
at Asheville

Not too many years ago, only persons with high career goals attended a college or university. Today, egalitarian considerations have enabled many people to attend an institution of higher education who at other times would not have been able or even interested. This broadening of the enrollment base has more than any other factor changed the character of the higher education in the United States. More women, minorities, older students, and others who have not traditionally sought admission, now comprise a significant percentage of the undergraduate population.

These new populations need special attention if they are going to realize their educational goals. Failure to provide special services will increase the probability that these students will drop out of the institution before completion.

However, altruistic considerations have not always been the motivating force behind colleges and universities adopting retention strategies which have proliferated across the United States during the past several years. Often institutional survival has prompted institutions to act to maintain their enrollment. *Increasing Student Retention* is addressed to everyone associated with higher education from the president to students in graduate programs in higher education and views retention from a student-centered perspective rather than from the perspective of survival.

The book is a series of essays composed by a group of authors who are well known for their expertise in the field of retention in higher education. The book is divided into four sections with each focusing on a different aspect of the overall retention strategy.

Section one offers a definition of a dropout which takes into account the student's purpose. Dropping out is defined as "those forms of departure involving individuals who are unable to reasonably complete what they came to the institution to achieve" (p. 39). This student-centered definition of the dropout takes into account the students' purposes and not the desires of the institution to maintain enrollments. The institution that is doing its job is the one which provides the services necessary for the student to realize his/her educational and life goals. This shift in focus permits the institution to be free of guilt over failing to retain every student who is admitted.

The second section describes the characteristics of those students
who are most likely to drop out; namely, low income students, academically underprepared students, students with uncertain academic goals, returning learners, and students who commute. These students, and in reality all students, need good advising, proper orientation to the institution, services which are accessible, and most importantly, quality instruction. Students need people who care about them if they are going to succeed.

Section three addresses key programming and activities which can be designed to foster retention. They are in reality the traditional services offered at most institutions with emphasis on providing quality service designed with retention in mind. Admissions offices should develop a marketing plan which will attract students who are not only interested in the institution and who will stay. In effect, it is suggested that an institutional packaging policy for financial aid offices would foster retention.

Orientation is defined as a process which should continue throughout the entire college experience. Intrusive advising and quality instruction provided by caring persons are other suggested activities for the retention of students. Retention activities are simply responding to the individual needs of students as they proceed through the institution.

The final section deals with guidelines for achieving retention results. Students are retained when the institution does a good job. This effort requires the commitment of every department and every individual at the institution. Emphasis must be placed on what the institution does well and efforts must be made to do that better. No retention effort will be successful without the sanctioning of the chief executive officer and the involvement and commitment of the teaching faculty. Operationally, this means a recognized reward system for faculty following their participation in the retention effort.

The book represents a summary of the best thinking on the retention issue which has evolved over the past several years. There are no new breakthroughs found here and many retention questions still need to be answered. Some of the deficiencies in our understanding of retention are raised in the book, for instance, “a major shortcoming of previous research on dropouts is the inadequate attention given to the question of definition and to the development of theoretical models that explain rather than merely describe why students withdraw” (p. 85).
A question not raised by any of the authors relates to the cost effectiveness of the strategies used to retain students. Elaborate schemes are designed with retention in mind, but nowhere is discussed the effectiveness of the plan. More research needs to be done answering the fundamental question as to whether or not it works.

Finally, the book is weak on suggestions of activities for the practitioners to utilize in the day-to-day operation of his/her office. Even the thirteen case studies included in the book offer little in the way of practical suggestions.

Although the book is divided into four sections, clearly delineated in the table of contents, there is no indication between chapters in the body of the book where one section ends and another begins. This addition would have contributed greatly to the readability of the book.

Robert P. Merz
Assistant Vice President for
Student Affairs
University of Northern Colorado


In Hossler's earlier book *Enrollment Management: An Integrated Approach* Professor Hossler and his colleagues provided a fine theoretical base for the concept(s) of enrollment management. In addition, an outstanding bibliography of the available literature was also provided.

In his second work *Creating Effective Enrollment Management Systems*, Hossler has provided a very pragmatic resource. Without excessive repetition of the material covered in his first volume, he has provided further discussion of enrollment management, its systemic nature, the various models of implementation, and some options for the implementation of enrollment management at individual colleges and universities.

It is arguable that the four case studies which are included in this work are among the most useful parts of the book. Using case sto-
ries written by administrators at a wide variety of institutions, the reader is provided with a "cookbook" filled with potential recipes for the creation, implementation and monitoring of enrollment management at specific institutions. Hossler's brief and even-handed commentary on each case aids in the understanding of the common threads which do or do not flow through these four implementations of enrollment management.

Each of us knows of institutions which are searching for a cookbook solution to their enrollment problems. Hossler's works fall short of offering a standard cookbook. Indeed, there is no single solution for the enrollment challenges of more than a handful of institutions. Through the theoretical bases described in both of Hossler's books and the case stories provided in Creating Effective Enrollment Management Systems, any admissions officer, registrar, or aspiring "enrollment manager" can glean valuable ideas which have clear potential for assisting in the solution of institutional enrollment challenges.

It is perhaps of interest that College & University played a very minor role in suggesting that Hossler's first book be followed by a more "how to" sort of volume. Don Hossler is to be commended for proceeding with his second book, and the College Board deserves the thanks of our profession for risking in such a venture. It is doubtful that Hossler, the College Board, or very many admissions officers and registrars will be disappointed.

James C. Blackburn
Editor, College & University


When people make their points well, we often say, "they have done their homework." It is not surprising that Harold Hodgkin-
son has done his homework. He has, for several years, been a much sought after speaker and a prolific author. Good students almost always do their homework.

The best attributes of Hodgkinson’s having written these two reports is that he and his colleagues have done a lot of our homework too. Admissions officers and registrars can well apply many of his findings to our work. In essence, the author has analyzed simple and readily available demographic data and applied the implications of these data to the immediate future(s) of higher education. All of this has been accomplished in a brief, well documented and persuasive style.

In “All One System: ...”, Hodgkinson has presented and discussed, major demographic trends, retention of students to high school graduation, the transition to college, and completion of collegiate programs. All of these topics are of compelling interest to admissions officers and registrars.

In the second report California: The State and Its Educational System, Hodgkinson uses some of the same data sources and applies his analysis to California. This is done partly under the assumption that many California events are precursors of events in many other states.

Such assumptions have not always been correct. But, the status of the Golden State as a harbinger has been obvious in a surprisingly high number of occasions. The point is that these two reports may be among the best 25 pages that an enrollment manager can read this year. Hodgkinson has offered us ample food for thought. Hopefully these thoughts will encourage action in response to the rapidly changing demographics of our nation.

James C. Blackburn
Editor, College & University
THE AMERICAN ASSOCIATION OF COLLEGIATE REGISTRARS AND ADMISSIONS OFFICERS, founded in 1910, is a professional education association, voluntary and non-profit, of cooperating collegiate level institutions. Its general purpose is to promote the advancement of education, particularly higher education, and the professional enhancement of administrative aid, institutional research, records, registration and closely related functions among institutions of higher learning.

* * *

COLLEGE AND UNIVERSITY welcomes for consideration MANUSCRIPTS from throughout the world. They should be sent to James C. Blackburn, Editor, College and University, 102 Longsdorf Hall, California State University-Fullerton, Fullerton, CA 92634.

Manuscripts relating to the general and specific purposes of AACRAO, and those concerned with emerging issues relating to the responsibilities and functions of AACRAO members and new patterns for dealing with them are desired. Members of AACRAO are encouraged to submit them.

Manuscripts should be prepared in a standard format. Brevity is a much desired quality. One copy, only, the original, need be submitted. Send a stamped envelope for the return of unpublished manuscripts. Name, position and mailing address of author and co-authors are requested. The author assumes responsibility for obtaining permission to quote published material and for the accuracy of references. Manuscripts relying upon extensive quotations for content normally are not considered suitable for COLLEGE AND UNIVERSITY.

Manuscripts should not exceed 20 typewritten double-spaced pages. Lengthy displays of data are discouraged. Most manuscripts accepted for publication are written in the past tense and the third person.

Reprints of articles may be ordered on blanks sent with galleys. Authors receive without cost two copies of the number of COLLEGE AND UNIVERSITY to which a contribution has been made.

Papers previously published cannot be accepted. It is expected that authors will not publish elsewhere papers submitted to and accepted by COLLEGE AND UNIVERSITY.