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FEATURES

Admission Models for At-Risk Graduate Students in Different Academic Disciplines

C. Van Nelson, Bobby G. Malone, and Jacquelyn S. Nelson

Service Quality in Higher Education: Expectations versus Experiences of Doctoral Students

James H. Lampley, Ed.D.

The College Decision-Making of High Achieving Students

George Bradshaw, Suzanne Espinoza, and Charles Hausman

Measuring the Efficacy of Telemarketing in Student Recruitment

Susan Wyatt Sedwick, D. Stanley Carpenter, Nestor W. Sherman, and Alan Tipton

THE FORUM

Commentaries

International Resources

Book Review



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Fall 2001 Volume 77 Number 2

Features

3 Admission Models for At-Risk Graduate Students in Different Academic Disciplines

C. Van Nelson, Bobby G. Malone, and Jacquelyn S. Nelson constructed admission models to predict the success of at-risk graduate students in obtaining master's degrees.

9 Service Quality in Higher Education: Expectations versus Experiences of Doctoral Students

James H. Lampley's research employed gap analysis to gain insight into the service quality expectations and experiences of doctoral students at state-supported universities in Tennessee.

15 The College Decision-Making of High Achieving Students

The authors, George Bradshaw, Suzanne Espinoza, and Charles Hausman, studied the college decision-making process of academically talented students and found that these students engage in the process differently than typical high school students.

23 Measuring the Efficacy of Telemarketing in Student Recruitment

Susan Wyatt Sedwick, D. Stanley Carpenter, Nestor W. Sherman, and Alan Tipton discuss the use of telemarketing in recruitment efforts and how it can address the needs of potential students.

The Forum

Readers' perspectives through Q&A, guest commentary, letters, and book reviews.

29 Commentaries

41 International Resources

45 Book Review

46 Index for Volume 76

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Editor's Note

As I sit at my desk reviewing the last of the summer reports and budgets, I remember fondly the years when summer meant taking a deep breath. It was a time for planning, review, and vacation. I guess I'm now joining my mother's generation of remembering "the good ole days."

Also, as I review the articles appearing in the Fall issue, I realize how professionally diverse we must be as administrators. To be

truly successful and effective, we must be telemarketers, computer specialists, academic specialists, customer service advocates, budgetary officers, and others on a list too lengthy to mention. Therefore, I am grateful for journals such as *C&U* that aid me in the complex issues of higher education in today's world.



Instructions to Authors

The *C&U* Advisory Committee welcomes manuscripts for publication in *College & University*, AACRAO's scholarly research journal. AACRAO members are especially encouraged to submit articles pertaining to their own experiences with emerging issues or innovative practices within the profession.

Submit manuscripts, letters to the editor, and direct inquiries to:

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Santa Barbara, CA 93106
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College & University also welcomes comments on articles, timely issues in higher education, and other topics of interest to this journal's readers in the form of guest commentary. We especially invite AACRAO members to participate in reviewing books.

Submit commentary, book reviews, and other non-refereed pieces to:

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The editor will acknowledge receipt of manuscripts (letters will not be acknowledged) and will forward them to members of the *C&U* Advisory Committee for review. The Committee will consider the appropriateness of the article for AACRAO's membership,

the current needs of the professions, the usefulness of the information, the nature and logic of the research methodology, clarity, and the style of presentation.

This review may take as long as three months, after which the *C&U* editor will inform the author of the manuscript's acceptance or rejection.

Manuscript Preparation

Manuscripts for feature articles should be no longer than 4,500 words. Manuscripts for guest commentary and book reviews should not exceed 2,000 words. Letters to the editor will ordinarily be limited to 200 words.

All submissions must be saved to an IBM-compatible disk (Microsoft Word, preferably) and include a hard-copy original printed on 8.5" x 11" white paper. Because the Committee has a blind review policy, the author's name should not appear on any text page. A cover sheet should include the title of the manuscript, author's name, address, phone and fax number, and e-mail address.

References should be formatted in the author-date style and follow guidelines provided on page 526 of *The Chicago Manual of Style*, 14th edition. A list of references should appear at the end of the article. Text citations also follow the author-date format; examples may be found on page 641 of the *Manual*. For more information or for samples, please contact the *C&U* editor.

In addition to being placed in the manuscript, the data for essential tables and charts should also be included in a separate Microsoft Excel (spreadsheet) file.

All submissions are accepted for publication with the understanding that the *College & University* editors reserve the right to edit for clarity and style. Please do not submit articles that are under consideration for publication by another periodical.

Authors whose manuscripts are selected for publication will be asked to submit a short biographical statement and an abstract of their article, each no more than thirty-five words.

Admission Models for At-Risk Graduate Students in Different Academic Disciplines

Abstract

In this study, models were constructed for seven academic areas to predict whether or not an at-risk graduate student will be successful in obtaining a master's degree. Predictor variables were combined in both compensatory and conjunctive models in an attempt to find the best predictors for each academic area. At-risk students, compensatory, and conjunctive are defined fully in the article.

Objectives and Theoretical Framework

Departmental admissions committees of master's level graduate programs are faced with the task of admitting students who have the greatest potential for success. There are students for whom either their undergraduate grades or their Graduate Record Examinations (GRE) scores indicate that they may be at-risk when completing further academic work. Some students who have a rather poor undergraduate record are admitted to graduate school and become outstanding graduate students. Students with less than distinguished academic backgrounds may, in fact, have exemplary performance in a job setting. Thompson and Kobrak (1983), when predicting the success of students in a Master of Public Administration program, suggested that it was not necessary to "accept any person who comes to us regardless of academic background, but particularly for a discipline that prides itself on working with practitioners, it does require that we examine them on the basis that they appear before us" (p. 182). Other students who are at-risk for success in graduate school, however, do not perform satisfactorily. These students end up using the resources of the institution that may benefit a more competent student. Such students who are not capable of graduate work may consume disproportionate amounts of faculty time. Even worse, professors may lower their expectations in courses to accommodate these students. The objective of this study was to establish prediction models for different academic areas that may serve to select graduate students who are the most likely to succeed.

It seems logical that different academic disciplines would require different skills. A master's degree that is regarded as a practitioner's degree has skill requirements which differ from a master's degree that is highly theoretical. Thornell and McCoy (1985) examined the predictive validity of the Graduate Record Examinations (GRE) and the graduate grade point average (GGPA) for subgroups of students in different disciplines and found variations in the coefficients of correlation between GRE components and GGPA for different disciplines. Twenty years earlier in a study by Madaus and Walsh (1965), differing Beta weights for regression

equations were determined for students in different areas. Later investigations found that the area of study was itself a predictor of success for at-risk students in graduate work (Nelson and Nelson 1995; Nelson, Nelson, and Malone 2000).

How does one measure success in graduate school? Some studies have utilized GGPA to determine success in a graduate program (Carlson 1995; House and Keeley 1993; Kingston 1985; Madaus and Walsh 1965; Monahan 1991; Morrison and Morrison 1995; Rhodes 1994; Vaseleck 1994). Other researchers have examined the completion of the graduate degree program (Case and Richardson 1990; House and Johnson 1993; Mitchelson and Hoy 1984; Thompson and Kobrak 1983). More recent studies have used both GGPA and degree completion as measures of success in graduate school (Nelson and Nelson 1995; Nelson, Nelson, and Malone 2000). Thus, two criteria may be utilized for measuring success: 1) completion of the degree; and 2) GGPA. While these two measures are positively correlated (a student must maintain a minimum grade point average to remain in a graduate program), a high grade point average does not ensure that a student will complete the degree requirements. For graduate programs that have spaces for students, but do not want to admit students whose probability of

C. Van Nelson is Professor of Computer Science at Ball State University. He earned his doctorate in Educational Research from Indiana University and has published papers in evaluation of instruction and application of neural networks to classification problems.

Bobby G. Malone, Associate Professor of Educational Leadership at Ball State University, earned his doctorate at Mississippi State. He teaches the research colloquium for doctoral students and conducts research in the superintendency and principalship.

Jacquelyn S. Nelson, Ph.D., is Assistant Dean of the Graduate School and Adjunct Professor of History at Ball State University. She has written a book, published articles in historical journals, and has presented papers on issues concerning graduate education.

completing the requirements is low, a prediction of the completion of the degree is appropriate. For graduate programs where the number of students that may enroll is restricted, GGPA may be the better criterion.

Thompson and Kobrak (1983) suggested that the primary variables that predict success in a graduate program are perceived to be intelligence and commitment. Mitchelson and Hoy (1984) labeled these variables as intelligence and motivation. Madaus and Walsh (1965), in noting the coefficient of multiple determination (the R-squared statistic) as being quite low in their study of predicting GGPA from GRE scores, suggested that "other factors probably include differences in student motivation, in previous training and in personality factors" (p. 1108). Obviously, the problem is to find ways of assessing the variables of intelligence and motivation. Two such measures are the variables of undergraduate grade point average (UGPA) for motivation and GRE scores for intelligence.

Mitchelson and Hoy (1984), in considering measurements of intelligence and motivation, suggested that additive or compensatory models, *i.e.*, intelligence + motivation, might not be adequate. If GRE scores are considered as a measurement of intelligence and UGPA a measurement of motivation, motivation alone may not compensate for a lack of innate ability. In the additive model, high motivation may compensate for low intelligence and vice versa. Einhorn (1971) described a conjunctive model, which may be more appropriate. In this model, standardized measures were multiplied instead of added. In the application of the conjunctive model, intelligence \times motivation, high motivation could not compensate for a weak intelligence factor, nor could intelligence compensate for a lack of motivation. In the current study, both conjunctive and compensatory models were utilized.

One assessment of previous training is the Carnegie classification of the college or university from which the student received his/her undergraduate degree. Under the Carnegie classification scheme, institutions are classified as research, doctoral degree granting, master's degree granting, and baccalaureate degree granting. Nelson, Nelson, and Malone (2000) found that the type of institution from which at-risk students earned their bachelor's degree was a factor in program completion. In their study, students from master's level institutions had the highest graduate rate (74.4 percent). In contrast, only 59.2 percent of the students from baccalaureate institutions earned the master's degree.

This study was conducted at a medium-size Midwestern university with an average total enrollment of 17,500 students, including a graduate enrollment of 2,600 students. The subjects in the study came from those students who applied for master's level graduate study for the years 1987–1999 who were defined as at-risk or probationary, and were United States citizens whose first language was English. International probationary students were not included because these students were not required to take the GRE, one of the criteria used to determine whether or not a probationary student could be granted full admission to a graduate program. A graduate student was considered to be at-risk if the undergraduate grades did not meet the minimum admission requirements of the university, *i.e.*, the cumulative UGPA was less than 2.75 and the latter-half of baccalaureate work was less than 3.0 on a four-point grading scale. All proba-

tionary students, if supported by their academic departments, completed a nine-hour directed plan of study. Departmental admissions committees used the grades from those three courses and GRE scores to determine if full admission to a graduate program was warranted.

Procedures and Methodology

Eight general areas of study were considered and are listed below. The number of students granted probationary status to the specific areas for which complete records were available is provided in parentheses:

- 1 Applied sciences (212)
- 2 Communication sciences (168)
- 3 Education (212)
- 4 Humanities and arts (37)
- 5 Life sciences (77)
- 6 Physical sciences (84)
- 7 Psychology (39)
- 8 Social sciences (87)

Two dependent variables were analyzed in this study. The first dependent variable was completion or non-completion of the degree. A student who had not completed the master's degree and had not taken coursework within one year of this study was assumed to be inactive and was placed in a non-completion category. Students who successfully completed the master's degree were coded as a "1" and those who did not complete the degree were coded as a "0." The second variable was GGPA calculated after nine semester hours of graduate coursework. The choice of nine hours was based not only on institutional requirements for probationary students, but on previous research that discovered no significant difference in GGPA in a student's first nine semester hours or first year of graduate study and the student's GGPA at the completion of the graduate course of study (Kingston 1985; Nelson and Nelson 1995; Nelson, Nelson, and Malone 2000; Rhodes 1994; Thompson and Kobrak 1983; Vaseleck 1994). Since most of the grades earned by students in graduate work are either "As" or "Bs," there is a narrow variance in the GGPA. Therefore, the GGPA was dichotomized. A GGPA of 3.5 or higher was coded as a "1," and a GGPA of less than 3.5 was coded as a "0." While the categories may be somewhat arbitrary, it should be noted that a GGPA of above 3.5 indicated that the graduate student earned more "A" grades than grades lower than "A," while a GGPA of less than 3.5 indicated a somewhat weaker academic record.

The predictor variables fell into two categories: 1) continuous; and 2) categorical. The continuous predictor variables included UGPA, the GRE verbal (GREV), the GRE analytic (GREA) and the GRE quantitative (GREQ) scores. A linear transformation was performed on the GRE scores to put these scores on the same scale as UGPA. The products UGPA \times GREV, UGPA \times GREA and UGPA \times GREQ were included as the conjunctive part of the model.

The categorical variables included gender, race, and the Carnegie classification of the institution from which the student earned the undergraduate degree. The institutions were categorized as research, doctoral level, master's level, baccalaureate, and other. Deviation contrasts were constructed to com-

Table 1: Stepwise Logistic Regression for Successful Completion of the Master's Degree

Predictor variable	Applied Sciences		Comm. Sciences		Education		Humanities and Arts		Life Sciences		Physical Sciences		Psychology		Social Sciences		
	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	
Race																	
Gender			-0.47	.21			1.97	.12									
Institution type		.09															
Contrast 1	-1.55	.55					2.38	.05									
Contrast 2	-0.31	.90					-0.74	.61									
Contrast 3	-1.41	.59					.51	.61									
Contrast 4	5.09	.62															
UGPA			-19.35	.07										217.21	.01		
GREV					-0.08	.01	-0.26	.15	.16	.01	.05	.10	.32	.06			
GREA			.0045	.06	.08	.01	-0.30	.05	-0.17	.01	-0.04	.11	.29	.08			
GREQ			-0.05	.08			.58	.02								.01	.00
GREV*UGPA	.54	.04			9.42	.01	32.83	.12	-20.46	.01	-5.34	.11	-38.41	.06			
GREA*UGPA	-0.55	.00			-9.32	.00	36.17	.05	20.65	.01	5.00	.11	-32.55	.09			
GREQ*UGPA			6.43	.09			-69.93	.02									
Constant	2.45	.39	26.43	.07	0.25	.88	-4.70	.49	-0.26	.91	.11	.95	-313.05	.01	-3.75	.00	

pare the research, master's level, baccalaureate, and other institution category with the doctoral category.

The backward stepwise logistic regression procedure of SPSS, release 6.1, for a DEC Alpha computer running VMS version 7.1 was used to predict the dependent variables for each of the academic areas from the predictor variables described above. The criterion for removal of a variable from the model was the change in significance of the log likelihood ratio when the variable was eliminated from the model.

Findings

Table 1 displays the Beta weights and the significance of these weights for each of the academic areas for predicting completion of the master's degree. No entry in a particular cell indicates that the variable was not a significant predictor of successful completion of the degree. Such variables were eliminated when the stepwise regression was performed. The regression equations whose weights are given in Table 1 produced the percentages of success displayed in Table 2.

For each academic area, the model created for the area was at least 75 percent accurate in predicting the number of students

who would finish the program and obtain the master's degree. The accuracy in predicting those students who would not complete the degree was particularly weak in communication sciences and education.

The second set of analyses was performed to predict the dichotomized grades ("o" GGPA < 3.5, "I" GGPA >= 3.5) from the same predictor variables. Table 3 gives the Beta weights and the significance of these weights for each of the academic areas.

The area of humanities and arts was not included in Table 3 since the significance of the Beta weights was weak. This academic area does not admit many probationary students. Furthermore, it is difficult to compare student grades for private lessons in music, one of the disciplines included in this category, with student grades in a classroom setting, e.g., English or history. The results of applying the logistic equations to the remaining academic areas are presented in Table 4.

Except for communication sciences, the models were more than 60 percent accurate in predicting the number of students who would have a GGPA of 3.5 or above. The accuracy in predicting GGPA below 3.5 was highest for communication sciences.

Table 2: Logistic Regression Results for Prediction of Completion

Area of Study	Completions Observed			Non-Completions Observed			Overall Prediction Accuracy (%)
	Predicted Completion	Predicted Non-Completion	Observed as Predicted (%)	Predicted Non-Completion	Predicted Completion	Observed as Predicted (%)	
Applied Sciences	136	7	95.10	12	57	17.39	69.81
Communication Sciences	128	2	98.46	3	35	7.89	77.98
Education	146	3	97.99	5	48	9.43	74.75
Humanities and Arts	17	3	85.00	14	3	82.35	83.78
Life Sciences	40	8	83.33	14	15	48.28	70.13
Physical Sciences	34	10	77.27	19	21	47.50	63.10
Psychology	18	4	81.82	12	5	70.59	76.92
Social Sciences	43	10	81.13	17	17	50.00	68.97

Table 3: Stepwise Logistic Regression for Prediction of Dichotomized GGPA

Predictor variable	Applied Sciences		Communication Sciences		Education		Life Sciences		Physical Sciences		Psychology		Social Sciences	
	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig
Race			.79	.05	.58	.03					1.36	.04		
Gender	.34	.03			.30	.07								
Institution type													.38	
Contrast 1											7.11	.78		
Contrast 2											-1.97	.82		
Contrast 3											-1.71	.84		
Contrast 4														
UGPA			-18.96	.03										
GREV	.0061	.00	-0.045	.06			.15	.01						.0057 .07
GRE									-0.08	.03				.0060 .03
GREQ							-.15	.01	.07	.04				
GREV*UGPA			6.50	.03	.47	.02	-17.41	.01						
GRE*UGPA									10.03	.03				
GREQ*UGPA							17.48	.01	-8.67	.04				
Constant	-1.83	.01	21.08	.06	-2.60	.06	-0.58	.80	-6.82	.00	2.15	.80	-5.43	.00

Summary and Conclusions

No model can predict with 100 percent accuracy which graduate students will be successful and which graduate students will not be successful. Students may have to discontinue their graduate studies for non-academic reasons. Health, financial, or family situations may influence students' decisions to complete their degrees. Also, candidates who show great potential may lose interest in their studies and drop out or perform poorly. However, we do have measures of performance, when analyzed collectively, that can help in predicting success and give an academic advisor some basis for either admitting or rejecting a candidate.

In predicting whether or not a candidate will complete the master's degree, the GREV was a predictor in five of the eight academic areas under study, while the GREV combined conjunctively with UGPA as a predictor in six of the eight areas. The conjunctive combination of the GREV with UGPA predicted variance that could not be predicted by the GREV alone. While UGPA was a significant predictor of success in only two of the eight areas, the conjunctive combination with one or more of the GRE scores with UGPA was a significant predictor in seven of the eight areas. It may be the case that students in communication sciences enrolled in that area because they possess communication skills and the GREV or the conjunctive combination

of the GRE with UGPA does not predict a significant amount of the variation among these students. Certainly, writing skills are important to success in graduate work, and this accounts for the fact that the GREV, either alone or in combination with the UGPA, is a significant factor in predicting degree completion.

The type of institution from which the student received the undergraduate degree was a significant predictor only in applied sciences and humanities and arts. One argument may be that in the other academic areas, the undergraduate preparation may be uniform among the types of institutions, while in applied sciences and humanities and arts, the curricula may differ among institutions. For example, the undergraduate curriculum at a music conservatory may be more intense than the music curriculum at a comprehensive university.

An evaluation of Table 1 does indicate that since there are some factors that are not common among the eight academic areas, a different model should be created for each area. In fact, a refinement of the model for physical sciences should be done for a specific discipline within the area, for example mathematics.

The logistic models presented in Table 1 produced the prediction percentages given in Table 2. The overall accuracy ranged from a low of 63.1 percent for the physical sciences to a high of 83.8 percent for humanities and arts. For those students

Table 4: Logistic Regression Results for Prediction of GGPA

Area of Study	GGPA of ≥ 3.5 Observed			GGPA of < 3.5 Observed			Overall Prediction Accuracy (%)
	Predicted GGPA of ≥ 3.5	Predicted GGPA of < 3.5	Observed as Predicted (%)	Predicted GGPA of < 3.5	Predicted GGPA of ≥ 3.5	Observed as Predicted (%)	
Applied Sciences	119	16	88.15	18	59	23.38	64.62
Communication Sciences	38	33	53.52	78	20	79.59	77.98
Education	142	6	95.95	6	48	11.11	73.27
Life Sciences	45	4	91.84	8	20	28.57	68.83
Physical Sciences	33	11	75.00	24	16	60.00	67.86
Psychology	24	1	96.00	5	9	35.71	74.36
Social Sciences	29	15	65.91	29	14	67.44	66.67

who actually completed the degree, the accuracy ranged for 77.3 percent to 98.5 percent. However, the prediction accuracy was lower for students who did not complete the degree. This accuracy extended from a low of 7.9 percent to a high of 70.6 percent. Thus, the prediction error is in the right direction: it is better to admit a student who does not complete the degree, than to deny a student who would complete the degree.

It is important to note that if success is measured by the dichotomized GGPA, as opposed to completion or non-completion of the degree, the predictors differ and the Beta weights for the same dependent variables differ. This is evident by comparing Table 1 with Table 3. The overall prediction of success as displayed in Table 4 ranged from 64.6 percent to 78 percent, which is not greatly different from the success rate shown in Table 2. For students who were in the higher GGPA classification, the accuracy of the prediction ranged from a low of 53.5 percent to a high of 96 percent. The poorest prediction for students who were in the higher GGPA classification was in communication sciences. However, of the students who actually were in the lower GGPA category, the prediction was the highest (80 percent) for students in communication sciences.

While admission of a student to a graduate program should be a decision that rests with the department, the overall model suggested by Nelson, Nelson and Malone (2000) may be appropriate for screening students who should not be admitted to any graduate program. After initial evaluation by the graduate school with the overall model, the department may then make a selection among prospective students utilizing the discipline-specific model established in this study.

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Service Quality in Higher Education: Expectations versus Experiences of Doctoral Students

Abstract

Despite the importance of measuring service quality in today's educational marketplace, little empirical research has been conducted in the delivery of professional services to doctoral students in higher education. This research employed gap analysis to gain insight into the service quality expectations and experiences of doctoral students at state-supported universities in Tennessee.

Background

Because of an increase in consumer sensitivity, an intensification of competition, and an ever-increasing emphasis on accountability by the governing bodies of colleges and universities, professional service quality in higher education has emerged as a subject in need of investigation. Meeting or exceeding the customer's expectations in the delivery of services has been shown to increase market share and can be a key factor in maintaining a competitive business advantage (Berry 1995). A long list of successes, credited to TQM and TQS, in the business sector has prompted institutions of higher education to imitate the business model of measuring service quality (e.g., Boulding *et al.* 1993; DiDomenico and Bonnici 1996; Hampton 1993; Kearney and Kearney 1994; Schwantz 1996).

Quality Improvement (QI), Total Quality Management (TQM), Continuous Quality Improvement (CQI), or any number of other titles and acronyms have been used to describe the principles that have evolved from W. A. Shewhart's work at Bell Telephone Laboratories in the early 1920s on statistical quality control (Seymour 1992). Shewhart developed the concept of improving quality by improving processes. All of the quality improvement acronyms listed above evolved from "total quality control," originally coined by A. V. Feigenbaum in 1951 (Sherr and Lozier 1991). Seven decades after Shewhart developed the concepts that helped transform businesses around the world, rapid change has again brought opportunities and special challenges to people who seek to help their organization perform better. During the past two decades, a demand for better quality in products and services has caused a rebirth of interest in, and a renewed appreciation for, Shewhart's work. Organizations are learning how to standardize processes, solve problems, eliminate waste, and reduce variation in order to make significant gains in quality and productivity (Joiner 1996).

Because of his successes in Japan and throughout U.S. industry, W. Edwards Deming is considered the preeminent 20th

Century authority on quality and quality improvement in both the manufacturing and service industries (Stamatis 1996). Deming's contributions are important for two reasons. First, Deming was an early practitioner of total quality, and much of the work in the field is directly or indirectly influenced by his ideas. Second, Deming's Fourteen Principles provided the foundation for a philosophy of quality improvement that has transformed American business (Deming 1986). The theories of Juran, Crosby, and Taguchi have also made notable contributions to the application of quality concepts to the service industry.

Two premises that emerged from the research and literature on service quality improvement formed the underlying rationale for the current study: (1) customers do evaluate service encounters and the process of service delivery to form perceptions of service quality and, ultimately, organizational quality; and (2) services are definable, measurable, and improvable (Parasuraman, Zeithaml, and Berry 1985).

GAP ANALYSIS METHODOLOGY

The one factor that can distinguish competitors in a service environment is service quality. Quality has always been an important consideration in the purchase of goods and services. Although the quality of goods can be measured objectively by using indicators such as durability and defects, because of factors unique to services and to the delivery of services, the measurement of service quality has proven to be more difficult (Falzon 1990). However, proven service quality measurement methods are beginning to emerge as more research occurs in the field (Parasuraman, Zeithaml, and Berry 1988a, 1988b, 1991).

Jim Lampley is the Director of Institutional Research and an Assistant Professor of Education at King College in Bristol, Tennessee.

Parasuraman, Zeithaml, and Berry's (1985) original service quality research, based on focus group interviews in 1983, found that consumers defined service quality as meeting or exceeding what customers expected from the service. Such gaps, or differences, between the customer's expectations and what is actually experienced, is the basis for the gap analysis methodology. The SERVQUAL model (Zeithaml, Parasuraman, and Berry 1990) for measuring consumer perceptions of service quality was a product of the three authors' early research. SERVQUAL is a multiple-item scale for measuring consumer perceptions of service quality (Zeithaml, Parasuraman, and Berry 1990). The instrument is a two-part questionnaire, with 22 items measuring expectations of customers and 22 similarly worded items measuring perceptions or experiences of customers. Assessing the quality of service involves computing the difference between the ratings customers assigned to the paired expectation/perception statements.

Methodology

INSTRUMENT

This instrument was a questionnaire composed of two scales, "Expectations" and "Experiences," each with 26 questions, which were grouped into seven dimensions. The questionnaire contained four sections. The first section gave the purpose of the study and directions for completion of the questionnaire. Section two of the instrument contained questions concerning demographic and professional information. The third section contained response items about students' expectations of service quality at their institutions of higher education and response items about students' actual experiences with the same services. A Likert-type scale (1-Strongly Disagree; 2-Disagree; 3-Neither Disagree nor Agree; 4-Agree; 5-Strongly Agree; and Don't Know) was used to generate responses for each of the expectation and experience items. Section four of the instrument contained five questions about the respondent's overall satisfaction with his or her university. All respondents completed identical questionnaires.

The researcher designed the questionnaire used in this study. However, it was adapted, with permission of the authors, from the SERVQUAL questionnaire (Zeithaml Parasuraman, and Berry 1990). A panel of individuals knowledgeable in educational assessment reviewed the questionnaire. The panel consisted of 15 doctoral students enrolled in a terminal research course in the Department of Educational Leadership and Policy Analysis at East Tennessee State University. This panel evaluated the instrument for content and face validity. The panel reviewed the initial items and suggested revisions and content areas that were omitted. Revisions were made and items reflecting this content were then added. The final version was then reviewed and approved by the panel (DeVellis 1991). A pilot study of the instrument was administered to 25 East Tennessee State University doctoral students, who were then excluded from the study. To test for face validity, this group of respondents was asked to mark any item that seemed irrelevant for a survey of service quality in higher education. A review of comments confirmed that the instrument and each item seemed appropriate for this survey.

To increase the reliability of the instrument, respondents to the pilot instrument were also asked to mark items that were unclear or ambiguous. Internal consistency reliability of the measures for the study was determined using Cronbach's coefficient alpha (Cronbach 1960). The resulting coefficients were .94 for the Expectations scale and .92 for the Experiences scale of the instrument.

PARTICIPANTS

This research asked doctoral students to compare their experiences with their expectations, thereby giving a measure of gaps in educational service quality. Gap scores were computed by subtracting a respondent's experience score on an item from his or her expectation score on that item. Doctoral students enrolled in a graduate degree program leading to a Doctor of Education (Ed.D.), a Doctor of Arts (D.A.), or a Doctor of Philosophy (Ph.D.) degree and attending one of the six participating universities were chosen as the target population. The accessible population was designated as doctoral students currently enrolled in coursework or otherwise readily accessible to the participating departments (*e.g.*, graduate assistants, doctoral fellows, lab assistants, research assistants, teaching assistants). This study did not generally include doctoral students enrolled in the dissertation phase of their programs at the time of data collection because most dissertation students were not readily accessible. A total of 300 usable questionnaires were returned from the accessible population of 598 doctoral students, a return rate of 50.2 percent.

The researcher asked doctoral students to answer six demographic questions regarding their gender, age, ethnicity, number of semester hours currently enrolled, and type of degree. Over 52 percent of the respondents were female, and the overwhelming majority of the respondents (75.5 percent) were white. A majority of the respondents (65.3 percent) were seeking a Ph.D. degree; 8.7 percent were seeking a D.A. degree; and 25.7 percent were seeking an Ed.D. degree. The age of the respondents ranged from 22 to 63, with a mean of 34. Semester hours enrolled ranged from 2 to 18, with a mean of 7.97 semester hours. Thirty-one departments from the six participating universities were represented in the data.

Cross-tabulations for gender to ethnicity and type of degree to ethnicity show that males were in the majority within all ethnic groups, with the exception of White respondents (for White respondents, 56.5 percent were female). Students seeking the Ph.D. degree were the most prevalent across all ethnic groups, with Asian students showing the highest percentage of Ph.D. students for any group (97.0 percent). Slightly more male students (50.3 percent) were seeking the Ph.D. degree than female students (49.7 percent). However, a clear majority of students seeking the Ed.D. and D.A. degrees were female (58.4 percent and 60.0 percent, respectively).

Scale Dimensions

To verify the dimensionality of the 26 items in the adapted scale, gap scores (Expectation minus Experience) for each of the items were factor analyzed. The original SERVQUAL scale consisted of

five dimensions. However, researchers doing replication studies have found anywhere from one to seven dimensions for the SERVQUAL scale (Parasuraman, Zeithaml, and Berry 1988b). Factor analysis was used to extract the components of the adapted scale, a procedure that was followed by a varimax (orthogonal) rotation. In interpreting the rotated factor pattern, an item was said to load on a given dimension if the factor loading was .40 or greater for that item and was less than .40 for the others (Hatcher and Stepanski 1994). As a result of this procedure, 25 of the 26 items were placed into seven dimensions. One item, question #4 (highest factor loading = .34), was dropped from the analysis. Seven items were found to load on the first dimension, which the researcher subsequently labeled "Responsiveness/Caring." Five items loaded on the second dimension, which was labeled "Records/Paperwork." Four items loaded on the third dimension, which was labeled "University Services." Three items loaded on the fourth dimension, which was labeled "Accessibility/Safety." Two items loaded on each of the final three dimensions, which the researcher labeled "Knowledge/Scheduling," "Facilities/Equipment," and "Public Relations," respectively. The seven dimensions that emerged as a result of the factor analysis and associated items are presented in Table 1.

Data Analysis and Findings

Doctoral students were also asked to answer five questions regarding their overall satisfaction with their university. Respondents answered the overall satisfaction questions on a five-point scale (strongly agree to strongly disagree). A composite mean of these five questions was calculated to form an overall satisfaction score.

As shown in Table 2, the composite mean for the overall satisfaction portion of the scale was 3.90. Overall satisfaction question #3, "satisfaction with business and support staff," displayed the smallest mean (3.75) of the five questions. Question #2, "satisfaction with department faculty and staff," displayed the largest mean (4.12) of the five questions. This finding generally indicated that, as a group, doctoral students seemed to be very satisfied with the services provided by their departments.

A paired-samples t-test was used to determine if differences existed between the expectations and experiences of doctoral students. This analysis revealed a statistically significant difference between the means of all paired scores ($p < .05$), except those of question #16 [$t(288) = 1.51; p > .05$]. The values for all pairs and means for Experiences, Expectations, and Gaps are presented in Table 4. The mean for the Expectation scale and the Experience scale was 4.57 and 3.82, respectively. The composite mean for the gap scores was 0.73. An analysis of gap scores revealed that question #14, "University possesses modern facilities and equipment" ($gap = 1.00$), was the only question exhibiting a gap score of 1.0 or greater. Question #10, "Course scheduling reflects the needs of students" ($gap = .99$); question #15, "Flow of required paperwork" ($gap = .82$); question #17, "University possesses up-to-date technology" ($gap = .89$); and question #24, "University records are maintained error-free" ($gap = .81$), also exhibited relatively large gap scores (see Table 4 for a complete summary of gap scores). The gap scores

Table 1: Scale Dimensions

Responsiveness/Caring

- Q1. Department faculty and staff show a willingness to help students
- Q3. Advisor and/or chair of committee provides adequate guidance to ensure meeting program requirements
- Q5. Faculty give individual attention to students when necessary
- Q7. Department faculty and staff respond in a timely manner to questions and requests
- Q9. Department staff show a sincere interest in students
- Q11. University personnel deal with students in a caring fashion
- Q12. Department faculty and staff have the best interest of students at heart

Records/Paperwork

- Q15. Required paperwork that flows to Department/School/College/Grad School is handled efficiently and in a timely manner
- Q23. Services are provided as promised by Financial Aid Office
- Q24. University records are maintained error-free
- Q25. Services associated with the registration process are handled in an efficient and effective manner
- Q26. Services associated with the admission process are handled in an efficient and effective manner

University Services

- Q2. Business and support staff resolve students' problems in an equitable manner
- Q6. University personnel are consistently courteous
- Q8. Admission requirements are clearly stated and well documented in the graduate catalog
- Q22. Business and support facilities (library, registrar, bursar, bookstore, etc.) provide services as promised

Accessibility/Safety

- Q18. University computers are accessible and available for students' use at convenient hours
- Q20. University campus is safe and secure
- Q21. University libraries have convenient hours

Knowledge/ Scheduling

- Q10. Department course scheduling reflects the needs of students
- Q13. Department faculty and staff are knowledgeable when asked questions about program requirements by students

Facilities/Equipment

- Q14. University possesses modern facilities and equipment (buildings, classrooms, fixtures)
- Q17. University possesses up-to-date technology (computer hardware & software)

Public Relations

- Q16. Materials associated with the university (catalogs, brochures, etc.) are visually appealing
- Q19. University campus is clean and visually appealing

for the other questions, although statistically significant, were considered to be of limited practical significance. However, all questions of the scales exhibited positive gap scores.

The relationship between the overall gap score for each dimension (Responsiveness/Caring, Records/Paperwork, University Services, Accessibility/Safety, Knowledge/Scheduling, Facilities/Equipment, and Public Relations) and the stated demographic variables of age, gender, ethnicity, type of degree, or class load was analyzed by using multiple regression. A significant regression equation ($p < .05$) was found for six of the seven dimensions [Responsiveness/Caring, $F(5, 240) = 3.557, p = .004$]; University Services, $F(5, 226) = 2.819, p = .017$; Accessibility/Safety,

[$F(5, 230) = 3.636, p = .003$]; Knowledge/Scheduling, [$F(5, 256) = 6.207, p < .001$]; Facilities/ Equipment, [$F(5, 248) = 6.893, p < .001$]; and Public Relations, [$F(5, 244) = 3.371, p = .006$]. Analysis of the findings of the multiple regression revealed that for the University Services and Accessibility/ Safety dimensions, “type of degree” was the only demographic variable that displayed a significant beta weight ($p < .05$); for the Responsiveness/Caring dimension, “age” and “type of degree” displayed significant beta weights ($p < .05$); for Knowledge/ Scheduling, “age,” “ethnicity,” and “semester hours” displayed significant beta weights ($p < .05$); for the Facilities/Equipment dimension, “gender” and “type of degree” displayed significant beta weights ($p < .05$); and for the Public Relations dimension, “age” and “type of degree” displayed significant beta weights ($p < .05$).

The researcher also used multiple regression to determine if a relationship existed between students’ stated overall satisfaction score and the demographic variables of age, gender, ethnicity, type of degree, or class load (semester hours). A significant regression equation was found ($F(5, 218) = 3.438, p = .005$), with an R^2 of .073. The analysis revealed only one predictor variable (age) was significantly related to overall satisfaction ($p < .05$). However, age displayed a relatively small beta weight of .191. This analysis revealed that although older students tended to display higher overall satisfaction scores, age was not a major factor related to satisfaction.

The researcher analyzed the data using a Pearson product-moment correlation to examine the relationship between subjects’ composite gap score and stated overall satisfaction with services. A moderate negative correlation was found [$r(105) = -.565, p < .05$], indicating a significant linear relationship between the two variables. Subjects with large composite gap scores tended to be less satisfied with the services provided by their university.

The researcher also conducted an analysis of the relationship between the dimensions (Responsiveness/Caring, Records/Paperwork, University Services, Accessibility/Safety, Knowledge/Scheduling, Facilities/Equipment, Public Relations) and overall satisfaction using a Pearson product-moment correlation. As a result of this analysis, a statistically significant relationship was found between overall satisfaction and six of the seven dimensions of the scale [Responsiveness/Caring [$r(224) = -.636, p < .001$]; Records/Paperwork, [$r(135) = -.330, p < .001$]; University Services, [$r(216) = -.466, p < .001$]; Accessibility/Safety, [$r(219) = -.275, p < .001$]; Knowledge/Scheduling, [$r(243) = -.466, p < .001$]; Facilities/Equipment, [$r(239) = -.283, p < .001$]; and Public Relations, [$r(235) = -.086, p = .191$]. The analysis revealed a weak to moderate negative correlation between six of the seven dimensions of the scale and overall satisfaction scores.

Table 2: Overall Satisfaction: Means and Standard Deviations

Questions	N	M	SD
O1. Overall, I am satisfied with my university	254	3.82	0.83
O2. I am satisfied with the services provided by my department faculty and staff at my university	294	4.12	0.86
O3. I am satisfied with the services provided by the business and support staff at my university	293	3.75	0.91
O4. Overall, I am satisfied with the services my university has provided to me	294	3.93	0.8
O5. Based on services, I would recommend my university to others	294	3.88	0.97
Composite Mean	—	3.9	—

Note: Question O1’s large number of non-respondents could be due to its position on the questionnaire. Question O1 appeared as the first question on a two-page questionnaire, whereas Questions O2–O5 appeared as the last four questions.

Conclusions

As a result of the findings, the following conclusions were drawn regarding doctoral students’ perceptions of service quality at their institutions of higher education.

The researcher concluded that gaps between the expectations and experiences of doctoral students do exist. The practical value in identifying expectation/experience gaps at specific universities lies in the use of this information in quality improvement initiatives. Continuous improvement techniques suggest that the first step in improving service quality is to identify problem areas. Universities wishing to improve the quality of services delivered to their doctoral students would do well to address those items exhibiting the largest gaps at their university (e.g., “Course scheduling reflects the needs of students”; “University possesses up-to-date equipment”; “University possesses up-to-date technology”; “University records are maintained error-free”; “Business and support staff resolve students’ problems in an equitable manner”).

As a result of this study, the researcher also concluded that knowledge of a doctoral student’s age, gender, ethnicity, type of degree, or number of semester hours currently enrolled is of little value in predicting overall satisfaction or in predicting the size of gap scores for that student. There seems to be very little practical difference between the gap scores or overall satisfaction scores of Ph.D., D.A., or Ed.D. students or between male and female students. There also seems to be very little practical difference in either of the two areas based on the age or ethnicity of doctoral students. Because the gap scores were inversely related to the overall satisfaction scores of doctoral students, this would seem to indicate that university initiatives designed to reduce the size of gap scores, and thereby improve service quality, would also improve the overall satisfaction of doctoral students.

Hampton (1993) found a statistically significant negative correlation between the gap scores and overall satisfaction of undergraduate and graduate students ($p < .001$). Findings of the present study upheld Hampton’s hypothesis that as gap scores increase, overall satisfaction decreases. Mean gap scores

Table 3: Means, Standard Deviations, and Paired-Samples Test: Expectations, Experiences, and Gaps

Questions	Expectations			Experiences			Gaps			SE M	t	df
	N	M	SD	N	M	SD	N	M	SD			
Q1. Help students	292	4.76	0.48	299	4.24	0.76	291	0.53	0.81	4.73E-02	11.197*	290
Q2. Resolve problem	296	4.51	0.69	288	3.77	0.92	285	0.73	0.98	5.82E-02	12.539*	284
Q3. Guidance	298	4.71	0.57	296	4.10	0.96	296	0.61	0.95	5.52E-02	11.072*	295
Q4. Believable	299	4.60	0.64	297	3.90	0.88	296	0.69	0.96	5.06E-02	12.317*	295
Q5. Attention	300	4.64	0.55	295	4.21	0.84	295	0.44	0.85	4.98E-02	8.923*	294
Q6. Courteous	298	4.37	0.69	293	3.62	1.03	293	0.74	1.12	6.56E-02	11.348*	292
Q7. Timely manner	300	4.58	0.59	298	3.97	0.88	298	0.61	0.96	5.57E-02	10.895*	297
Q8. Admission	300	4.64	0.62	294	4.20	0.86	294	0.44	0.91	5.28E-02	8.368*	293
Q9. Sincere interest	299	4.52	0.69	296	4.07	0.91	296	0.45	0.97	5.65E-02	7.946*	295
Q10. Scheduling	299	4.54	0.70	298	3.54	1.04	298	0.99	1.18	6.86E-02	14.488*	297
Q11. Caring fashion	296	4.36	0.75	295	3.60	0.97	293	0.75	1.09	6.35E-02	11.765*	292
Q12. Best interest	296	4.44	0.68	293	3.83	0.93	290	0.61	0.99	5.79E-02	10.478*	289
Q13. Knowledgeable	299	4.50	0.67	295	3.78	1.00	295	0.73	1.15	6.72E-02	10.893*	294
Q14. Facilities	296	4.32	0.80	291	3.31	1.01	289	1.00	1.21	7.14E-02	14.011*	288
Q15. Paperwork	298	4.45	0.81	286	3.62	1.08	285	0.82	1.27	7.49E-02	10.910*	284
Q16. Materials	299	3.96	0.87	289	3.90	0.76	289	0.08	0.98	5.75E-02	1.505**	288
Q17. Technology	295	4.50	0.73	292	3.61	0.97	289	0.89	1.13	6.66E-02	13.395*	288
Q18. Accessible	290	4.55	0.69	283	3.77	1.01	275	0.77	1.13	6.84E-02	11.332*	274
Q19. Campus clean	297	4.33	0.75	294	3.79	0.91	292	0.53	1.04	6.09E-02	8.779*	291
Q20. Campus safe	295	4.60	0.68	289	3.84	0.86	285	0.76	0.97	5.77E-02	13.188*	284
Q21. Library hours	294	4.64	0.66	289	3.92	1.01	285	0.72	1.04	6.19E-02	11.566*	284
Q22. Promised	292	4.58	0.58	281	3.90	0.84	278	0.68	0.90	5.42E-02	12.612*	277
Q23. Financial aid	262	4.53	0.69	187	3.91	0.89	184	0.58	0.89	6.56E-02	8.869*	183
Q24. Records	283	4.48	0.83	252	3.65	1.06	247	0.81	1.19	7.55E-02	10.729*	246
Q25. Registration	298	4.48	0.80	295	3.89	0.97	293	0.59	1.09	6.35E-02	9.300*	292
Q26. Admissions	296	4.48	0.78	289	3.90	0.89	286	0.59	1.05	6.18E-02	9.505*	285
Composite Means		4.57			3.82			0.73				

N = 300 (numbers vary because of missing data) * P < .01 ** P > .05

for the Hampton study ranged from a high of 2.14 to a low of 0.14 (7-point Likert scale). Gaps for the present study ranged from a high of 1.00 to a low of 0.08 (5-point Likert scale). Expectation scores exceeded experience scores for all items in both Hampton's study and the present study.

The scope and nature of the variability in the Expectation scale for the present study was of particular interest. Other SERVQUAL-type studies have displayed much less variability in their expectation scales (Zeithaml, Parasuraman, and Berry 1990). An important question for a university to answer would be why doctoral students are entering their graduate schools with such a variety of expectations. Perhaps a change in the admission or orientation process could address unrealistically high or low expectations of entering doctoral students and thereby improve their overall satisfaction.

Discussion

There are several prevailing factors that may force institutions of higher education to take a closer look at how they operate in the future. Colleges and universities are facing decreasing funding and are experiencing slow enrollment growth. At the same time, they are dealing with escalating costs and increasing competition, calls for more accountability, and an increasing sense of consumerism from students and parents. To help meet these internal and external demands for change, institutions of higher

education are increasingly turning to the principles, techniques, and methods of TQM and TQS (Berry 1995). The benefits of applying quality improvement principles and techniques to products have been well documented; however, proven service quality improvement methods, especially in higher education, are still emerging as more research occurs in the field. Consequently, this study was an effort to develop an instrument that could be appropriately applied to the measurement of service quality in higher education.

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The College Decision-Making of High Achieving Students

Abstract

A semi-structured interview process is used to study the college decision-making process of academically talented students. Our findings suggest that these students weigh additional factors and engage in the process differently than typical high school students. For example, the students' use broader networks, consider more institutions and feel more pressures throughout the process.

There have been many efforts by researchers in recent years to understand the college choice process. Efforts include the development of general theoretical models that depict the college choice process and the examination of various factors that influence this decision (Chapman 1981; Hossler and Gallagher 1987; Litten 1982; Moore and Elmer 1992). Most of this research centers on establishing general theoretical tenets that apply to all prospective college students. Few studies have targeted specific market segments to determine whether influences vary in importance among different groups of students. Moreover, college choice models are based almost entirely on the results of quantitative surveys in which students choose those factors that most influenced their decision from among a predetermined list of possible influences. There is little qualitative research in this area that allows students to articulate in depth the various factors they considered when choosing a college campus. This study describes the nature of the college decision-making process of high achieving high school seniors.

Initially, the study of high achieving students might appear to be an overly narrow focus, given the expanding size and composition of the overall prospective college student population. Nevertheless, this specific cohort is highly coveted by colleges and universities across the country as evidenced by the expanding proportion of merit-based scholarships targeted at these students (McPherson and Schapiro 1998). The importance of high achieving students is further magnified given that legislative support and institutional funding levels are increasingly being tied to student outcomes (Martinez 1999; Richardson *et al.* 1998). From a practical standpoint, the extent to which a campus can attract the most academically talented students speaks directly to the campus' ability to successfully navigate legislative and public demands for accountability and assessment outcomes that center on student success. In short, high achieving students increase a campus' local and national prestige, which directly and indirectly leads to an increase in funding opportunities.

Given the importance of this segment of students and an over-reliance on quantitative methods to assess college choice, this study uses qualitative methods to focus on the college choice decision-making process of high achieving students. The findings should add detail to the theoretical models that focus on all prospective students generally. Given the unusually high level of academic preparation represented by this sample, these students may experience a different set of pressures and/or weight college choice factors differently than other groups of prospective students. The paper begins with an overview of the literature on college choice from multiple perspectives and then presents and discusses findings from this study.

Understanding College Choice

There has been a considerable amount of research on college choice in the past three decades. Interest in this area began in the 1970s within sociology. This early research focused on studies examining the process of social mobility and occupational attainment (Alexander and Eckland 1976; Sewell and Shah 1967).

George Bradshaw is the Special Assistant to the Vice President of Student Affairs at the University of Utah. His research interests include issues surrounding college decision-making, college student development, higher education policy, higher education finance, and effective leadership in higher educational settings.

Suzanne Espinoza is Director of Student Recruitment and High School Services at the University of Utah. Her research interests focus on the college choice decision-making process, institutional marketing, and outcomes assessment.

Charles Hausman is the Director of Research and Evaluation for the Salt Lake City School District. He previously served on the faculties in the College of Education at the University of Maine and the University of Utah. His research interests focus on the educational consequences of school choice, data-driven decision-making, and the role of the principal in school improvement.

Other areas of interest during this period include examining college choice as an example of complex decision-making (Lewis and Morrison 1975) or within the context of deciding on major purchases within families (Wright and Kriewall 1979).

The nature of this research changed in the 1980s and 90s, in part because of the pressing challenges facing institutions of higher education. Campuses became more interested in determining the factors that influenced college choice in an effort to identify marketing strategies that would be most effective with students who are predisposed to attend college. Most of this research centers on three general areas. These include an examination of factors that influence college choice, stage models that depict the decision-making process, and the study of college decision-making from a cost-benefit perspective.

FACTORS THAT INFLUENCE COLLEGE CHOICE

Determining influential factors in the college choice process has occupied a great deal of the literature over the past two decades. Several authors have reported similar findings in this area. Moore and Elmer (1992), for example, report that students and parents determined that majors available, academic reputation, cost of tuition, financial aid available, and job placement are key factors influencing college choice. Other authors previously reported similar findings identifying academic reputation, programs, availability of financial assistance, and location of institution as key influencing factors (Chapman 1981; Discenza, Ferguson, and Wisner 1985; Hossler 1985; Hossler and Gallagher 1987; Jackson and Chapman 1984; and Murphy 1981).

Despite these consistent findings, there is some evidence that surveys inquiring about college choice factors may not elicit responses that are especially predictive of the final institutional decision. For example, using The College Board's Admitted Student Questionnaire (ASQ) with a database of over 50,000 respondents, Chapman (1992) was unable to find strong correlations between self-reported and statistically derived relative importance weights at the aggregate and disaggregate levels. In other words, this study raised questions about whether surveys could be used to accurately predict college choice. Despite this concern, there is ample evidence that students, in general, do consider some factors more important than others in selecting an institution.

One influence that has generated interest is the role that parents play in the college choice process. A study by the Carnegie Foundation (1986) reported that 82 percent of college-bound students reported that their parents had some influence on their decision to attend college. Among this group, 36 percent reported that their parents had a great deal of influence on their decision to attend college. Several other studies have reported a similarly important role that parents play in both the decision to attend college and the final college choice (Chapman 1981; Discenza, Ferguson, and Wisner 1985; Hossler 1985; Hossler and Gallagher 1987; Jackson and Chapman 1984; Murphy 1981). Consistent with these findings, Sanders (1990) found a high degree of correlation between parent and student opinions as to important college choice factors. In fact, this study reported that students were more likely to mirror the attitudes of their parents

throughout this process than the attitudes of their college counselors. Thus, parents play a key role in influencing students first to pursue a college degree, and second, sharing what factors to consider when selecting an institution.

THE DECISION-MAKING PROCESS

One general theoretical approach to describe college decision-making has been to develop normative, multi-staged models (Smith 1994). While the specifics of these models vary, they typically depict college choice as a process that begins with the decision to attend college, followed by a general search stage, and then a final decision stage. In general, students start the selection process in a funnel-like manner with a broad conception of higher educational opportunities open to them, and then gradually narrow these possibilities to a few select colleges to which they apply. They continue to gather information and ultimately make the final choice based on the information they have obtained and their ability to process the data in a meaningful way (Hossler 1985; Hossler and Gallagher 1987; Litten 1982). These models are purported to be useful to recruitment practitioners who desire to identify helpful interventions at various stages in the recruitment process.

COST-BENEFIT ANALYSIS

There is a stream of literature suggesting that high school students minimize perceived costs and maximize potential benefits in their college choice. One branch of this research proposes equations to explain institutional, statewide, or national enrollments based on external economic factors. Such research seeks to explain the economic circumstances under which students will choose to delay possible earnings by attending college in order to better position themselves in economic terms for the future (Fuller, Manski, and Wise 1981). A second branch of this research estimates the enrollment decisions of individual students as revealed preferences among available school and work opportunities (Chapman 1977). Such studies attempt to isolate the effects of tuition, scholarships, and living expenses on the students' evaluation of the direct cost of schooling. They also attempt to estimate the perceived opportunity costs of schooling (Fuller, Manski, and Wise 1981). The findings of this research are consistent with the survey results noted above. That is, the relative cost of attending college is weighed against the expected benefits of attending various colleges that could be selected. Institutions that offer sufficient financial support positively influence students to attend their institution. Thus, this line of research also supports the notion that the availability of financial assistance is a key influencer of college choice.

PERSPECTIVES FROM CONSUMER BEHAVIOR

Consumer behavior has been defined as the process wherein individuals or groups use or dispose of products, services, ideas, or experiences in order to satisfy their needs and desires (Solomon 1999). The underlying premise of research in this area is that business must understand consumer needs and motivations in order to successfully meet them. One notion from consumer behavior that is especially useful within the context of

this study is the idea that customers vary in their interests and expectations of products and services. Thus, business should segment their markets, grouping consumers with similar interests together, in order to better target products and services. The traditional college choice literature has not fully utilized these and other marketing concepts. In particular, the college choice literature has failed to segment the needs of various student markets to distinguish between those college choice factors that matter most to different types of students.

Another marketing concept incorporated in this study is psychographics. The underlying premise of this marketing concept is that in addition to knowing what the behaviors of consumers are, it is important to know why consumers behave as they do. For example, are they trying to boost self-esteem or social status by buying brand names (Solomon 1999)? This study will offer high achieving students the opportunity to share their reasoning process as they weighed various college choice factors. This information may provide insights into the decision-making process and help identify specific marketing tactics that higher education institutions can employ to influence this particular market segment.

Methods

SAMPLE

To evaluate the college choice process and the relative importance of various college choice factors among high achieving students, a qualitative investigation of this process was conducted. The informants were sixteen students recently admitted to a Carnegie Research I (CRI) institution in a western state who were interviewed by the authors the summer before they enrolled in college. The following criteria were used to identify high-achieving students: (1) a cumulative high school grade point average of 3.74 (using a 4.0 scale) or higher, (2) a composite American College Test (ACT) score of 30 or higher, and (3) designation as a National Merit Scholar. Furthermore, all eligible students were between 18 and 19 years old and had never attended college other than special pre-college educational opportunities available to junior and senior high school students. Finally, all eligible students planned to enroll in college during the upcoming semester and were sharing their experiences regarding the college choice process that they had recently completed. A list of students meeting these criteria was generated, and students were called until sixteen students agreed to participate in the study. Students living within commuting distance of the CRI campus were contacted first. Among the sixteen interviewed students, nine were female and seven were male. One of the students was a racial minority.

DATA COLLECTION AND ANALYSIS

A semi-structured interview protocol was developed from a review of the college choice literature (Miles and Huberman 1984). The interview protocol for these students addressed the college choice process in general, the decision to attend college, various colleges considered, materials used in the search process, people who influenced the process, the role that scholarships played in the decision, and the effectiveness of the CRI in the

recruiting process. An effort was made to elicit students' responses relative to their reasoning as they proceeded through the college selection process. Interviews took place in an administrative office at the CRI campus. Each of the interviews lasted between 45 minutes to an hour. In an effort to triangulate the data, each interviewer took notes during the interview. Additionally, audio recordings were made of all interviews. These audio recordings were transcribed and then checked against the taped discussions and notes of the interviewers.

We began our analysis by independently exploring all interviewer notes, audio recordings, and the transcriptions generated from the recordings. Transcriptions were analyzed qualitatively following the procedures outlined by Miles and Huberman (1984). We began by looking for themes and inconsistencies within each student interview and between individual students. Emergent themes were categorized and placed into a timeline sequence. Student-identified college choice and decision factors were coded and sorted based on the relative importance assigned by the students in their responses. A descriptive matrix comparing and contrasting various factors and reflections on the college choice process was developed. Coding and analytic induction were employed to develop themes to be presented. The issues and themes that emerged from this analysis are discussed below. Pseudonyms are used to maintain the anonymity of the respondents.

Findings

THE COLLEGE SEARCH PROCESS

Although all of these students articulated a sophisticated college search process, several did not consider their process to be elaborate. All students articulated the desire to attend a college with a strong academic program and reported using college rankings to develop their initial list of possible schools. Three of these students reported that they were predisposed to attend the CRI because they could live at home and save on expenses. Even given such preconceived constraints, all respondents considered at least five colleges at the search stage.

Interestingly, all students reported that they were influenced to consider prestigious out-of-state colleges by their teachers, counselors, and peers. This influence was communicated in formal advising sessions, informal discussions with teachers, and informally among their peers. These students were often pressured to consider schools they knew they would not attend in order to fit in with their peer group. Debbie shared:

"[The whole process for me was]...stressful, not so much because I didn't know where I wanted to go, but because I knew where I wasn't going and how that looked to other people who knew me."

Similarly, Janet commented:

"You know...I've had mixed feelings about that [the process whereby she selected to which schools to apply]. I've wondered sometimes if I made the wrong decision. I only applied to three places, [the CRI], [a private, in-state school], and Harvard. ... There was one girl at my school...who applied at 15 different places."

Elena, who had predetermined to come to the CRI, noted that teachers were also a source of this pressure:

"There was a lot of pressure, particularly from some teachers that I respect a great deal. They wanted me to go back east. They thought that [Harvard] would be a great place for me. So, mostly to please them, I was looking at the other places. I never really intended to go elsewhere."

While eleven of the sixteen students surveyed ultimately decided to attend the CRI, only six considered this campus seriously at the application stage. The others referred to the CRI as their "safety school." Even the five students who ultimately chose other campuses considered the CRI a possibility up until they made their final decision. It is clear from the interviews that the initial bias of these students toward prestigious, highly selective out-of-state public and/or Ivy League institutions was influenced, at least in part, by the expectations of teachers, counselors, and their peers.

THE PRESSURE OF BEING ACADEMICALLY TALENTED

Tim: *"People should realize...the moment somebody says you're above average, the moment you get placed in the gifted class, [it's] 20 times the stress..."*

One of the most surprising findings of this study involved the pressure that students described in their being identified as academically talented. This pressure came from several sources. First, because of their previous academic success, these students were advised to take the most challenging courses offered by their high schools. This advice was based on the well-meaning desire to see these students get as much out of high school as possible in order to facilitate their getting admitted and offered scholarships at the most prestigious universities. Accordingly, these students were advised to take honors courses, to prepare for advanced placement exams, and to enroll in pre-college enrichment programs. Most of these students noted that their schedules were challenging and that they had very little personal time. Interestingly, fourteen of these students reported having participated in pre-college enrichment programs and noted that these programs led them to look favorably on the academic offerings of the CRI. They reported that the pre-college programs made them feel comfortable about attending the campus because they knew professors and had been on campus.

As if their rigorous academic schedules were not enough, these students also were advised to involve themselves in leadership activities, clubs, and other extracurricular activities. Many students welcomed these activities as a break from the long hours of homework. Some students, however, expressed resentment and accused their peers of becoming involved in activities merely to pad their resumes so that they could beat the "competition" at the admissions/scholarship game.

Finally, these students reported being bombarded with recruitment materials starting as early as their sophomore year. While they reported at first paying attention selectively to various materials that arrived from colleges, they all soon resorted to stashing their daily mail from colleges into a cardboard box for later use as "kindling." This strategy was seen as one way to

avoid the pressure of trying to make sense of an overwhelming amount of formal information.

While it was clear that these students reacted differently to the pressure associated with their academic talent, they all reported that their academic achievement had led others to have expectations about their future performance and these expectations created additional stress for the students. The students' concern over the perceptions that others held of them often manifested itself in a significant internal debate over the college choice decision, as well as the consideration of a larger number of institutions during the search stage. As noted above, these students were often pressured to consider schools they knew they would not attend in order to fit in with their peer group, who were usually high achieving as well. Despite feeling such pressures, none of these students expressed the concern that they would not do well in college. In fact, most stated that they were looking for colleges with competitive admission standards. They wanted to attend good colleges that would challenge them academically and prepare them for graduate or professional school. Thus, those students who rejected "Ivy League" schools do not appear to have avoided them due to the fear of failure or because of added pressure.

THE PREDISPOSITION TO ATTEND COLLEGE—THE ROLE OF PARENTS

Elaine: *"I've known [that I would go to college] for all the time I've gone to school."*

These students articulated that they had always known they would go to college, and they viewed their academic achievement as a personal one. The students reflected that the influence of their parents on their decision to attend college and on their choice of a particular college was either non-existent or subtle. In other words, they just "knew" they were going to college and did not consciously attribute this to the home environment in which they were raised. However, we deduce that the role of their parents was quite significant due to the fact that the majority of these students were able to devote a great deal of attention to their academic pursuits and other school related activities with little distraction from nuisance activities (*e.g.*, significant job, childcare responsibilities, etc).

Additionally, these students' parents were quite instrumental in providing their students with access to colleagues, friends, and acquaintances who were knowledgeable about colleges and the educational opportunities they provided. This existence of extended informal data-gathering networks is related to both the pressure of being academically talented and the role of parents in shaping the predisposition to attend college. As a result of being identified early as academically talented, these students were often referred to relatives, family friends, work colleagues of the parents, and others who had some experience with specific colleges. People that these high achieving students already knew and respected influenced the students greatly. In short, these students respect and trust the information that they receive from people who are somehow connected to their data-gathering network. While it is difficult to judge the relative influence of the various sources of information they may have, it is safe to say that the sheer volume of formal information they

received overwhelmed many of the students. We contend that because these students are recruited so heavily (via mail) and their time so limited (e.g., school, extra curricular activities, etc.), they look to these networks to help them personalize the formal information they receive.

THE DESIRE TO ATTEND GRADUATE SCHOOL AND ECONOMIC CONSIDERATIONS

Another common theme among the students interviewed in this study was their desire to attend graduate school. Every student interviewed either articulated that they planned to attend graduate or professional school or discussed a career goal that required graduate training. This long-term educational goal was linked with their desire to attend highly ranked undergraduate programs or "Ivy League" colleges. These students were very articulate about the advantages that could be gained by attending quality academic programs at the undergraduate level and were clearly making their plans with an eye toward the future.

This knowledge that they would attend graduate school also affected their attitudes toward undergraduate scholarships. Several of the students articulated that they viewed the undergraduate degree as a mere formality before they could attain their ultimate goal of a graduate or professional degree. Thus, they were less willing to incur debt at the undergraduate level because they suspected that they might have to at the graduate or professional school level.

Consequently, the availability of financial support was a critical factor for these students. Two students referred to the fact that their parents could not afford to pay for high-priced institutions, and all of these students were expecting to pay for a large portion of their college expenses with merit scholarships. Most of these students viewed paying for college as their own responsibility and expected to receive little financial support from their parents. It is apparent that this expectation was due in large measure to their level of academic achievement. These students knew that their academic credentials were such that they could expect to receive financial support from the college that they would select. They were actively comparing and contrasting the scholarship offers that they received and only remotely considered campuses that did not provide substantial scholarship offers.

While eleven of the sixteen students ultimately selected the CRI, all eleven of the students stated outright that if they had not received a scholarship offer they would not have selected the CRI. Elena illustrates this point by stating:

"If the [CRI] hadn't offered me a full tuition waiver, I would be going to somewhere that had. I had offers from all over the place...schools in [state], a couple back east, and one in Texas. If I hadn't gotten the full tuition waiver, I would be going to one of the other schools."

Among the five students who selected other schools, the scholarship offers from the CRI weighed heavily in their final decision process. The amount of the offer, full tuition for four years, was enough to be attractive. While all of the students received scholarship offers at other schools, they relayed the fact that given the opportunity to stay at home and commute, it was

cheaper overall to attend the CRI. Thus, the scholarship offer actually lured some students away from other schools. As Amy put it:

"I was actually planning to go to Dartmouth, but then I got a presidential scholarship and it was too good to pass up."

It is clear that the scholarship offer was a very important factor in the college selection process of these students, and they weighed short-term as well as long-term costs and benefits.

THE DECISION TO ATTEND A STATE SCHOOL

As mentioned earlier, the academic achievement of these students raised expectations from others regarding where these students should attend college. As such, these students experienced pressure to attend a campus that was private, prestigious, and selective. The feeling was that this type of campus would offer them the strongest level of academic preparation for the future. The eleven students who ultimately chose to attend the CRI felt that they needed to justify this decision to the people around them. This was the case despite the availability of data that could empirically support the validity of their college choice decision (e.g., national magazine rankings). Despite such data, students expressed apprehension about not choosing to attend a prestigious private institution.

In the end, many of the students who chose the CRI did so because of the lower upfront cost. However, before they made that decision, they were very deliberate in collecting information about the quality of the experience they could expect at the CRI. They called the departments and spoke to academic advisors; they requested additional written materials about the various programs of study in which they were interested; they visited the campus, toured lab facilities and were generally very active in seeking out additional information about the CRI. The focus of these activities was to make absolutely sure that the CRI would offer them a high quality undergraduate experience. It was as if they needed to justify to themselves and others their choice to attend a state university. Joni expresses this need to justify when she states:

"I don't want to say it's embarrassing [deciding on the CRI], but when people...act as if it's a bad thing...whereas I don't think it is. For me it's the best."

Each of the students reported that the more they found out about the CRI, the better they felt about their decision to attend. It is evident that state institutions do not have the image of "Ivy League" schools that initially attract high achieving students, but this obstacle can be overcome in the recruitment process.

Discussion

HIGH ACHIEVING STUDENTS' COLLEGE CHOICE BEHAVIORS

The first stage of most college choice models has been described as a predisposition stage where the initial decision to attend a college takes place (Hossler and Gallagher 1987). Unlike Hossler and Gallagher's model, these students believe that the

option not to attend college was never really available. In short, each of the students had difficulty explaining how they came to the decision to attend college in the first place. They did not consider it a decision, but rather something they always knew they would do. Thus, for high achieving students it appears that there is not a clear delineation between the predisposition and search phases as depicted in typical college choice models.

Our analysis also revealed that these students entered the college selection process with predispositions as to the kinds of colleges they would consider attending, not whether or not they would attend college, and these predispositions shaped their later activities. These predispositions included a desire to attend a prestigious college, a desire to enroll in a highly ranked academic program, and the expectation that they would receive significant scholarships. Based on these predispositions, these students began the process of examining reference materials that ranked various academic programs. This activity gave these students a basis from which to selectively attend to promotional materials they received. If a campus was not on that initial list of highly ranked campuses or academic programs, the students we interviewed tended to ignore material distributed by those institutions.

As a result of the behavior exhibited by these students, it is important for institutions like the CRI to create opportunities to recognize the achievements of local students. These students are undoubtedly looking for opportunities to be recognized for their academic achievements at the high school level and view this positively in the college selection process. Secondly, campuses should consider creating a separate orientation program for academically talented students. These students have special interests and like to be treated as individuals. The more they feel that they are being treated as individuals, the more committed they will become to specific institutions of higher education. Further, in addition to special orientation programs, campuses should consider developing special cohort programs for advanced students. One thing that was evident from the interviews was that these students wanted to have opportunities to interact with students who have similar academic interests and abilities. We believe that these students desire this interaction both to gauge their abilities relative to their peers and as a measure of validation, supporting their decision to attend the CRI. Moreover, such opportunities would likely enhance the first-year experience of these students from a social as well as academic perspective.

COLLEGE CHOICE AND SELF-ESTEEM

Some understanding of the relationship between the students' college choice decision and their self-esteem can perhaps be found by applying the notion of bounded rationality to their college search process. The notion of bounded rationality suggests that during complex decision-making, individuals will enter the search for information with parameters which limit their decision-making options (March and Simon 1958). These parameters help individuals to target their search activities and manage the often overwhelming amount of information they receive. We believe that these students began their search with specific parameters defining the types of institutions in which they were interested. These parameters were shaped by their

desire to use the college search process as a means of increasing their social status.

The fact that these students used the college search process to enhance their self-esteem and increase their social standing is supported by their preference for applying to "name brand" institutions. While searching for the preferred institution, these students spent time evaluating possible schools based on rankings they found in various publications. They compared these various institutional and departmental rankings in an effort to establish which schools and departments were the most highly ranked. Even when the students found that the CRI was ranked fairly well in the academic areas they were considering, they still considered other schools which they perceived to be more prestigious. In short, we contend that these students used the college choice process to explore colleges which provided them with an enhanced social standing. This is consistent with many other complex consumer decisions depicted in the marketing literature in that it is an example of self-esteem buying (Solomon 1999). It appears that many of these students wanted to be associated with those "name brand" institutions even if they knew they would not get a chance to actually attend.

These findings suggest that universities should promote their institutional rankings to this market segment of students. Clearly, these students did not seriously consider colleges that did not have high rankings. Secondly, these students, in deciding to attend a public research I institution, continued to look for validation that they were making a sound decision. Thus, institutions of this type would be well advised to provide ample opportunities for these students to get more targeted information about departments, programs, and the quality of the undergraduate experience. In addition, these students appear to be very interested in graduation rates, graduate school admission rates, and other indicators of undergraduate student success.

THE IMPACT OF SCHOLARSHIPS

Our data reveal that for these particular students the decision-making process was not as neat as stage models of college choice depict. In some cases, even after the student had "made" the decision to attend a campus, they changed their mind. For these high achieving students, the final decision often hinged on the scholarship offer. These students ultimately seemed to be weighing the costs versus the benefits of attending school out-of-state (Fuller, Manski, and Wise 1981). In the end, most of the students based the decision on what was most advantageous to them financially in the short-term, but in the context of long range strategic planning. For example, these students took very deliberate actions in an effort to better position themselves to undertake a graduate and/or professional degree. They also maintained high GPAs, completed AP courses, became involved in enrichment activities and were active in student clubs at the high school level, all in an effort to better position themselves for scholarship consideration. In short, these high achieving students were focused on receiving scholarships because they wanted to limit their short-term costs at the undergraduate level (*i.e.*, tuition, housing, etc.). These students had been advised that less money (*i.e.*, scholarship opportunities) would be available

at the graduate level and that they would probably have to invest a significant amount of money in their graduate careers.

The implications of these findings are that institutions of higher education should be prepared to court the interest of these students early in their high school career. In this way, an institution could capitalize on the desire these students have to be treated individually. In addition, the campus could go far in increasing the students' social standing within their high schools. This early intervention could help students' develop an appreciation of the inherent value of attending a public CRI institution and be less likely to consider low cost as equivalent to poor quality.

It is critically important to make scholarship offers early in the recruitment process. It is also important to ensure that the amount offered is sufficient to minimize the cost that students will need to meet from other sources. These students are clearly looking to meet the majority of their expenses through scholarship programs. This reality, along with the reality that these students are being offered scholarships from other institutions, places a key importance on the overall value of the offer and the time at which the offer is made. We also suggest that recruitment staff maintain a personal relationship with those students who accept early offers from their institution and continue to court high achieving students who have accepted offers elsewhere well past the traditional college decision date of May 1, with the awareness that these students often change their minds.

THE ROLE OF PARENTS IN COLLEGE CHOICE

It is clear that the parents had a very real and influential role in this whole planning and decision-making process, even though the students failed to articulate the significance of the parental role. The character of this role is different, however, than what is suggested in the literature (Boyer 1986). For these students, the role that their parents played was most influential in their setting the stage for these students to be successful in the educational process. The parents played more of a supportive than a directive role. In short, the parents filled the role of helping these students to value education, helping them to learn to use their time wisely, and helping to structure the students' lives so that the students could make a concerted effort to excel in school. Once the students reached the college selection process, the parents continued to play a supportive role, likely because their students had earned their trust based on previous achievement. Students reported that their parents were willing for them to attend any school that they chose, as long as they could afford it. Many of the students suggested that their parents supported their high school careers fully expecting the students to receive academic scholarships at the collegiate level.

The role that parents played in this process was also evident through the students' desire to attend graduate school. Several parents were instrumental in providing their students access to people who held advanced degrees. Thus, the students' goals were not simply for an education, but for a career and an adult identity that included a high amount of social status.

Conclusion: Institutional Positioning

In the end, most of these students opted to attend the CRI, but they characterized this decision with respect to the cost somewhat negatively. The campus was thought to be "cheap" rather than "affordable." In this way, they revealed a bias common to many consumers in that lower cost is considered a positive influence on a consumer's purchasing choice up to a certain point. Beyond that, if a product is too cheap, this has a negative effect on the consumer's willingness to make a purchase (Solomon 1999). In fact, it would be interesting to see what impact increased price would have on the way these students perceived the prestige of the CRI. Based on these interviews, we would predict that the effect would be a positive one.

At the core of the students' college-going decision was a desire to attend a high quality college or university. Even those students who entered the search process perceiving the quality of the CRI's programs to be somewhat good felt the need to check this perception with additional data. The students who entered the search process with neutral or negative attitudes toward the CRI's programs made the assumption that the quality of the programs were lacking compared to the more expensive, more prestigious campuses they were considering. How they derived these notions of quality is unclear, even to them. They looked at brochures, called departments, spoke with people whom they trusted, and visited the campus. Even after doing all of these things, students were unable to articulate why they believed the CRI to be a lower quality option. Unlike other consumer products, higher education is a much more difficult product to market and for that matter, for consumers to effectively evaluate (Solomon 1999). Winston (1992) refers to education as a "trust" market, whereby the seller has much more knowledge about the product for sale than does the consumer. As a result, the consumer must trust that the producer is honest and forthright about the virtues and benefits available to those who purchase the product. Additionally, quality in higher education is a broad concept that includes many things students do not necessarily value. More research into what exactly communicates quality to students in this market segment would be of enormous value in the marketing of higher education institutions.

By being aware of institutional images, a campus can learn to target effective recruitment messages to specific cohorts of students. In this age of enrollment-based funding, campuses like the CRI may be focusing too much attention on messages tailored to average students. These messages may give the wrong impression to high achieving high school students in that they may be using these messages to support the idea that the CRI is an average campus that doesn't have much to offer elite students. More targeted marketing would help to get the appropriate message to the right group of students. Along these lines, it is important to emphasize concurrent enrollment programs that require advanced preparation and offer high achieving students incentives and challenges for completion. Moreover, when students participate in such programs and have a personal, positive experience, they are more likely to have a positive impression regarding the institution's quality. We believe that these types of institutional messages can be marketed to high

achieving students while simultaneously downplaying low admission standards and other messages aimed at different market segments.

Potential allies in this area are high school counselors and teachers. Our study revealed that these people are playing a key role in persuading students to seriously consider prestigious out-of-state schools. A concerted effort should be exerted to cultivate the support of these constituent groups. The primary goal of this effort would be to promote improved awareness of the quality of the university's programs and to better relations between these constituents and the CRI. In addition, these high achieving students feel a great deal of pressure from several different constituents. Savvy recruitment professionals will be aware of the pressures these students face, thereby designing recruitment strategies that help ease these students' stress levels, while at the same time helping them navigate an educational course that takes advantage of the students' preferences, abilities, needs, and aspirations.

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Measuring the Efficacy of Telemarketing in Student Recruitment

Abstract

An effective telemarketing campaign can enhance recruitment goals while addressing the information needs of potential students through personal contact. Logistic regression analysis of those who received a telemarketing call identified three predictors of admissions yield.

An effective telemarketing campaign can enhance recruitment and enrollment goals while addressing the informational needs of potential students through personal one-on-one contact. While a conversation with a university representative can have a positive effect on all students, the greatest impact can be made on those students who are more ambivalent regarding attendance. Although many studies have stressed the need for personal contact, few have incorporated assessment of the impact of such strategies. A positive contact with a university representative can have a significant influence on enrollment of those who are reluctant to commit or those who do not list the university as their first choice.

Even though telephone calls were used by 36 percent of all institutions in a 1986 Carnegie study, little has been done to examine the effectiveness of telemarketing in recruitment efforts. Determining the efficacy of marketing techniques such as telemarketing is essential for market planning.

Marketing strategies must be evaluated and assessed for efficacy and to determine optimal timing. Recruitment efforts should target students who apply six months to one year in advance of attendance (Wesley 1992). Personalized contacts are more effective than direct mail for high ability students with special emphasis on campus visits (Wanat and Bowles 1989). The individual campus visit was most influential, with the organized group campus visit, telemarketing contact by a student team, and direct mail also rated highly (Kellaris and Kellaris 1988). Form letters were deemed of little significance by high ability students; they were more motivated by personal contact by mail or phone, and were especially influenced by telephone contacts from alumni (Wanat and Bowles 1992).

According to Young (1991), telemarketing can be utilized to address a myriad of needs associated with enrollment management. Young provides an explicit definition for telemarketing in the context of enrollment management and college recruitment: "To put this definition in terms of enrollment management, telemarketing is the planned use of the telephone as a recruit-

ment, follow-up, and retention medium in conjunction with traditional recruitment programs to increase the yield rate for inquiries to admits to enrolled students in the most cost efficient and timely manner" (p.78). A defined purpose for the telemarketing campaign is imperative. Further, Young concedes that the use of telemarketing in the recruitment process must be considered in the larger context of the entire enrollment management process, whereby students who are most likely to succeed are prioritized and targeted for the telemarketing campaign. This differs from the mass calling techniques utilized by industry.

Miles (1988) suggests the importance of making telephone calls to admitted students to gain insight on what might be causing doubts about their decision to attend. Telemarketers must first and foremost convey a sense of concern for the well-being and best interest of the prospective student (Young 1991).

Johnson and Sallee (1994) promote a personalized approach to recruitment stressing the importance of the campus visit and a well-executed telephone recruitment campaign. "Student callers are the embodiment of the quality of the student body at a particular institution" (p. 16). Thus, careful attention must be paid to the selection and training of those students selected to represent the institution. Telemarketers must be well-trained, enthusiastic, responsible, and knowledgeable of general information concerning the school (Young 1991). Both students and

Susan Wyatt Sedwick, Ph.D., is the Director of the Office of Research Administration at the University of Oklahoma-Norman Campus.

D. Stanley Carpenter, Ph.D., is a Professor in the Department of Educational Administration at Texas A&M University.

Nestor W. Sherman, Ed.D., is an Associate Professor in the Department of Health and Kinesiology at Texas A&M University-Kingsville.

Alan Tipton is the Director of the Office of Institutional Research at Texas A&M University-Kingsville.

alumni can also play the role of telemarketer during a telephone campaign, and use multiple messages to convey to the student that he or she is important (Sevier 1988).

The management of student workers begins with the recruiting process (Blackburn-Smith and Lembo 1998). The recruitment process for telemarketers should include a telephone interview to assess those skills vital to the success of the telemarketing campaign. Training begins during the interview and should be well-planned, comprehensive, and ongoing. Student supervisors are especially effective in facilitating feedback.

Johnson and Sallee (1994) urge a great degree of standardization of recruitment processes including standardized anecdotal information prescribed to augment facts and figures in a personal manner. Training should incorporate four major concepts: marketing the university as a tangible product, differentiating the institution from the competition, conveying accurate and realistic expectations, and providing concrete evidence in support of facts and figures (Johnson and Sallee 1994).

Yost and Tucker's (1995) evaluation of telemarketing as a recruitment strategy suggests that telemarketing could be utilized in a timely manner to create a sense of excitement and urgency in the admissions process, with students receiving telephone calls in advance of receiving their acceptance letter. A call from a department chair, dean, or faculty member is most effective in the recruitment of higher caliber students.

On the other hand, Young (1991) points out the pitfalls of telemarketing campaigns that have not been well-organized and for which the telemarketers have not been thoroughly trained. Follow-up by telemarketers with the customers is crucial (Young 1991). Young stresses the need for a properly arranged workspace, and resources to include phones with headsets, scripts, tally and response forms, an information handbook, computer terminals for data entry, and a monitoring system. Providing a professional and positive work environment promotes corresponding attitudes (Blackburn-Smith and Lembo 1998).

Computer database accessibility is critical to the success of a telemarketing project. As an example of how a campaign can be enhanced, Young (1991) suggests that a student who cannot be reached by telephone be subsequently sent a letter indicating the attempts made to do so. Further, he asserts that a database which is accessible to all constituencies involved in recruitment will provide for a concerted marketing effort indicating to prospective students that the institution is not only interested in them personally but has effective internal communication.

Although their study focused on the importance of the campus visit as a recruitment tool, Yost and Tucker (1995) evaluated telemarketing as a promotional device in the recruitment process. They found telemarketing to be of increasing importance in the later stages of the choice process, rating telemarketing as having highly significant weight in assuring the prospective student that the institution could meet their educational objectives and close the deal.

Young (1991) provides a detailed analysis of the cost per call based on the ability of a telemarketer making 80 calls in four hours and derived that the average cost per call to be 75 cents. Young delineates the costs associated with a telemarketing campaign as the initial cost of equipment, personnel, printing, use

of terminals for data entry, and telephone costs. In summary, telemarketing can be cost efficient and valuable if well-organized, carefully managed, and assessed.

Purpose of the Study

A decline in enrollment provided the impetus for the establishment of an enrollment management process at a regional comprehensive university serving a predominantly Hispanic student body. One of the university's short-term strategies was the initiation of a telemarketing campaign. Because admission records indicated that less than one-half of the students who applied and were admitted to the institution usually matriculated, the telemarketing campaign targeted admitted students for the following Fall semester. As a result of the first campaign, an increase in enrollment of approximately five percent was experienced for that Fall semester. The project was duplicated for students admitted for the following Fall semester. However, the institution experienced a 2 percent decrease in enrollment.

Data were derived from a pilot study utilizing institutional-specific questions appended to the Cooperative Institutional Research Program (CIRP) survey of incoming freshmen at the institution after the first campaign. Results indicated that 52 percent of matriculating, first-time freshmen students received a telephone call from the university and, of those who received a call, 60 percent of students rated the contact as somewhat important to very important in their decision to attend the university. Further, 74 percent of those students who matriculated in Fall 1996 made their decision to attend prior to the beginning of the summer, the period of time during which most telemarketing calls were attempted. As a result of this information, the telemarketing project was initiated earlier for the next cohort of admitted students.

The need for long-term planning to address enrollment management issues at the institution and to assess the efficacy of the telemarketing strategy led to this study. This study sought to determine if there were differences in demographic traits and matriculation rates of those admitted students who were contacted through the telemarketing campaign and those admitted students who were not contacted through the telemarketing project, and if the responses with regard to intention to matriculate were accurate predictors of matriculation. The study was descriptive in design, and data analysis was limited to a cohort group of first-time, freshmen applicants who applied for admission for the Fall 1997 semester. The generalization of data from this study may be limited to institutions serving similar student populations.

Methodology

The target population for this study was first-time freshmen applicants who applied for admission and were accepted to a regional comprehensive institution with a target matriculation during the Fall 1997 semester. The number of first-time freshmen students admitted for Fall 1997 was 1,620, and of those first-time freshmen students, 940 (or 58 percent) matriculated. The entire population was utilized for this study.

Application and enrollment records were used to assemble a database of student characteristics for first-time freshmen admitted. A statewide database tracking matriculation into

public institutions was accessed to determine the matriculation outcomes for those non-matriculating students. First-time freshmen who received a call from telemarketers were identified and the synthesized data were analyzed to develop demographic profiles and to test the research questions. Students were categorized as (1) having matriculated to the institution, (2) having matriculated to other public four-year and two-year institutions in the state, and (3) those whose matriculation outcome could not be determined.

The majority of admitted students took the ACT test. Therefore, actual ACT scores were utilized where available and the SAT-ACT Concordance Table for Recentered SAT I Scores was utilized to convert SAT scores to ACT equivalents to derive one set of college entrance scores for comparison purposes.

Students who received a telemarketing call were noted along with their intention to matriculate. Telemarketing calls were completed to 683 students. Of those, 562 were first-time freshmen and those records were merged with the admissions and enrollment database and utilized for this study. Chi-square analysis was utilized in determining frequencies and means. Logistic regression was used to determine variables which predict admissions yield.

Results

Only 60 percent of first-time freshmen were successfully contacted via a telemarketing call from a student recruiter and, of those, only 51 percent enrolled. This compares to 62 percent of those who were not called who enrolled. Only 70 percent of those students who indicated their intention to attend actually matriculated. The matriculation outcomes for those students who indicated they planned to enroll but did not matriculate were distributed equally among those who enrolled in another public four-year institution in the state, enrolled in a two-year public institution in the state, or their matriculation outcome could not be determined. Matriculation outcomes for Hispanics and Whites did not vary significantly. Only one-third of admitted Hispanics received a telemarketing call as compared to 43 percent of admitted Caucasians. Students who received a call had higher ACT scores and higher percentile class ranks. Thirty-five percent of those called were from outside the service region,

as compared to 26 percent of those who did not receive a call, and 29 percent of the sample population.

Table 1 delineates the results of the chi-square analysis of the expected and observed matriculation of admitted students categorized by those who were contacted by the telemarketing project and those who were not contacted. The observed number of those contacted who matriculated fell short of the

Table 1: Chi-Square Analysis of Matriculation Stratified by Telemarketing Contacts

Outcome	Not Called		Called	
	Observed	Expected	Observed	Expected
Unknown	132	140	82	74
Other 4-Year	138	165	115	88
2-Year	132	137	78	73
Professional	2	2	1	1
Matriculants	653	613	286	326

expected number, while the observed number of those who were not contacted exceeded the expected number.

When logistic regression analysis was performed for the group who received a telemarketing call, the predictors of matriculation were identified as early application, residency status within the service region, and intent to matriculate to the university as indicated in the telemarketing phone call. The degree of accuracy was 75.22 percent. Those students who received telemarketing calls who applied early, resided within the service region, and indicated their intent to enroll were most likely to enroll. Tables 2 and 3 summarize the results of the logistic regression analysis of those called.

The results of this study are inconclusive. Sixty-two percent of those who were not called matriculated to the institution while only 51 percent of those who received a telemarketing call matriculated. It is postulated that those called were not totally representative of the sample population. Those who were called were comprised of higher ability students based upon average college entrance scores and high school percentile rank. Although the telemarketing campaign attempted to call each admitted student, many students could not be reached for reasons which cannot be explained within the scope of this study. Many attempts were thwarted due to the lack of a valid telephone number. Because many of the students admitted to this institution were from underserved, low-income and/or migrant families, telephone access was not always possible.

Sixty-four percent of students contacted planned to attend the institution but only 70 percent of those students actually

Table 2: Logistic Regression of Those Who Received a Telemarketing Call Identifying Predictors of Matriculation (N=562)

Variable	B	SE	Wald	df	Sig	R	Exp (-)
Timing	-0.1658	0.0412	16.1684	1	0.0001	-0.135	0.8472
In/Out	-0.2681	0.107	6.2756	1	0.0122	-0.0742	0.7648
Intent	1.2198	0.1146	113.3357	1	0	0.3784	3.3864
Constant	0.6787	0.3118	4.7364	1	0.0295		

Table 3: Classification Table for Predictors of Matriculation for Timing, Service Region, and Intent to Matriculate

Observed	Predicted		Percent Correct
	Not Enrolled	Enrolled	
Not Enrolled	180	96	65.22
Enrolled	43	242	84.91
Overall			75.22

matriculated. The matriculation outcomes for the non-matriculants were equally distributed among students who enrolled in other public four-year institutions, public two-year institutions, and the category for whom matriculation outcome could not be determined. Information regarding matriculation plans was only moderately reliable, particularly for those students who planned to attend.

Discussion

The implication for telemarketing derived from this study is that the telemarketing calls must begin earlier than the Spring semester preceding the Fall semester of enrollment. To maximize effectiveness, the telemarketing calls should commence in advance of the anticipated date of matriculation. Initial contacts should be made soon after admission to ensure a valid phone number.

Although this study suggests the telemarketing calls may have had a negative impact on student recruitment, longitudinal analysis of the program is needed. Enrollment increased during the year of implementation of the telemarketing project with data derived from the Cooperative Institutional Research Program (CIRP) survey. Because other members of the campus community, in addition to the telemarketers, made telephone calls, the effect of the telemarketing calls may not be fully detailed in those findings. The literature clearly suggests the merit of telemarketing as a recruitment strategy. An extensive examination of telemarketing should be conducted to include qualitative assessment of both matriculants and non-matriculants. Students who intended to enroll but did not matriculate should be surveyed to ascertain the underlying reasons for their reconsideration and the effect the telemarketing project had on their decision. Ongoing quality assessment should be instituted with follow-up calls to assess the perception of the students completing telemarketing calls.

Current literature supports the effectiveness of telemarketing campaigns. However, a defined purpose for the calls is imperative. Careful selection and training of telemarketers is crucial since these students will represent the character of the student body to the prospective student. Telemarketers must be provided with an efficient workspace equipped with telephones, headsets, scripts, tally and response forms, an information handbook, computer terminals for data entry, and a monitoring system. Telemarketers at the institution had all the necessary resources suggested in the literature with the exception of computer terminals allowing for ease of data entry and shared access to all recruitment constituencies campus-wide.

Database access would allow for ongoing collection of information that could be used to analyze in real-time the efficacy of telemarketing. This study justifies the critical need for an enrollment management database that can be utilized by all constituents involved in the recruiting process. Access to records that track all contacts made to students will allow for a cohesive approach to recruitment.

Because Spanish is the predominant language spoken in 80 percent of Hispanic homes, recruitment strategies targeting Hispanics must address the need for bilingual communication. All callers in this telemarketing campaign study were bilingual. Institutions should consider engaging parents of current Hispanic students to serve as bilingual telemarketers. The current telemarketing report form does not collect information on the use of Spanish for communication. This information should be added to the form to provide information regarding the incidence of use.

Multiple contacts are urged, especially for higher ability students who should also be contacted by representatives from their academic discipline. Specific marketing strategies should be employed to ensure increased admissions yield for higher ability students. The telemarketing project should focus on improving the admission yield through earlier contact with those admitted. Ongoing quality assessment is needed to ensure that telemarketing efforts are maximized, and supervisors of the telemarketers should make follow-up calls to determine the efficacy of the calls.

Every effort should be made to contact all admitted students. Those students admitted to the institution for whom telephone contact cannot be established should receive a follow-up letter or postcard providing a toll-free number for the telemarketing project should they have questions.

Articulated goals for the telemarketing project must be formulated and updated each year. Goals must be aggressive yet attainable. Because campus visits have such a positive impact on the college choice decision for many, the telemarketing calls could be utilized to invite potential students for a campus visit. The cost per call should be ascertained and accurate data collected for such analysis. To aid in coordination of telemarketing efforts, institutions should utilize a database accessible to all recruitment constituencies. An enrollment management module compatible with the institution's current student information system is recommended to maximize efficiency, to share information, and to present a coordinated effort.

Assessment of the design of any marketing strategy or telemarketing program should address the effectiveness of the workers' training. The pros and cons of using students versus utilizing faculty, staff, alumni, or parents as telemarketers should be addressed. Qualitative research is needed to augment statistical data and to fully assess the efficacy of any telemarketing project.

In summary, although the findings of this study were inconclusive, evidence exists which supports the use of telemarketing

in recruitment efforts. Telemarketing and the use of the Internet and e-mail provide cost efficient avenues for personalizing the recruitment process.

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The Registrar as an Academic Officer

I recall a visit some years ago from a classification specialist assigned by the Personnel Department (now Human Resources) to visit our office to review individual job descriptions in order to assign numbers in a hierarchy developed by an outside consultant. After a number of interviews and after having examined the descriptions, the classifier came to visit me, somewhat perplexed. Said he, "I just don't understand all of this. I thought you were just like a county recorder. Someone buys some land; they make a record of it. Someone registers for class; you make a record. A faculty member turns in a grade; you record it."

As those of us in the profession know, the job of registrar is far more than that of a recorder of data brought to us. I refer readers to David Lanier's excellent article, "The Mission of the Registrar Today," which appeared in the Winter 1995 issue of *College & University*. Mr. Lanier, Registrar at the University of North Carolina at Chapel Hill, traces the job history of the registrar in European universities of the thirteenth century to today and beyond. At Indiana University, the Office of the Registrar was created in 1885. The only offices of the academy which existed earlier are those of the president, treasurer, and librarian. This is the case at most American institutions of higher education.

In earlier times, when the academy was smaller and where roles were more comprehensive, it was not unusual for the registrar to be involved in many academic functions. As time progressed, institutions became larger and more complex, specialization increased, and additional offices of administration were created. Thus, the trend was for the registrar to be less directly involved in all academic matters. Yet, even into the middle of the twentieth century, it was not uncommon for registrars to be members (and often secretary) of the faculty council or senate and to have academic appointments in appropriate departments. Indeed, it was not unusual for the registrar to be chosen from the faculty ranks. However, as specialized skills, particularly those involving what we now refer to as information technology, became more critical to job performance and success, hiring directly from outside academic departments became

more common. Although terminal degrees have become more essential for an appointment as a registrar at a research university, the connection to the faculty through an academic appointment is less common now than it was thirty years ago.

One challenge for registrars that persists in the present is to ensure fulfillment of the traditional role of that as proxy for the faculty. After all, the fundamental aspect of any registrar's office is to be the repository of the faculty's record of student performance. This is reflected in the mission statement developed at Indiana University:

The purpose of the Office of the Registrar is to support the instructional mission of the University and, to a lesser extent, the missions of research and professional service by coordinating, supplementing and facilitating the activities of the faculty who are responsible for fulfillment of the instructional mission. This is accomplished in accordance with institutional academic policies and practices as well as with rules of other external regulatory or accrediting agencies. This is an office of the faculty. We act as proxy for the faculty in maintaining an accurate and complete academic record of courses offered, teaching assignments, classroom facilities utilization, class enrollments, personal student demographic information, grades awarded for student academic performance, and degrees conferred. These records are assembled and maintained using centrally constructed

Dr. R. Gerald Pugh has been with Indiana University since 1968. He was Registrar for the last twenty-three years and was in the Office for the prior decade. This summer he was appointed Professor and Associate Dean of Continuing Studies, the deanship being shared with the Office of Academic Affairs. He has served AACRAO as member and chair of several professional committees and as an inter-association representative. He was co-founder and served as conference director for the AAU Registrars. He was co-founder and is director for the Registrars' Summer Institute. He has contributed to *College & University* and *Breakthrough Systems*.

information systems which enable departments and school personnel and students to conduct their business in a decentralized electronic environment.

The Faculty Constitution assigns to the faculty the authority to offer courses; determine the curriculum; determine academic policy; set the calendar; establish degree requirements; and establish the grading system. This authority forms the basis of the work of the registrar on behalf of the faculty. Through its elected representative body, the Faculty Council (and its committees), and in conjunction with the various academic officers, the registrar is charged with implementing, administering, and monitoring academic policy. The registrar also provides analyses, alternatives, options, conclusions, and recommendations as a result of regular or special reviews of academic policies, procedures, and operations. The faculty depends upon the registrar to identify functions which can be improved, to identify and resolve problems, and to identify and define issues through the systematic application and analysis of the academic and student data maintained by this office.

While some aspects of the role of the county recorder are clearly present, one also can see how much more there is. The purpose of this essay is to describe the scope of the office and to suggest in some specific ways how registrars today may fulfill the ideals of their profession as active and contributing members of their academic communities.

A prerequisite to being an academic officer is to understand faculty governance. There are some great books to read on the subject and that clearly is the way to start. Roger Geiger, on the faculty at Penn State, has written two books on the rise of the American research university, a type of institution where faculty governance is particularly strong. The books are *To Advance Knowledge: The Growth of American Research Universities, 1900–1940* and *Research and Relevant Knowledge: American Research Universities Since World War II*. J. Victor Baldrige's classic volume is also enormously useful: *Academic Governance: Research on Institutional Politics and Decision Making*. While Baldrige himself has written about faculty activism, campus conflict, and academic organizational pressures, he has assembled essays by a large number of higher education authorities on topics of organizational features, administrative processes, faculty governance, student activism, and the external environment. Another classic, recently updated, is Frederick E. Balderston's *Managing Today's University*. Balderston, a business school professor on strategic planning, served in major university administrative positions and blends theory and experience together to address topics of university organization, resource allocation, programs and quality, and managing change. Robert Birnbaum's work for the National Center for Postsecondary Governance and Finance is titled: *How Colleges Work—The Cybernetics of Academic Organization and Leadership*. One may also want to refer to Birnbaum's *How Academic Leadership Works*. The Carnegie Foundation for the Advancement of Teaching supported Burton Clark's report on *The Academic Life: Small Worlds, Different Worlds*. In a parody of anthropological

analysis is Hazard Adams's study of academe titled *The Academic Tribes*. Organizational theory and analysis forms the basis for *Collegiality and Bureaucracy in the Modern University: The Influences of Information and Power on Decision-Making Structures* by James L. Bess. A massive research study over two decades resulted in William Berquist's *The Four Cultures of the Academy*. Additionally, an excellent new book by the former president of the Association of American Universities is Robert Rosenzweig's *The Political University: Policy, Politics and Presidential Leadership in the American Research University*. Finally, I recommend Grady Bogue's *Exploring the Heritage of American Higher Education*. In particular, review the chapter on "Faculty Role and Responsibility." Co-authored with Jeffery Asper, Bogue was a registrar in the first decade of his career, later a state higher education commissioner, then a campus chancellor, and now on the faculty at the University of Tennessee. Well written and insightful, this book in many ways reads like the capstone of an outstanding career.

Much can also be learned from case studies of what has not been successful. A new book this spring is Travis Jacobs's study of the four-year Dwight Eisenhower presidency at Columbia University and his difficulties in understanding academic culture and governance. Jacobs's research shows that success is not always transportable to a different circumstances even though one was a hero of World War II and later a successful U.S. president.

Another approach, meritorious by itself, is to join AAUP, the American Association of University Professors. Their journal, *Academe*, is a very good source of articles and issues involving faculty governance. It is well worth getting a copy of AAUP's *Principles of Shared Governance* for studying the relationship between faculty and administration.

The objective for a registrar is to understand the nature of the academy. One needs to acquire the ability to think like an academic, to emulate an academic. Graduate work and a research degree will help toward this goal, and qualification for an academic appointment is also effective. However, close reading of these works about academic culture and values will provide the theoretical scaffold to support best practices in the field.

It may be helpful to extract certain key principles implicit in the literature. Based on my experience, there are five to cite.

Principle #1. The role of an academic officer is not about status but about perspective.

I suggest that for the registrar to achieve this perspective requires that one must see what the faculty sees. That can be achieved through involvement with the faculty senate or council, attending their meetings or, at least, carefully being up to date on each agenda and the minutes of each meeting. It also means being in regular contact with faculty to hear what they are talking about and what their issues are. Some of these contacts can be through formal means, but informal opportunities are of equal, and sometimes even more, importance. What are the policy committees addressing and how can the registrar be helpful by providing data to sharpen the focus of the discussion, to contribute illumination and insight, to identify what will and will not work practically, and to forge alliances where appropriate. In short, the registrar can become an enabler, a facilitator, if

one has developed that faculty perspective. The opportunity is always there for the one who has the broadest perspective to help the faculty realize their hopes and dreams for academic policy and process.

Some of you may have read about the Expanded Grade Context Record at Indiana University. This academic record provides for the following information in addition to the traditional transcript elements of course department, number, title, hours of credit and grade:

- **Index.** An index showing the number of students in each course section who received a given grade or higher grade compared with the total number of students receiving a grade with credit point values (GPA grades).
- **Grade Distribution.** Complete distribution of all grades awarded in each class section, including those grades that do not have credit point values (*e.g.*, I, P, S, R, NY).
- **Class GPA.** The mean grade average of all grades awarded in the course section.
- **Average Student GPA.** The mean average of the cumulative grade point averages of all students enrolled in the course section.
- **Majors.** The percentage of students in the course section whose major school (or major department for College of Arts and Sciences/Graduate School students) is the same as the school or department offering the course.
- **Course Withdrawals—1st Week.** The number of students who withdrew from the course section in the first week of the term (WX).
- **Course Withdrawals—Through the Term.** The number of students who withdrew from the course section beyond the first week of the term (W).
- **Pass/Fail or No Credit Enrollees.** The number of students who chose pass/fail or who chose noncredit enrollment (NC).
- **Instructor Name.** The name of the instructor of the course section.
- **Context Effective Date.**

This record was almost exclusively created by critical examination and involvement of all forces brought to bear by numerous faculty in the debate over the existence (or lack thereof) of grade inflation and what needed (if anything) to be done about it. An article last year in the Spring 2000 issue of *College & University* details the registrar's role in providing information relevant to the debate, furnishing honest comparative data, articulating current practices at peer (and other) higher education institutions, and channeling the energy into an effective result through helping to sharpen the focus of the various related faculty initiatives and proposals. It can be valuable to develop and use the critical skill of listening when issues move from debate to conclusion, divergence to consensus.

Principle #2. To help realize the hopes and dreams of the faculty, today's registrar has to know about national trends in the profession.

This supports the case for professional development, for putting a priority on the development of people, for being a part of electronic listserves, for visiting peer and other campuses, and for

being an active participant of the registrar profession. To be a proactive academic officer as registrar, one must position one's self to lead; to lead means to be ahead, to be ahead means to be in front of the edge or the curve as it is usually stated. One must avoid falling prey to being "in-basket driven" and "directed by the details of crisis." In effect, while one may have the title of registrar, it is critical to remember that with that role goes the title of director. It is through the role of directing that one can focus on the greater picture.

Just as personnel offices are now called human resources, it is now customary to talk of human capital rather than people. However it is stated, the development and growth of people's capacities and skills are not always emphasized in most systems of budgeting in higher education institutions. Usually, it is categorized under the label of "travel." As we all know, travel is usually a very sensitive budget item, particularly when funds are limited and new financing is in short supply. Significantly, much of the actual expense charged to this category is not travel at all; professional development fees, meals, even lodging all support a person in acquiring professional education. The exact travel involved, usually an airplane ticket fare and expense to and from the airport, is a small part of the total cost of an educational event designed to keep professionals current and knowledgeable.

I have often found it curious that budgets require 25 percent or more of the salary total to fund fringe benefits. Health insurance, retirement, life insurance, Social Security, and Medicare are all valuable fringe benefits that must be allocated in each year's funding of an operating budget. Social Security is in excess of 7 percent and retirement contributions are usually in the 10 percent range. All of these benefits accrue only if you get sick, retire, or die. The question to pose is: What percent of each person's salary do you allocate each year to keep your most valuable investment, human capital, mentally alive, professionally alert, and up-to-date in their profession?

To answer that question, examine your department budget for the year and calculate the percentage spent on the budget category of travel (registration fees, lodging, meals, airfare, etc.) compared with the salary budget for all positions. My guess is you'll be astounded because it will not even equal the smallest of all your typical fringe benefit percentages. Then rank those benefit percentages and ask yourself: Is that the priority of spending that really makes sense in terms of performance dividends?

Today, the solution to understanding and comprehending the benefits and applications of huge numbers of new products, new vendors, other institutional initiatives, and advances is not just to deal with the dilemma of where to go to spend one's time but how to effectively broaden one's exposure to the greater professional universe in which we live and operate. As salaries increase in order for us to recruit and retain great people, we must commit to keeping those persons up-to-date professionally. The annual cost of this when calculated as a percentage of annual salary, small as it usually is, becomes even smaller when one compares annual expense with the total dollar investment in a person given their total years of service. It is not uncommon for total fringe benefits and retirement benefits to be budgeted as 25 percent to 33 percent of the salary. Hence, for a \$50,000 professional person, this represents roughly \$12,000 to \$16,000 annually.

Does it not seem reasonable to allocate an additional 5 percent, or \$2,500 each year, to keep the person professionally alive and active while on the job? And note that the annual dollar amount expressed as a percentage shrinks when calculated on the total cumulative salary paid over time, a reflection of an institution's total investment in any given person.

Often, when funds are short, travel is first to be cut or frozen. Yet, cutting off the idea and creativity lifeline to your currently employed staff is exactly the wrong thing to do for it restricts or eliminates their ability to know their profession. Further, it's probably the least costly expense to protect your total and continuing human capital investment.

Hence, for a broader role, one has to have broader exposure for oneself and one's staff. To have broader exposure, it's going to cost and this is the case for that expenditure allocation.

Principle #3. To successfully adopt or transplant what is going on elsewhere requires that you be part of a professional network.

Jack Sheehan was a professor of radio and television at Indiana University; I distinctly remember, as an undergraduate in his course on broadcasting, his saying that "all creativity is selective thievery." I can still recall my immediate reaction of being shocked at such a blunt statement. My second and somewhat delayed reaction was, given the track records of the radio and television industries, where copycats seem to prevail, that even forty years later, maybe his view was understandable. But as his course unfolded over the semester and, I suppose, as my professional life began and also unfolded, I came to see in a larger and deeper sense of what he meant. That message really is that we do not become creative or create anything in a void or vacuum. We are at our best when we are engaged and subject to external stimulation. It is that engagement in things unique, unusual or in different locales that serves as the springboard to our own creative processes.

Nelson Rockefeller, even before he became Governor of the state of New York, was dedicated to the proposition that a big secret to success was to always hire people smarter than yourself. Of course, Rockefeller could always end up looking great because he had the ability to acquire and retain the best staff money could buy. But the corollary is that we can all observe what people smarter than you have already accomplished or what they are currently doing to make for lasting achievement. While imitation can be said to be the sincerest form of flattery, there is no shame in professional emulation. That's what role models are for and that is why it is so essential to seek them out. Be where they are. Visit them at their home institutions.

In almost all instances with which I am familiar, the implementation of successful policies, processes, systems, or other applications can be traced to thorough research on what others are doing, what their experiences have been, what factors contributed to their success, what local circumstances existed that would parallel our own, what events may have prevented greater achievement, and then providing for the time and opportunity to sift through the parallels and differences to result in a plan of action that is appropriate for a given local circumstance. Being a part of, and a contributor to, a network of professionals allows you access, candor, intelligence, and gestation time for your own creative endeavors necessary for personal and professional success.

Mortimer Adler, in his second autobiography, *A Second Look in the Rear-view Mirror: Further Autobiographical Reflections of a Philosopher At Large*, talks about his formula for original writing and the need each day for "idling time."

"Human idling is like the idling of an automobile engine when it is turned on, but not put into gear to move in some determined direction. We idle when we are awake, but do no purposeful thinking, thinking driven by some aim or goal. If one has done highly concentrated and purposeful work in the morning, such as writing a chapter, that concentration and purpose cause things in the fringe of your conscious mind to be shunted into your unconscious. Then when you relax in the afternoon to spend an hour or two idling, those things, buried in your unconscious, come alive in your conscious mind.

Sometimes they are phrases or sentences to use in the chapter you are going to write the next morning or on some subsequent day that week. Sometimes they are an addition to the thinking process that you had assumed was completed before you started writing.

The writing of the chapter in the morning did not include the thought or two that pops into your mind while idling that afternoon. It was shunted out of your conscious mind into your unconscious because your attention was so concentrated in the morning on the task of writing. Knowing this, I never sit down for my afternoon hours of idling without paper by my side on which to take note of the words or thoughts that idling always produces.

The usefulness of idling in the process of writing a book is not peculiar to that process. It will occur in the busy life of professional persons, such as lawyers, physicians, or engineers, as well as in the busy life of top executives in commerce and industry.

It will occur, but only if they allow it to occur, which means they must avoid being busy all the hours of their waking life. Especially if they work hard in the morning, they should manage to find an hour or two for idling in the late afternoon or evening of the very same day. Postponing it for some other day or later in the week will not do. What was buried in the unconscious by concentrated attention to the tasks of the morning must be permitted to revive in the afternoon or evening of the same day. Idling delayed is idling deprived of its efficacy."

Seeing what is done elsewhere, hearing what someone else is doing, reading about what is happening in your profession or even others, provides the stimulation for creative endeavor; idling time provides the time for the creative moments to occur. It is the essential time for synthesis and re-application.

Principle #4. To put in place today the hopes and dreams of the faculty is probably—almost certainly—going to require the support of information systems technology.

And, I think it's safe to say that technology, as evidenced by people, software, and machines often costs quite a bit. Because large amounts of money are involved, issues of information technology are among the most critical on campuses today. This

challenge is further ratcheted up the priority scale by the ubiquitous nature of information technology in almost all facets of today's academy.

I came to the Registrar's Office from the academic program of Instructional Systems Technology. It was the belief of my mentors that much benefit would accrue from the integration of a systems approach to the creation and implementation of units of instruction. The concept was to use a development model, directed by an instructional developer, focused on learning objectives that incorporated contributions made possible by the collaboration between a content specialist and a technology specialist. This was forward-thinking for thirty-five years ago, but that was understandable since it was led by some forward-thinking people like L.C. Larson, Mendel Sherman, and Gene Faris.

This approach explains in large part how my view of registrar technology application success was formed. The goal was to have successful applications that mirrored the goals set by the faculty for their academic programs. Trow describes the systems approach as implying "a careful study of the kind of treatment (input) required...in order to attain the objectives sought." Benathy describes the design model in six steps: determine objectives; develop test for success; analyze components; create programs; system implementation; and evaluation and modification. The faculty were the content specialists as they set the objectives, outcomes, and results to be achieved. It also seemed perfectly reasonable to have technology personnel in the Registrar's Office to ensure that the applications developed reflected exactly the outcomes and specifications dictated by the faculty. Because technology resources were highly prized, expensive, and scarce, it made sense to have direct access to those professionals by allocating some of our own resources to this function.

It has become a commonly accepted rule in the registrar profession that one has to say "yes" to the faculty far more than one can ever say "no." Part of that is because of the registrar's unique relationship with the faculty due to its origins, and part is simply a reflection of the faculty governance system. Direct access to, and control of, information technology resources makes it possible to honor this principle and increases the likelihood of success. While other instructional systems models exist, the formulas are similar and parallel those for business processes.

Put another way, today, more than ever, but certainly for the last thirty-five years, information technology is the coin of the realm. It is appropriate and imperative that the registrar have access to and direction of these resources in order to fulfill expeditiously the faculty expectations for academic policy and process.

A few years ago, individual or often groups of faculty came to us with problems regarding class registration. In particular, the numbers of closed courses were increasing, course demand could never quite be ascertained, first week of class course changes totaled over 50,000 (nearly 40 percent of all enrollments); and the exchange process was still done by hand in a fieldhouse arrangement.

Together, as detailed in chapter 9 of *Breakthrough Systems*, our faculty, registrars, and technology professionals totally re-engineered the process beginning with an articulated set of faculty goals and desired outcomes. After many outside visits, investigation of industry parallels (such as airline and hotel reservation

systems), and focus group testing, we created together something totally unique in higher education and registrar systems today: the automated course exchange. It allows each student to register for what is available, and for what courses are not. This is possible because every course has a waitlist, the registration for a waitlist is fixed (as a stock buy order), the drop course (if there is to be one) is also identified, and the computer files are reviewed and updated daily making room changes, increasing student enrollment allocations, and making additional sections, all of which make it possible to maximize enrollment in available offerings, achieve 80 to 90 percent of student demand and, where not possible, offer guaranteed raincheck enrollment in the course of choice the next semester.

EDUCAUSE, the association for managing higher education information technologies, awarded Indiana University one of their three Best Practices awards in 1995 for this application. It reflected faculty policy, was created through extensive research of systems elsewhere, was produced after discussions with peer institutions nationwide, and leveraged innate benefits of information technology to achieve institutional success. The central role of information technology in this project, the indexed record cited earlier, which also won an EDUCAUSE Best Practices award, and many others through the years, was an essential component of success.

Principle #5. The role of the registrar as an academic officer comes down to a unique blending of ideas, people, and technology.

Ask yourself: What unfulfilled academic need does your institution have and what can you do to provide it? My guess is that there is more than one such need and I also suspect that most registrars can be particularly effective at providing the means to achieve results. In large part, that opportunity is permitted through the pivotal role that each institutional registrar occupies with regard to the ideas, people, and technology triumvirate.

Registrars are often judged by the success of their operational systems and processes and by the ability to maintain integrity of the data entrusted to their custodianship. Yet the opportunity exists for registrars to help solve academic problems or meet academic needs through the conception, design, development and implementation of unique and creative service applications. Further, as the curator of a vast amount of critical institutional data, the opportunity also exists to assemble and apply those bits of data into a cohesive arrangement to illuminate problems, frame options, and offer solutions. It is the challenge to leverage what data and perspectives we have in informational and insightful ways no one would expect so that the quality of academic decision-making is significantly improved.

Earlier this year, Indiana's president established an Enrollment Capacity Task Force for the Bloomington campus. Our enrollment has increased by over 3,000 students in the last five years and the question that has been raised frequently is: What is the limit to growth on our campus? All of us in the office who work so hard each fall in producing for campus administrators and faculty leaders the almanac of enrollment and related registrar information were so pleased that copies of this 240 page report formed the basis for deliberations this year at the very first meeting of the committee. Extra copies were provided as needed,

assignments for reading sections of this document accompanied nearly every meeting, and further information requests and analyses were prompted by data, tables, and information narratives contained in a publication already sent to over 500 recipients.

The role of a registrar as a proactive academic officer requires that we adapt, modify, enhance, and even re-create our systems—and sometimes ourselves—in order to make a difference in department, school, and institutional decision-making and in the faculty process.

To do this clearly requires efforts beyond the business of the moment. How often do we find ourselves governed by and focused upon deadlines, correspondence, problem resolutions, reports required, and unexpected demands?

To do this will require efforts to prioritize one's activities and control one's time. It's almost trite today to talk about time management and yet time is the great equalizer for all of us. How then is it that some are able to get so much more done?

I suggest that to get more done requires to take time away and time apart—for it is this that fulfills a quest for perspective and goal setting and creativity that will not come from a day off or a weekend away.

We all need the stimulation from others who have faced, mastered and won the battle. And, these winners will be the first to say that academic status is not conferred or bestowed; rather, it is earned by deeds and achievements.

John Malloy, the author, twenty years ago of *Dress for Success*, postulated that one should dress for the job they want rather than the one they have. More broadly stated, a professional should exhibit qualities for greater responsibility before one might actually get greater responsibility. Or, assume greater responsibility before greater responsibility is awarded.

The role of a contributing academic officer may be the one role that is most uniquely that of the registrar. But the registrar must make available the time and commit to the prerequisites and principles in order to effectively assume this role on the stage of ideas. My most important message is that this role must be broadly defined in order to achieve results and become an essential, valued contributor to the academic enterprise. This opportunity exists for every registrar who is willing to separate him/herself from the demands of the day and who is willing then to chart his/her own institutional course. That's the route to earning status as an academic contributor by using registrar information and technology resources to help academic policy formulation and evaluation. In the tradition of European universities, the American registrar has in place the history and the academic officer linkage; the challenge today is whether one can live up to that past and rise to the challenge of the future.

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Five Truths of Marketing Colleges to Teens

While today's teens (called Millennials, *not* Generation Y) are indeed a very focused group of individuals, they are also a very fickle group—changing their minds for the oddest reasons. As a focus group moderator of teens for many years, I am very surprised when I hear people say they consulted with an “expert” in teen marketing. The reality is that there are no experts in teen marketing. Some of us stay on top of trends and try to anticipate new ones, but this is by no means an exact science.

When marketing higher education to teens, the five “truths” listed below will help you streamline your process and get your message across. Many of the observations are supported by data from the *Stamats National College-Choice Survey of College-Bound Teens* and observations from focus groups of high school students over the past several years.

The Truths

1 BRAND MATTERS

From Tommy to Nike to the Gap, this generation is very label conscious. This brand awareness is not just for clothes, shoes, and other products, but for higher education as well. One critical and often overlooked fact is that your brand matters. Be very conscious of how you are perceived by the teen marketplace, and realize that your brand can and will change if you do not manage it.

Initially, as students begin to think about what college they plan to attend, they think about programs first. “Do you have the program in which I am interested?” After they have determined the best schools for their program, they make a list of the top eight to ten schools. This list includes programmatic schools (offering their major), local schools (near student's home), and finally the brand schools (the name schools). The brand schools are significant in that they are the schools that stick out in the student's mind as a place that “I really want to attend.” The importance of the school may be regional, or it may deal with parental or peer influence, but these are the key brands to the individual.

As they progress through the decision process, they narrow this list to the top three to five schools. Typically the schools that make this list have a few things in common (all of which will be assessed later). These schools are almost always from the first group. It is this simple fact that causes institutions to waste millions of dollars each year chasing phantoms. A phantom is a prospect that will never come to your school no matter how hard you pursue them...you didn't make the student's initial list. The only good way to make the first list (and in reality the final list) is to romance the brand. Create a brand that makes prospects say, “I've got to go to XYZ University, and I will make sacrifices to do so.” The only way is to be consistent in your branding effort, and to start early. Brands are built with teens in the pre-teen years.

2 KNOW WHAT TO SAY AND WHEN TO SAY IT

Messages get lost for two key reasons. First, they are misunderstood. Make sure the message is clear and understandable to the target audience. Second, the audience never hears the message because of poor timing. Don't let your message get lost because of poor timing. Be sure to talk brand (environment) early and price/outcomes/programs later. You need to build brand awareness early in the process. Early in the actual cycle emphasize the “collegiate experience.” Items such as residence halls, academic facilities, and campus life all are very important to the younger teen. As they move through the cycle three very important elements arise—outcomes, pricing, and programs. During the

Steve Kappler has spent more than 13 years in consulting and market research, focusing on marketing strategies and the best ways to implement them. Besides client work, Mr. Kappler is also a frequent presenter and contributing author for higher education associations and other educational trade journals. He graduated from Augustana College with a B.A. in business administration.

early stages of information dissemination, have some fun detailing and creating a picture of the institution and the overall collegiate experience. As you move through the communications flow, become more focused on what you offer (programs), how much it costs (price), and what becomes of graduates (outcomes).

3 LEAN ON THE INFLUENCERS

When dealing with teens, it is crucial to remember the “influencers”—those individuals providing counsel or advice to the teen. Parents are by far the biggest influencers. They will be critical throughout the process, although their importance seems to increase with the progression of the recruiting cycle. Keep them in the information loop and you will see rewards. The key with influencers is remembering when they are likely to have the greatest amount of influence. Below is a table that details several other influencers and when they tend to be the most influential.

The table below shows the early importance of friends and high school contacts. Keep the information flowing to these audiences as they can play a critical role in your brand and in your position on the initial list of eight to ten schools. Throughout the recruitment/application cycle, prospects begin to look to different individuals for insight. The closer they get to “reality,” the closer they get to collegiate influencers. Parents and peers are the influencers that will play a role throughout the cycle. Indirectly marketing to peers can and has worked for several institutions. Ask your early-decisionmakers for the names of friends that may be interested.

Influencers	Pre-Junior	Early Junior	Late Junior	Early Senior	Late Senior
Parents	●●●●	●	●	●	●●●●
Peers/friends	●●	●●	●	●	●
HS counselors	●	●	●		
HS teachers	●	●	●		
Admissions counselors			●	●	●
College students				●	●
College professors				●	●

4 GET REAL AND GET INTERACTIVE

Be cool, but don't act like a fool. Remember that you represent a higher education institution. Try not to be too trendy, and avoid phrases that are cool now but may be out of style in the near future. Be honest in what you say about your institution. Is what you say truly reflective of who you are? Is it your brand? In dealing with institutions that are experiencing enrollment issues, often it is retention-related and not recruiting-related. Many times it is a matter of expectation not meeting reality. Schools create an image of themselves using publications, advertising, or their Web site. This image is the one the student grasps onto as an expectation. When they get to your campus, they often find the image they had in their mind doesn't meet the reality. When expectations do not meet reality, students will leave your institution. Test your marketing messages with current students to make sure that you are who you say you are! This includes, and may in the near future rely on, your Web site.

Because of the rise in importance of Web sites, it may well be the first time a student comes in contact with your institution. Is it reflective of the greater institutional message you are trying to portray? Students are now using institutions' publications and Web sites in conjunction; do they have a consistent look and feel? Remember that your marketing messages now transcend normal promotional methods. Using fun and new approaches to reach the teen market will be the norm very soon. Be willing to be a trendsetter and try some new interactive approaches. At the very least be willing to cross conventional lines by using one or more promotional mediums together. For example, use an e-mail message that drives them to your Web site (with an embedded URL address). A CD-ROM offers the opportunity to use several mediums together. First is the CD itself. Second is the paper insert that accompanies the CD. Finally, have the CD offer a direct launch to your Web site. Three mediums, one message...**Brand Consistency!**

5 DON'T FORGET THE FEATURES, BENEFITS AND OUTCOMES (FBOs) OF MARKETING

What is the common denominator in all of the following questions?

- What do you have for me?
- Why is it important to me?
- What will happen to me if I use it?

Me, me, and me. How can you make messages personally relevant for the individual you are trying to influence? Most schools are very good at telling about their features. We have this, offer this, do this, etc. Where schools fall short is the next two critical steps. Why are your features of benefit to *me*, and what will your education do for *me*? These are your benefits and outcomes. Students want to see what you have to offer and what it means to them. These are the points that need to be made with your efforts.

- **Features:** What are your features? They may include items such as: caring faculty, athletics, small class size, spiritual environment, personal attention, friendly campus, the ability to get involved in activities, and cost or financial aid packages.
- **Benefits:** What are the benefits of attending this institution? The key in outlining your benefits is making a feature into a benefit. “How is small class size a benefit to me? What does a friendly campus mean to me? Why are campus activities important to me?” Again we see the focus on *me*. Your ability to turn your features into benefits is your ability to make them personally relevant to the target audience.
- **Outcomes:** The final and most important area is outcomes—what are your graduates doing, what will this education lead to? While there are many different types of outcomes on which you could focus, here are a few critical items to consider: graduate school and job placement rates, starting salaries, and the companies that “recruit”

your students. Also, keep in mind that it's important to focus on outcomes to which the target audience can relate. If you are trying to reach teens, focus on more recent alumni, not the 64 year-old CEO of a major international corporation. Although they may aspire to attain this level, they currently have no concept of how to get to that position. By focusing on alumni one, two, or five years out, you can create a picture to which today's teen can relate.

Given an adequate budget, the FBOs should be done by all the specific programs and divisions at your school, and not just as an overall institutional plan. We know that students view schools based on their programs; give them the information in this manner.

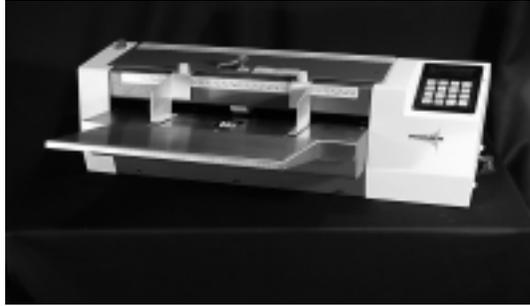
Conclusion

While these five truths are key in marketing to teens, keep in mind that any quality marketing effort takes time, perseverance, and a good budget. To get the most out of your marketing dollars, research your own teen prospects. Following these guidelines can offer you an advantage when marketing to teens: first, remember your brand; second, know what to say and when to say it; third, lean on the influencers; fourth, get real and get interactive; and finally, remember features, benefits, and outcomes in your efforts. These five truths should help you reach your ultimate goal of building stronger relationships with your prospects and enrolling more quality students.

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E-Learning in Higher Education

For decades, universities have dabbled in information and communications technologies (ICT) to augment—and in some cases, supplant—traditional classroom education. Extraordinary improvements in the memory and processing speed of personal computers ushered in the era of computer-based training (CBT), whereby users could access educational material on their own computers and on their own time. But the CBT market really took off in response to the explosive growth of the Internet in the mid- to late-1990s. Today, CBT providers are increasingly abandoning older, non-interactive technologies such as CD-ROM applications and turning to the World Wide Web to disseminate knowledge. The quality of applications, content, hardware and bandwidth has reached the point where they can support the delivery of customized, cutting-edge, multimedia courseware to virtually anyone with a computer and an Internet connection. Today, the market for Web-based training, or “e-Learning,” seems at the cusp of reaching critical mass.

A number of colleges, universities, and business schools are pioneering the use of e-Learning in higher education. These range from leading “bricks and mortar” universities such as Stanford, MIT, Columbia, and Wharton School of Business, to virtual universities such as the University of Phoenix, to numerous vocational and managerial training programs by firms such as DeVry and Sylvan. In addition to increasing enrollment and slashing overhead costs, distance learning provides higher education institutions with a number of exciting opportunities to create and disperse knowledge where it would not otherwise be available.

According to IDC, the Internet research and consulting firm, “the number of colleges and universities offering e-Learning will more than double, from 1,500 in 1999 to more than 3,300 in 2004. Student enrollment in these courses will increase 33 percent annually during this time” (December 18, 2000). In most cases, universities work closely with e-Learning specialists to define and implement an e-Learning strategy that best suits the university’s objectives. E-Learning providers offer content,

hosting, delivery, administrative and development tools, real-time communication, streaming video, and much more.

But before jumping on the bandwagon, however, IDC (April 26, 2000) advises higher education institutions to look to e-Learning vendors who:

- Partner with reliable content, hardware, administrative, and application-development providers.
- Offer higher education institutions efficient licensing and individual program design.
- Provide onsite and offsite suites of training and product support.
- Ensure real-time, synchronous class interaction.
- Support multiple third-party applications and platforms.
- Create unique value propositions to students and institutions (*e.g.*, speed, comprehensiveness, cost, ease, and superior content).

While the e-Learning industry is still in its infancy, we have learned a great deal from the early adopters. Here are some aspects of the e-Learning implementation lifecycle that must be considered in any project.

Emaad Burki is Chief Executive Officer of Altvia Technologies, Inc. Mr. Burki has an M.P.A. from the Maxwell School at Syracuse University and an M.B.A. from Johns Hopkins University. Altvia is a Maryland-based provider of performance-based e-Learning solutions and management consulting (<http://www.altviatech.com>).

Joseph J. Savitsky is Director of Altvia Technologies, Inc. Mr. Savitsky has an M.A. in Development Finance and Banking from American University and a B.A. in Economics from St. Joseph’s University. He previously worked at Emerging Markets Partnership, LP, a Washington, D.C.-based private equity firm.

Look before you leap.

Prior to any e-Learning engagement, it is critical that you “look before you leap.” Careful planning of an e-Learning project is critical to success. Too often organizations implementing e-Learning solutions concentrate too much on the technology itself, losing sight of the core educational and organizational objectives that the solution is intended to facilitate. At the most basic level, the development of a training plan should include a training needs and skills assessment and identification of organizational and end-user performance objectives. The training plan should then consider the training strategy—ranging from instructor-led training, to pure technology-based training, to a blended approach. Further thought should be given to what supporting measures the organization will need to carry out in order to ensure an optimal e-Learning experience for users of the technology. Users cannot simply plug in an e-Learning application and expect a rewarding educational experience; students still require the direction of professors and interaction with fellow students. Universities implementing e-Learning strategies must consider these and other issues and plan accordingly.

Develop a technological solution that best suits your organizational objectives.

The e-Learning components can be divided into three broad categories: (1) Content, (2) Management, (3) Delivery.

- **Content.** E-Learning content, the courseware used by the student, is available in many forms from leader-led or lecture-lab training, to self-paced, Web-based training. The actual choice of courseware type depends on many factors (developed in the planning phase), including the type of course being taught, the level of remediation required, and whether the course is informational or conceptual.

In selecting courseware, there are two options: (1) buy off-the-shelf content or (2) build custom courseware content. In either case, the implementation team must consider whether the courses are based on sound instructional design principles. Some issues to consider are:

- ▶ *Pedagogy:* Is the courseware appropriate for the type of learning?

- ▶ *Subject Matter:* Are goals and objectives, organization, and sequence appropriate or relevant?
- ▶ *Language and Style:* Are audience characteristics such as reading skills and cultural issues addressed?
- ▶ *Look & Feel:* Do the control features help with the learning objectives?
- ▶ *Remediation:* Is user interaction with the software questions and answers appropriate?

- **Management.** At the core of an e-Learning project is learning management. In an e-Learning system, the learning management is provided by a software package called a Learning Management System (LMS). The LMS links courseware delivery to the organizational performance objectives by managing the student experience and tracking and measuring the organizational outcome or performance objectives. There are many learning management systems available. It is important to choose an LMS that is flexible and compliant with existing and emerging standards from organizations such as AICC, IEEE, IMS, and ADL.
- **Delivery.** Finally, how do you put all these pieces together and deliver the e-Learning solution to your end-users? While one option is to develop the required infrastructure “in-house,” this can be tremendously time consuming and expensive. Following the trend in data center and Web application outsourcing, the e-Learning community also follows the application service provider (ASP) model to provide fully outsourced solutions.

Conclusion

E-Learning is a growing trend in the higher education community. Given all its merits, however, institutions considering this option should be aware of the intricacies of Web-based training. With proper planning, implementation, and maintenance, you can create an optimal e-Learning environment at your institution that benefits both the host and user.

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IDC. <http://www.idc.com:8080/ebusinesstrends/ebr20010426.stm>

*by Claire Sylves, Mid-Atlantic Director, Credential Evaluation Services
AACRAO Office of International Education Services (OIES)*

Are Foreign Universities Accredited?

The concept of accreditation can be very “foreign” to people who are not familiar with the U.S. system of education. In many countries, the Ministry of Education recognizes institutions of higher education, and accreditation does not exist. However, even in the most regulated of countries, this system is changing due to the rise of private universities and the world-wide demand for higher education. What does accreditation mean in the United States?

In the United States, accreditation is a voluntary process, but is essential for a number of reasons. Accreditation by a regional accrediting agency means that students may receive federal government financial support through loans and other means. Those who graduate from regionally accredited institutions are eligible to continue on to graduate study at prestigious institutions. Americans generally accept accreditation as a means of validating a specific educational institution.

“Accreditation is a means of self-regulation and peer review adopted by the educational community. The accrediting process is intended to strengthen and sustain the quality and integrity of higher education, making it worthy of public confidence” (Middle States Commission on Higher Education). It is a process by which a group of educational institutions establish criteria for the assessment of the quality of degree programs or institutions. When a school or educational program is “accredited,” it says that the institution has met quality standards established by a peer group. The two major types of accreditation are “institutional,” and “specialized” or “professional” accreditation.

There are six major institutional, regional accrediting agencies in the United States, which are responsible for different geographic areas of the country. They are the New England Association of Schools and Colleges, the Middle States Association of Colleges and Schools, the North Central Association of Colleges and Schools, the Northwest Association of Schools and Colleges, the Southern Association of Schools and Colleges, and the Western Association of

Schools and Colleges (Middle States Commission on Higher Education). Also, the Commission on Technical and Career Institutions and the Accrediting Commission for Community and Junior Colleges should be included in this list, as these are commissions within the six organizations. The addresses for these organizations are included at the end of this article. The accredited colleges and universities in each region make up the membership of the regional accrediting agencies.

How do colleges get accredited? Before an institution can even apply, it must show that it has met certain conditions for eligibility. Among other requirements, it must show that it has sufficient financial resources, physical facilities, library facilities, faculty, academic programs, and student services. It must have a charter, a mission statement, and a governing board.

Each of the regional accrediting agencies has a Commission, such as the Middle States Commission on Higher Education. Colleges and schools must apply to the Commission. This is a two-step process: first, an institution completes a self-study of its own academic programs and submits the self-study to the Commission; second, the Commission sends a team of evaluators to the school to review the institution. If the Commission approves, the school is accredited. The team of evaluators issues a report to the school, and the institution has the opportunity to respond to the report. The Commission reviews all the documents submitted to it. While this is a very truncated version of the accreditation process, which can take years, the entire process is designed to improve the quality of education. Colleges and universities, at least in the Middle States area, are generally evaluated every five years, with a comprehensive evaluation every ten years. While colleges and universities in the United States are not ranked as to quality, an institution can lose its accreditation if it does not continue to meet the requirements of the Commission.

In addition to institutional accreditation, there is “specialized” or “professional” accreditation of individual programs at a university or college. This professional accreditation sets standards

in specific fields of study, such as education, law, nursing, or medicine. Some schools seek this additional accreditation to further validate their programs of study. Professional accreditation is usually associated with professional boards in various fields.

Just as there are colleges and universities that are not legitimate, there are accrediting agencies that are not legitimate. The following words do not mean accredited:

- pursuing accreditation
- chartered
- licensed or registered
- recognized
- authorized
- approved

How can you find out if an institution is accredited in the United States? The American Council on Education (ACE) publishes a book which lists the accredited institutions of higher education and which accrediting agency accredits them. It is called *Accredited Institutions of Postsecondary Education*. The *Higher Education Directory* produced by Higher Education Publications (HEP) also gives the same information. Widely used is *Transfer Credit Practices of Designated Educational Institutions*, which is online for AACRAO members but can also be ordered as a print publication. Also, the regional accrediting agencies can be contacted directly. Recognition for the regional accreditation organizations is through two organizations, the U.S. Department of Education's Office of Postsecondary Education, and the Council for Higher Education Accreditation, both of which are located in Washington, D.C.

Nothing is more difficult than telling an American or international student that the program he or she has completed or is about to attend is not recognized by your institution. Often, these students will cite an accrediting association for the school that is false. For this reason, it is important to make every effort to assist students in determining legitimately accredited colleges and universities.

The U.S. system of accreditation can be extremely confusing, especially to international students, because it is not run by our government and because we do not have a centralized Ministry of Education or other governmental body overseeing our educational institutions. U.S. institutions need to be able to identify which educational institutions are "recognized" in other countries.

Some publications commonly used to determine which institutions are "recognized" in other countries are the *International Handbook of Universities*, *The World List of Universities*, the *Commonwealth Universities Yearbook*, *Post-Secondary Institutions of the People's Republic of China*, and the *Universities Handbook—India*, just to name a few. (For further reference, see *College & University*, Volume 76, No. 1, "The Myth of the Big Book.") Up until a few years ago, accreditation did not exist in most other countries and the single most common way of institutional recognition was through the Ministry of Education or other governmental body of a particular country.

Now, some countries have newly established forms of accreditation due to a number of factors:

- More and more people are seeking higher education as a means to advancement.

- Countries are under pressure to provide education to larger groups of individuals who may want to attend school in their home country.
- The cost of education has become a major issue in many countries. This has led to the rise of private, for-fee universities in countries that did not have private schools before.

Since these are developing institutions, the way that accreditation is established and the methods used may differ from the understanding of accreditation in the United States.

Some of our Neighbors to the North and South

How do some other countries recognize educational institutions? Jamaica is a country that did establish an accrediting body. The University Council of Jamaica was established in October 1987, under the Ministry of Education. Its mission is to "increase the availability of University-level training in Jamaica, through accreditation of institutions, courses and programmes for recognition and acceptability" (The University Council of Jamaica). It also established a registry to ensure minimum standards would be met for academic institution in Jamaica, such as physical facilities, programs offered, faculty, and administration. In addition, it is empowered to award degrees and other academic awards to those who have completed programs approved by the Council. Here, the accrediting body is looking at both the specific degree programs and the academic institutions in Jamaica. A list of recognized programs is available from the University Council of Jamaica.

Our Canadian neighbors do not have an accreditation system similar to that of the United States. Universities are authorized to award degrees through a charter granted by the legislature of the province in which they are located. Tertiary non-university institutions receive authority to operate from the Ministry of Education of the province in which they are located. The older institutions in Canada received royal charters from England to award degrees. A *Directory of Canadian Universities* is available, which lists all of the universities and colleges authorized to award degrees.

Mexico has a somewhat confusing system of recognizing private universities and programs of study. In order to get official recognition of a program, private institutions have to obtain "official validity" (*validez oficial de estudios*), through "incorporation" or "recognition" (Villa 1982). Public, state, and federal institutions may "incorporate" the programs of a private institution. In other words, they are saying that the programs come under the umbrella of their own institution, and these programs are accepted as the same as their own programs. Degrees are issued by the institution that has the original "validity." "Recognition" means that the program itself has obtained official validity through federal or state agencies and ministries of education. Final documents from these programs are signed by the recognizing agency.

As we have seen, ways of recognizing colleges and universities differ widely depending on the country and its system of recognition. The accreditation system in the United States is somewhat unique, in that it relies on its member institutions to be involved in the process. In the future, many countries will be

struggling with the question of how to recognize private institutions which are now offering programs in their countries.

Regional Accrediting Organizations for Higher Education

Middle States Association of Colleges and Schools
Commission on Higher Education
3624 Market Street
Philadelphia, PA 19104
(215) 662-5606

New England Association of Schools and Colleges
Commission on Institutions of Higher Education
209 Burlington Road
Bedford, MA 01730-1433
(617) 271-0022

North Central Association of Colleges and Schools
Higher Learning Commission
30 North LaSalle, Suite 2400
Chicago, IL 60602
(800) 621-7440

Northwest Association of Schools and Colleges
Commission on Colleges
11130 NE 33rd Place
Bellevue, WA 98004
(206) 543-0195

Southern Association of Schools and Colleges
Commission on Colleges
1866 Southern Lane
Decatur, GA 30033-4097
(404) 679-4500 or (800) 248-7701

Western Association of Schools and Colleges
Accrediting Commission for Senior Colleges and Universities
985 Atlantic Avenue
Suite 100
Alameda, CA 94501
(510) 748-9001

Commission on Technical and Career Institutions
209 Burlington Road
Bedford, MA 01730-1433
(617) 271-0022

Accrediting Commission for Community and Junior Colleges
3402 Mendocino Avenue
Santa Rosa, CA 95403
(707) 569-9177

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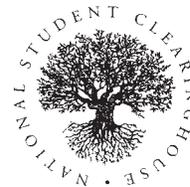
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Book

reviews

Assessment Practice in Student Affairs: An Applications Manual

By John H. Schuh and M. Lee Upcraft
Jossey-Bass 2001
510 pages

Schuh and Upcraft have written what is sure to become a “must have” volume for student affairs professionals. Designed to be a companion piece to the authors’ previous work, *Assessment in Student Affairs*, this volume is an in-depth and thorough instruction manual for how to design and implement an assessment process for nearly every aspect of student affairs work. The authors found a difficult and appropriate balance between condensing relevant research literature and putting the various methods within the context of student affairs work. This volume is written with the practitioner in mind and is easily accessible, with clear instructions and examples. Eleven experienced student affairs practitioners served as contributors to the volume—the currency of the issues and the thoroughness in which these are addressed is a testament to their work.

Assessment Practices in Student Affairs is organized into five major sections: Principles and Purposes, Methods, Basic Approaches, Programs and Service Areas, and Assessment Issues. The authors begin with an overview of why assessment is important and outline the necessary steps in the assessment process. They also include a discussion of the differences between qualitative and quantitative research methods and offer suggestions about the uses of each in assessing programs and practices. Schuh and Upcraft dedicate a chapter each to focus groups, quantitative instruments, mail-out surveys, and telephone surveys, as well as a timely and useful discussion of Web-based data collection.

The authors also explore and explain the major types of assessment approaches including needs, satisfaction, learning outcomes, environmental, cost effectiveness, postgraduation, etc. Within each of these basic approaches, the authors offer examples and relevant case studies such as commuter student concerns (needs), leadership development (learning outcome), and quality of residential life (environment), to name a few. In addition, they provide several sample protocols and instruments that can serve as templates to the user and can be easily adopted for immediate use.

A most useful section of the book is Part Four: Programs and Service Areas. Here, Schuh and Upcraft have dedicated a chapter to each of the major areas of student affairs, including: student academic success, first-year programs, campus recreation programs, financial aid, admissions programs, residence life programs, college unions, health services, career services, counseling services, Greek life, and student conduct. Within each

chapter, the authors detail issues and concerns, provide case studies, and give specific examples of protocols and instruments. Each chapter is structured in such a way that even a new professional with limited assessment experience could follow the steps and design an appropriate and useful assessment process.

What is most striking about *Assessment Practices* is the immediate applicability of content. Utilizing real examples and current issues, Schuh and Upcraft are able to walk the reader through the various assessment options, outline the necessary steps, and bring the process to closure through discussion of the final written report and its distribution. Because they offer so many options and solutions, I found myself thinking more creatively about the process of assessment and seeing ways in which I could incorporate it into my work.

Also appreciated was the honesty and directness of the authors. They outline the pros and cons of various methods and strategies while articulating the potential dangers of assessment (*i.e.*, how the results will be utilized). They realistically addressed some of the roadblocks to, and pitfalls of, assessment. One useful chapter, entitled “Getting Started,” specifically addressed many of the barriers to assessment including lack of money, lack of assessment expertise, lack of support from leadership, etc. In addition, they addressed ethical considerations of assessment and offered solutions.

The volume is a bit large and unwieldy—at 510 pages, it is not something that one just carries around—but it is written in a user-friendly style. Even the page layout and design is pleasing to the eye and easy to follow. A useful resource is included at the end of the book—a thorough listing of existing assessment instruments, organized by topic, with information on what they measure and where to find them.

What the authors may not realize is that their work will have the additional benefit of helping its readers understand the complexities of the work of their colleagues. In reviewing this manual, I developed a newfound respect for the work of professionals in many other areas of student affairs. For example, I had not been familiar with some of the issues particular to the fields of admissions, financial aid, recreation, etc.—I believe I now have a more well rounded understanding of the nature of our field.

Assessment Practices in Student Affairs is highly recommended for all student affairs practitioners as well as graduate students in higher education. No matter what your line of work, you will find useful information and practical assessment tools.

Britt Andreatta, Ph.D., is Director of First Year Programs and Leadership Education in the Office of Student Life at the University of California, Santa Barbara.

Index for Volume 76

The following is an index of the articles, commentaries, book reviews, and letters to the editor that appeared in Volume 76 of *College & University*, Summer and Fall 2000 and Winter and Spring 2001. The entries are separately indexed alphabetically by title, author(s), and subject; and the issue in which the entry appeared together with its page number.

Title Index

Applying Sanctions for Non-Payment, Spring 2001, 21–26
Be Careful What You Wish For: Analysis of Grading Trends at a Small Liberal Arts College, Grade Inflation or Progress?, Spring 2001, 9–14.
(The) Beginning Impact of State “Percentage Plans” on College and University Admissions (policy analysis), Spring 2001, 27–28.
Beyond The Enrollment Management Division: The Enrollment Management Organization, Fall 2000, 3–8.
(A) Content Analysis of College and University Viewbooks (Brochures), Winter 2001, 17–21.
Cool Colleges: For the Hyper-Intelligent, Self-Directed, Late Blooming, and Just Plain Different (book review), Spring 2001, 51–52.
Diamonds in the Rough (commentary), Spring 2001, 48.
Economic Affirmative Action and Race-Blind Policies, Summer 2000, 3–14.
(The) Effect of Academic Scholarships on College Attendance, Spring 2001, 3–8.
Enrollment Management as a Portfolio Investment Problem, Summer 2000, 25–29.
(The) Evolution of a Regional Association (commentary), Spring 2001, 45–47.
Factors Influencing Graduation Rates at Mississippi’s Public Universities, Winter 2001, 11–16.
From the Free Academy to CUNY (book review), Summer 2000, 36.
Give Your Resume the Electronic Edge (commentary), Fall 2000, 26–27.
Index for Volume 76, Fall 2000, 30–32.
International Q&A, Fall 2000, 29, Spring 2001, 29–36.
I’ve Always Wanted To Be A... , But Now I’m Not So Sure: A Survey of Students’ Career Plans, Fall 2000, 9–16.
Managing Technological Change (book review), Winter 2001, 28.
(The) Myth of the “Big Book”: Foreign Credentials Evaluation Resources (international resources), Summer 2000, 31–35.
(The) Perceptions of College and University Enrollment Managers on the Relationship Between Institutional Enrollment Performance and Enrollment Management Effectiveness, Summer 2000, 15–24.
Performance Management: A New Approach, Fall 2000, 17–22.
(The) Price of Admissions: Rethinking How Americans Pay for College (book review), Spring 2001, 49–50.
Priority Registration For Athletes in the Big East Conference (commentary), Winter 2001, 25.
Re-Engineering of Enrollment Services at Carnegie Mellon, Winter 2001, 3–9.
Registrars and Admissions Officers Play an Important Role in Athletic Compliance (commentary), Winter 2001, 22–24.
State Economic Conditions and Finances: Risk and Reward for Colleges and Universities (policy analysis), Fall 2000, 23–25.
Transfer Students’ Institutional Attendance Patterns: A Case Study, Summer 2000, 21–24.
(The) University of Illinois, 1894–1904: The Shaping of the University (book review), Spring 2001, 50–51.
Utilizing the Internet in Education (commentary), Spring 2001, 37–44.
Why Are Foreign Student Records So Different? A Beginner’s Guide to Foreign Educational Documents (international resources), Winter 2001, 26–27.
Working Together: Research-Driven Cooperative Strategy for Sister Colleges, Spring 2001, 15–20.

Author Index

Anderson, Linda M. and John R. Papinchak, *Re-Engineering of Enrollment Services at Carnegie Mellon*, Winter 2001, 3–9.
Baksh, Andre and Jeff E. Hoyt, *The Effect of Academic Scholarships on College Attendance*, Spring 2001, 3–8.
Chatman, Steven P. and Kandis M. Smith, *Economic Affirmative Action and Race-blind Policies*, Summer 2000, 3–14.
Edminster, Julie Horine. (See Smith, William R.)
Gerig, Richard L. (See Wiese, Michael D.)
Gunner, Maribeth, *Give Your Resume the Electronic Edge* (commentary), Fall 2000, 26–27.
Hite, Robert E. and Alisa Yearwood, *A Content Analysis of College and University Viewbooks (Brochures)*, Winter 2001, 17–21.
Hoyt, Jeff E. (See Baksh, Andre)
James, David, *Diamonds in the Rough* (commentary), Spring 2001, 48.
Johnson, Thomas L. W., *Cool Colleges: For the Hyper-Intelligent, Self-Directed, Late Blooming, and Just Plain Different* (book review), Spring 2001, 51–52.
Johnson, Thomas L. W., *The Evolution of a Regional Association* (commentary), Spring 2001, 45–47.
Johnson, Thomas L. W., *From the Free Academy to CUNY* (book review), Summer 2000, 36.
Johnson, Thomas L. W., *Managing Technological Change* (book review), Winter 2001, 28.
Johnson, Thomas L. W., *The University of Illinois, 1894–1904: The Shaping of the University* (book review), Spring 2001, 50–51.
Jonas, Peter M. and Alexander J. Popovics, *Beyond the Enrollment Management Division: The Enrollment Management Organization*, Fall 2000, 3–8.
Katz, Deborah A., *Registrars and Admissions Officers Play an Important Role in Athletic Compliance* (commentary), Winter 2001, 22–24.
Klumpp, Karen S. (See Potter, William)
Lonabocker, Louise, *Performance Management: A New Approach*, Fall 2000, 17–22.
Martin, Robert E., *Enrollment Management as a Portfolio Investment Problem*, Summer 2000, 25–29.
Nyman, Melvin A. (See Potter, William)
Papinchak, John R. (See Anderson, Linda M.)
Popovics, Alexander J. (See Jonas, Peter M.)
Potter, William, Melvin A. Nyman, and Karen S. Klumpp, *Be Careful What You Wish For: Analysis of Grading Trends at a Small Liberal Arts College, Grade Inflation or Progress?*, Spring 2001, 9–14.
Pyle, Elizabeth. (See von Munkwitz-Smith, Jeffrey)
Regan, Marybeth, *Utilizing the Internet in Education* (commentary), Spring 2001, 37–44.
Reindl, Travis, *The Price of Admissions: Rethinking How Americans Pay for College* (book review), Spring 2001, 49–50.
Reindl, Travis, *State Economic Conditions and Finances: Risk and Reward for Colleges and Universities* (policy analysis), Fall 2000, 23–25.
Shushok, Frank, *The Beginning Impact of State “Percentage Plans” on College and University Admissions* (policy analysis), Spring 2001, 27–28.
Smith, Clayton A., *The Perceptions of College and University Enrollment Managers on the Relationship Between Institutional Enrollment Performance and Enrollment Management Effectiveness*, Summer 2000, 15–24.
Smith, Kandis M. (See Chatman, Steven P.)
Smith, William R., Julie Horine Edminster, and Kathleen M. Sullivan, *Factors Influencing Graduation Rates at Mississippi’s Public Universities*, Winter 2001, 11–16.



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- Stedman, LesLee, *The Myth of the "Big Book": Foreign Credentials Evaluation Resources* (international resources), Summer 2000, 31–35.
- Sullivan, Kathleen M. (See Smith, William R.)
- Townsend, Barbara K., *Transfer Students' Institutional Attendance Patterns: A Case Study*, Summer 2000, 21–24.
- von Munkwitz-Smith, Jeffrey and Elizabeth Pyle, *Applying Sanctions for Non-Payment*, Spring 2001, 21–26.
- von Munkwitz-Smith, Jeffrey, *Priority Registration For Athletes in the Big East Conference* (commentary), Winter 2001, 25.
- Weise, Michael D. and Richard L. Gerig, *Working Together: Research-Driven Cooperative Strategy for Sister Colleges*, Spring 2001, 15–20.
- Yearwood, Alisa. (See Hite, Robert E.)
- Young, Rosalie R., *I've Always Wanted To Be A... , But Now I'm Not So Sure: A Survey of Students' Career Plans*, Fall 2000, 9–16.

Subject Index

ADMISSIONS

- Baksh, Andre and Jeff E. Hoyt, *The Effect of Academic Scholarships on College Attendance*, Spring 2001, 3–8.
- Chatman, Steven P. and Kandis M. Smith, *Economic Affirmative Action and Race-blind Policies*, Summer 2000, 3–14.
- Reindl, Travis, *The Price of Admissions: Rethinking How Americans Pay for College* (book review), Spring 2001, 49–50.
- Shushok, Frank, *The Beginning Impact of State "Percentage Plans" on College and University Admissions* (policy analysis), Spring 2001, 27–28.

ATHLETICS

- Katz, Deborah A., *Registrars and Admissions Officers Play an Important Role in Athletic Compliance* (commentary), Winter 2001, 22–24.
- von Munkwitz-Smith, Jeffrey, *Priority Registration For Athletes in the Big East Conference* (commentary), Winter 2001, 25.

BUDGET

- Martin, Robert E., *Enrollment Management as a Portfolio Investment Problem*, Summer 2000, 25–29.
- Reindl, Travis, *State Economic Conditions and Finances: Risk and Reward for Colleges and Universities* (policy analysis), Fall 2000, 23–25.

COMMUNITY COLLEGES

- Townsend, Barbara K., *Transfer Students' Institutional Attendance Patterns: A Case Study*, Summer 2000, 21–24.

CREDENTIAL EVALUATION

- Stedman, LesLee, *The Myth of the "Big Book": Foreign Credentials Evaluation Resources* (international resources), Summer 2000, 31–35.

EDUCATIONAL PARTNERSHIPS

- Weise, Michael D. and Richard L. Gerig, *Working Together: Research-Driven Cooperative Strategy for Sister Colleges*, Spring 2001, 15–20.

ENROLLMENT MANAGEMENT

- Jonas, Peter M. and Alexander J. Popovics, *Beyond The Enrollment Management Division: The Enrollment Management Organization*, Fall 2000, 3–8.
- Martin, Robert E., *Enrollment Management as a Portfolio Investment Problem*, Summer 2000, 25–29.
- Smith, Clayton A., *The Perceptions of College and University Enrollment Managers on the Relationship Between Institutional Enrollment Performance and Enrollment Management Effectiveness*, Summer 2000, 15–24.

FACULTY

- James, David, *Diamonds in the Rough* (commentary), Spring 2001, 48.

FINANCIAL AID/SCHOLARSHIPS

- Baksh, Andre and Jeff E. Hoyt, *The Effect of Academic Scholarships on College Attendance*, Spring 2001, 3–8.

GRADES

- Potter, William, Melvin A. Nyman, and Karen S. Klumpp, *Be Careful What You Wish For: Analysis of Grading Trends at a Small Liberal Arts College, Grade Inflation or Progress?*, Spring 2001, 9–14.

GRADUATION RATES

- Smith, William R., Julie Horine Edminster, and Kathleen M. Sullivan, *Factors Influencing Graduation Rates at Mississippi's Public Universities*, Winter 2001, 11–16.

HIGHER EDUCATION

- Johnson, Thomas L. W., *From the Free Academy to CUNY* (book review), Summer 2000, 36.
- Johnson, Thomas L. W., *The University of Illinois, 1894–1904: The Shaping of the University* (book review), Spring 2001, 50–51.
- Regan, Marybeth, *Utilizing the Internet in Education* (commentary), Spring 2001, 37–44.

INTERNATIONAL STUDENTS

- Stedman, LesLee, *The Myth of the "Big Book": Foreign Credentials Evaluation Resources* (international resources), Summer 2000, 31–35.

MARKETING/RECRUITMENT

- Hite, Robert E. and Alisa Yearwood, *A Content Analysis of College and University Viewbooks (Brochures)*, Winter 2001, 17–21.
- Johnson, Thomas L. W., *Cool Colleges: For the Hyper-Intelligent, Self-Directed, Late Blooming, and Just Plain Different* (book review), Spring 2001, 51–52.

ORGANIZATIONAL MANAGEMENT

- Anderson, Linda M. and John R. Papinchak, *Re-Engineering of Enrollment Services at Carnegie Mellon*, Winter 2001, 3–9.
- Johnson, Thomas L. W., *Managing Technological Change* (book review), Winter 2001, 28.
- Jonas, Peter M. and Alexander J. Popovics, *Beyond The Enrollment Management Division: The Enrollment Management Organization*, Fall 2000, 3–8.
- Lonabocker, Louise, *Performance Management: A New Approach*, Fall 2000, 17–22.

REGIONAL ASSOCIATIONS

- Johnson, Thomas L. W., *The Evolution of a Regional Association* (commentary), Spring 2001, 45–47.

STAFF

- Lonabocker, Louise, *Performance Management: A New Approach*, Fall 2000, 17–22.

STUDENT SERVICES

- Anderson, Linda M. and John R. Papinchak, *Re-Engineering of Enrollment Services at Carnegie Mellon*, Winter 2001, 3–9.
- Young, Rosalie R., *I've Always Wanted To Be A... , But Now I'm Not So Sure: A Survey of Students' Career Plans*, Fall 2000, 9–16.

TECHNOLOGY

- Gunner, Maribeth, *Give Your Resume the Electronic Edge* (commentary), Fall 2000, 26–27.
- Johnson, Thomas L. W., *Managing Technological Change* (book review), Winter 2001, 28.
- Regan, Marybeth, *Utilizing the Internet in Education* (commentary), Spring 2001, 37–44.

TRANSFER STUDENTS

- Townsend, Barbara K., *Transfer Students' Institutional Attendance Patterns: A Case Study*, Summer 2000, 21–24.

TUITION AND FEES

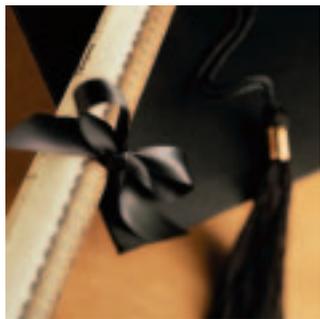
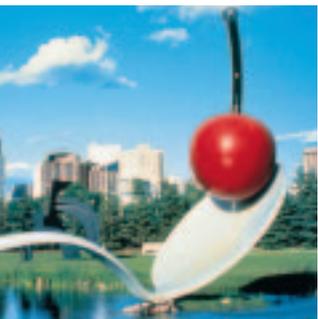
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