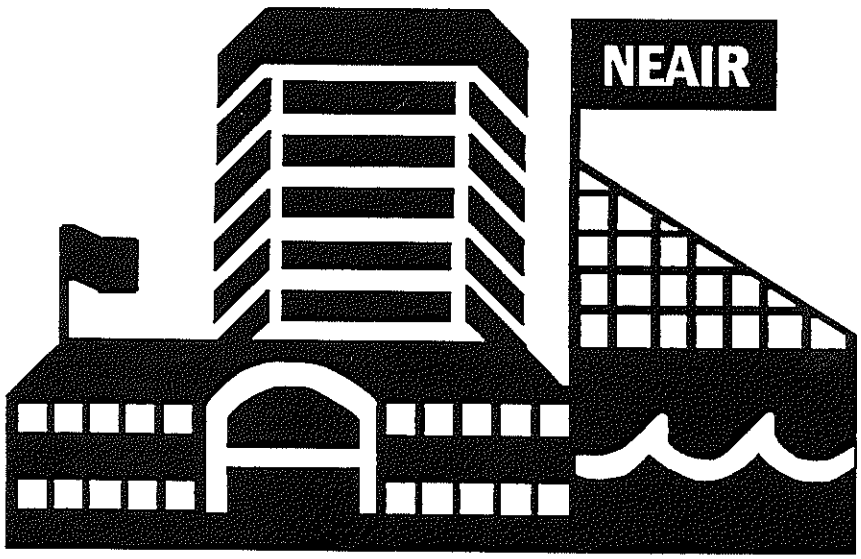
North East Association for Institutional Research

21st Annual Conference

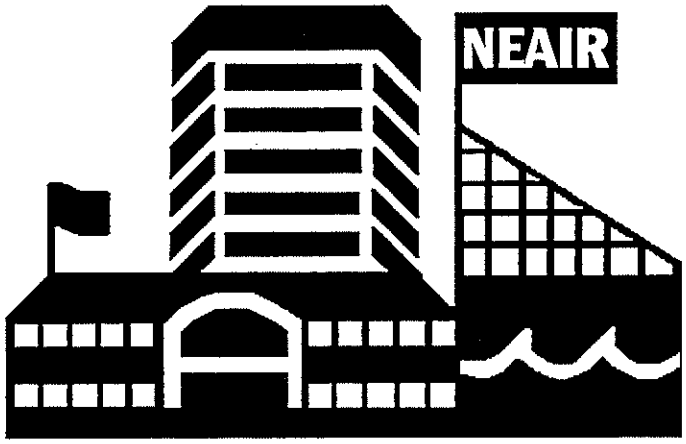
Proceedings



Informing Higher Education Policy

Radisson Plaza Lord Baltimore • Baltimore, Maryland

November 12-15, 1994



Informing Higher Education Policy

President's Message

The 21st Annual Conference of the North East Association for Institutional Research was held from November 12-15 at the Radisson Plaza Lord Baltimore Hotel in Baltimore, Maryland. The meeting was exceptional in many respects: well-attended (a modern record of 184 registrants), informative, playful, and well-run. If you were there, you know what I mean. If you weren't, you should have been!

Following two days of both traditional and novel workshops, Sunday's keynote speaker was Roberta Spalter-Roth from the Institute for Women's Policy Research in Washington. The Special Event that evening was special indeed, featuring dinner and assorted entertainment within the glorious and appropriately moody confines of Westminster Hall. Monday morning's SPRE panel, including comments from Pennsylvania's SPRE Coordinator Jane Stockdale and Connecticut's SPRE Coordinator Joe Zikmund, kicked off the remainder of the program. Paper presentations, special interest group meetings, table topic discussions, vendor demonstrations, and a host of networking (and snacking) opportunities followed. Participants were rewarded with a night on the town Monday, and the conference ended Tuesday with an exercise in assessment that turned the tables - - in a lighthearted way -- on many an institutional researcher.

The vast majority of the credit for the success of the Baltimore meeting goes to Program Chair Jennifer Brown, Local Arrangements Chair Craig Clagett, and his Local Arrangement Committee (not to be confused with the Vocal Arrangements Committee, which they certainly were not). Jennifer, Craig and helpers did an absolutely first-rate job, and the many positive comments I heard from attendees suggest that future conference chairs will have a very tough act to follow. The excellent support of Maryland AIR (and its Players) was most helpful and appreciated, and future chairs may well want to tap into the talent and energy of state IR associations as available.

The rest of the credit goes to the folks who contributed to the program, both the "academic" and "fun" parts of it. At their best, conferences combine entertainment and relaxation with substantive professional development. The Baltimore meeting had plenty of both, and we all look forward to more of the same (with some new twists, to be sure) at the 1995 NEAIR Conference in Burlington, VT.

It is traditional for this message to include words of thanks to outgoing Steering Committee members, and words of welcome to incoming members. It is a happy sign of the times that I offer a long list of people who have helped or will help to guide and govern NEAIR. The level of volunteer participation in NEAIR has increased dramatically in recent years, and since that participation involves both service to the organization and professional development for the volunteer, all are winners. To wit: special thanks to outgoing Past President (and Nominating Committee Chair and Mentor Committee Chair and Good Buddy) Dawn Terkla, who has contributed to NEAIR in so many ways for a number of years; outgoing Secretary and Publications Chair Jane Price; outgoing members-at-Large Karen Bauer, Jim Fergerson, and Jim Ritchie; outgoing conference chairs Jennifer Brown and Craig Clagett; outgoing Nominating Committee members Helen Kerr, Bob Froh, and Ron Maggiore; outgoing Research Grants Committee member Fred Volkwein; and outgoing Mentor Committee member Jim Fergerson. Special thanks to Karen Bauer and Jane Price for all their hard work revising the Policies and Procedures Manual, to Stuart Rich for organizing the Logo contest, to Diane Cuneo for getting the Consultant Services Program off the ground, to Fred Cohen and Carol Wood for developing NEAIR-L, and to my secretary Kathy Hertlzer for all her help with NEAIR over the past 2 years.

Thanks and best wishes also go out to those continuing their service to NEAIR in 1994-95: President Marian Pagano; Treasurer Wendell Lorang; Membership Secretary and All-Around Guru Brenda Bretz; Members-at-Large Darryl Bullock, Diane Cuneo, and Stuart Rich; Research Grants Committee members Richard Heck and Denise Krallman; Mentor Committee member Darryl Bullock; and State Advisory Committee members Alan Sturtz, Richard Prull, Carol Wood, Denise Krallman, Indira Govindan, Rich Rugen, Rebecca Walker, Herb Turner, Larry Braziel, Sandra Price, and Dave Breen.

Finally, best wishes to the following newly elected or appointed folks: President-Elect Ellen Kanarek; Treasurer-Elect By Baylis; Secretary (and Member-at-Large) Phyllis Fitzpatrick; Steering Committee Member-at-Large Barbara Erdsnecker and John Jacobsen; Publications Chair Anne Marie Delaney; 1995 Program Chair Dan Shapiro; 1995 Local Arrangement Chair Becky Brodigan; Nominating Committee Members Peter Murray, Linda Winkler, and Dale Trusheim; and Research Grants Committee member William Stewart. Congratulations and good luck to all in 1995! And if I've forgotten to mention anyone, please forgive me and accept my sincere thanks in obscurity.

I thus commend to the membership these Proceedings, and I hope to see you in Burlington!

Mike McGuire
President, NEAIR 1993-94

Acknowledgment

A special note of gratitude is extended to Mr. Ce Shen, Research Associate for Program Research in the School of Education at Boston College. His professional contribution has been significant both in terms of his technical expertise and exceptional dedication to quality production standards. Special appreciation is extended also to the graduate student research assistants, Ms. Lissette Colon and Ms. Clare Conry for their proofreading and editing assistance in the preparation of the Proceedings.

Table of Contents

North East Association for Institutional Research - Conference Program

SATURDAY, NOVEMBER 12, 1994		
1:30 - 3:30 pm	**Registration - Ballroom Foyer**	
2:00 - 5:00 pm Calvert Salon B	Mary Ann Heverly, *Director of Institutional Research* Delaware County Community College	**Using Total Quality/Continuous Quality Improvement in Institutional Research (Part 1)** *Workshop* This workshop is designed for people already introduced to TQ/CQI who want experience applying TQ/CQI to daily work. Most of the workshop will be spent identifying the components of a process and developing a plan for assessing/monitoring the process.
2:00 - 5:00 pm Calvert Salon A	Michael F. Middaugh, *Director of IR and Planning* Karen Bauer, *Senior Research Analyst* Dale Trusheim, *Associate Director of IR and Planning* University of Delaware	**Newcomers to Institutional Research (Part 1)** *Workshop* This workshop gives new practitioners in institutional research a conceptual and practical framework for getting started in the field. Using the AIR/NEAIR Monograph "Strategies for the Practice of Institutional Research" as a foundation, participants address such key components of IR as: defining critical issues for IR at your college, identifying sources of data, developing fact books and other reports, and conducting effective enrollment management and survey research for assessment and evaluation purposes. The focus is on practical strategies for the implementation of effective institutional research.
2:00 - 5:00 pm Calvert Salon D	MaryAnn Coughlin, *Associate Prof. of Research & Statistics* Springfield College	**Statistics for Institutional Research: An Introduction/Refresher** *Workshop* Basic statistical ideas will be covered in this workshop which is intended as an introduction or refresher course. We will examine descriptive statistics, sampling and probability theory and some inferential statistics (chi square, t-test and Pearson's r).
5:30 - 6:30 pm	**Early Bird Reception (Cash bar / hors d'oeuvres) - Versailles Room**	
6:30 - 7:00 pm	**Future Schlock: A Musical Comedy by the MdAIR Players - Baltimore Theater**	
SUNDAY, NOVEMBER 13, 1994		
8:00 - 5:00 pm	**Registration - Ballroom Foyer**	
9:00 - 12:00 noon Calvert Salon D	MaryAnn Coughlin, *Associate Prof. of Research & Statistics* Springfield College	**Intermediate Statistics for Institutional Research** *Workshop* This workshop will pick up inferential statistics where the introductory workshop leaves off and will discuss such topics as Analysis of Variance, Regression, and Factor Analysis.
9:00 - 12:00 noon Calvert Salon B	Mary Ann Heverly, *Director of Institutional Research* Delaware County Community College	**Using Total Quality/Continuous Quality Improvement in Institutional Research (Part 2)** *Workshop* This is a continuation of part 1 and may only be taken by those taking part 1. (See workshop description given for Saturday, November 12)

SUNDAY, NOVEMBER 13 (CONTINUED)		
9:00 - 12:00 noon Calvert Salon A	Michael F. Middaugh, *Director of IR and Planning* Karen Bauer, *Senior Research Analyst* Dale Trusheim, *Associate Director of IR and Planning* University of Delaware	**Newcomers to Institutional Research (Part 2)** *Workshop* This is a continuation of part 1 and may only be taken by those taking part 1. (See workshop description given for Saturday, November 12)
9:00 - 12:00 noon Calvert Salon E	J. Fredericks Volkwein, *Director of Institutional Research* University at Albany	**Campus Culture and Politics - Understanding IR Work in a Complex Organization (Part 1)** *Workshop* This workshop acquaints institutional researchers with campus culture and politics, giving attention to both external environments and internal workings. The effectiveness of institutional research is enhanced when professionals understand the historical roots and organizational dynamics of their institutions. Workshop participants will examine those organizational characteristics that make these institutions more or less effective, and will discuss those campus features that have the greatest impact on the practice of institutional research.
12:00 - 1:00 pm	LUNCH BREAK (State Advisory Council Luncheon -- by invitation -- Hanover A)	
1:00 - 4:00 pm Calvert Salon E	J. Fredericks Volkwein, *Director of Institutional Research* University at Albany	**Campus Culture and Politics - Understanding IR Work in a Complex Organization (Part 2)** *Workshop* This is a continuation of part 1 . (See workshop description given for the morning of Sunday November 13)
1:00 - 4:00 pm Calvert Salon A	Dale Trusheim, *Associate Director of IR and Planning* University of Delaware	**Effective Presentations for Institutional Research** *Workshop* This workshop, aimed primarily at newcomers to IR, has two objectives. The first section of the workshop focuses on key principles of effective data presentation and reporting (design, use of color, tables versus charts, types of charts, etc.). The second section will demonstrate computer technology which can also aid effective presentation. Computer generated slide shows, transparencies, and slides will be discussed.
1:00 - 4:00 pm Calvert Salon D	Michael McGuire, *Senior Planning Officer* James Trainer, *Director, HEDS* Franklin and Marshall College	**Performing and Understanding Interinstitutional Comparisons** *Workshop* This workshop is designed to introduce participants to the use of interinstitutional comparisons within the framework of institutional research and planning functions. Participants will learn how to define peer groups, to access and draw upon data available for comparison purposes, to conduct comparative analyses and to employ the results in their planning processes. The session leaders will also discuss the possibilities that exist for interinstitutional cooperation in exchanging comparative data.

SUNDAY, NOVEMBER 13 (CONTINUED)		
2:00 - 3:30 pm	**Vendor Demonstrations - Ballroom Balcony** **Walking Tour of Baltimore** (Meet Kathy Farnsworth in the hotel lobby.)	
4:00 - 5:00 pm	**Keynote Address - Ballroom** **Roberta M. Spalter-Roth, Ph.D..** **Director of Research of the Institute for Women's Policy Research** **Washington, D.C.**	
5:00 - 6:00 pm	**Mentor/Mentee Meeting - Hanover A**	
6:00 - 10:00 pm	**** Special Event: An Evening with Edgar Allen Poe and Friends - Westminster Hall **** (Trolley service to and from Hall provided.)	
MONDAY, NOVEMBER 14, 1994		
6:30 - 7:30 am	Fun Run/Walk (Meet Paul Davalli in the hotel lobby.)	
7:30 - 9:00 am	**Continental Breakfast - Ballroom**	
7:45 - 8:45 am Calvert Salon A	Peter Murray, *Dir., Planning and Institutional Research* Catholic University of America *Joe Pettit, VP Planning and IR* Georgetown University	**Catholic Universities of America** *Special Interest Group* Representatives of Catholic colleges and universities are invited to share experiences and common concerns and to plan activities of mutual benefit.
7:45 - 8:45 am Calvert Salon B	Alan J. Sturtz, *Director of Institutional Research* Gateway Community-Technical Coll.	**Two-Year Colleges** *Special Interest Group* An opportunity for those in IR at two-year institutions to discuss common problems, concerns, and issues. In addition, a regional director from the National Council for Research and Planning will brief participants on NCRP plans for 1994-95.
7:45 - 8:45 am Calvert Salon D	Michael McGuire, *Senior Planning Officer* James Trainer, *Director, HEDS* Franklin and Marshall College	**Higher Education Data-Sharing Consortium** *Special Interest Group* An opportunity for HEDS members and others interested in data exchange activities to discuss current plans and future areas of analysis.
7:45 - 8:45 am Calvert Salon E	Richard Rugen, *Asst. to the Pres. for Planning and Info Technology* Kutztown University	**Pennsylvania State System of Higher Education** *Special Interest Group* Institutional researchers from the State System in Pennsylvania will meet to discuss current issues and concerns.

MONDAY, NOVEMBER 14 (CONTINUED)		
7:45 - 8:45 am Hanover Suite A	Ellen Armstrong Kanarek, *Program Director* Applied Educational Research, Inc.	**ASQ & ASQ+ Users Group** *Special Interest Group* An opportunity for those interested in the Admitted Student Questionnaire or Admitted Student Questionnaire Plus to discuss their experiences, have their questions answered, and learn what changes may be planned.
7:45 - 8:45 am Hanover Suite B	J. Fredericks Volkwein, *Director of Institutional Research* SUNY-Albany and President of AIRPO	**Association of Institutional Research and Planning Officers** *Special Interest Group* An opportunity for those involved in Institutional Research and Planning in the SUNY system to meet and discuss matters of common concern.
8:00 - 10:00 am	**Registration - Ballroom Foyer**	
9:00 - 9:50 am Ballroom	**SPRE's: Adventures in Higher Education Policy Making** *Panel* Dr. Joe Zikmund Connecticut SPRE Co-ordinator, Dr. Jane Stockdale, Pennsylvania SPRE Co-ordinator, and a third panelist to be announced Moderated by Dr. Thomas Flaherty, Asst. VP for Academic Affairs, Central Connecticut State University	
10:00 - 10:45 am Calvert Salon A	Dawn Geronimo-Terkla, *Director of Institutional Research* Walter J. M. Liss, *Associate Registrar for Systems* Tufts University	**An Unexplored Segment: Decisions, Processes, and Choices of Transfer Students** *Paper* Presentation of research on one institution's transfer population and the identification of differences in the college choice selection process of first time students and transfers. The study contributes to filling the gaps in the college choice literature on transfer students. Moderator: Linda Broker, Dean, Academic Information and Support Systems, Quinnipiac College
10:00 - 10:45 am Calvert Salon B	Ronald Heacock, *Director of Planning and Evaluation* Howard Community College	**Predictors of Community College Enrollment** *Paper* This paper investigates predictors of credit enrollment in community colleges over a 14-year period. A regression analysis is conducted which considers factors such as cost, potential student population, economic conditions, competition and unique local conditions. Moderator: James Stager, Associate VP for Academic Affairs, Millersville University of Pennsylvania
10:00 - 10:45 am Calvert Salon D	Merrill R. Pritchett, *Director of Institutional Research* University of Baltimore	**Reengineering the Academy: Is There a Role for Institutional Research?** *Paper* This paper examines reengineering's principal ideas, how they apply to higher education and the role of Institutional Research in the process. I.R. expertise in survey research, program evaluation and maintaining data integrity is found to be crucial to successful reengineering. Moderator: Ellen Kanarek, Program Director, Applied Educational Research, Inc.

MONDAY, NOVEMBER 14 (CONTINUED)		
10:00 - 10:45 am Calvert Salon E	Richard Yankosky, *Dir. of Planning, Research & Computer Services* Frederick Community College Amy Coveyou, *Assistant Dir.*, Maryland Association of Community Colleges Jim Darr, *Research Analyst* Montgomery Community college Gohar Farahani, *Director of IR* Charles County Community College	**A State-wide Community College Model for Measuring Faculty Workload** *Paper* This paper reports findings of a recent study of full time faculty workloads at Maryland community colleges. We will discuss average teaching loads, average released time and other workload measures for individual schools and cohorts of peer colleges as measured by size. Moderator: John P. Jacobsen, Data and Information Manager, Pennsylvania State System of Higher Education
10:55 - 11:40 am Calvert Salon D	John Kraus, *Director of Institutional Research* Susan Hopkins *Computer Specialist, IR* University of New Hampshire	**Departmental Profiles: Information for Academic Program Policy Decisions** *Paper* Since 1971, Departmental Profiles have provided UNH administrators with a variety of data and comparative measurement on department, college and university budgets, faculty, and credit production. A three year collaborative process has refined the profiles to address future academic policy concerns and programmatic decision-making issues. Moderator: John Casey, Director of Institutional Research, Georgian Court College
10:55 - 11:40 am Calvert Salon B	Arthur Kramer, *Director of Institutional Research* Passiac County Community College	**Environmental Scanning on a Limited Budget in an Urban Community College: An Ongoing Process** *Paper* This paper discusses an environmental scan to evaluate demographic, technological, economic and immigration changes within the service area of an urban community college. Due to budgetary limitations, many secondary data sources are used. The results have been used in accreditation, program review and strategic planning. Moderator: Stanley S. Jacobs, Associate Director, Program in Human Organization Science, Villanova Univ.
10:55 - 11:40 am Calvert Salon A	Anne Marie Delaney, *Director of Program Research* Boston College	**Quality Assessment of Professional Master's Degree Programs** *Paper* This paper presents the research design and significant results from a master's level assessment study. The paper demonstrates how survey research can be used to focus on student outcomes and accomplish a comprehensive assessment responsive to policy concerns of administrators, instructional values of faculty, standards of professional practice and specific program goals. Moderator: Stuart L. Rich, Director of Institutional Research, Georgetown University

MONDAY, NOVEMBER 14 (CONTINUED)		
10:55 - 11:40 am Calvert Salon E	Indira Govindan, *Director of Institutional Research* Drew University	**Employee Trip Reduction Program: Can it Work?** *Paper* In compliance with the New Jersey Traffic Congestion and Air Pollution Control Act, the IR Office did a survey of Drew employees' travel modes. We examined why our employees commute the way they do and asked whether the recommended trip reduction strategies will actually change their commuting patterns. Moderator: Richard W. Prull, Director of Institutional Research, Rhode Island College
11:40 - 12:00 noon	Networking and Vendor Consulting - Ballroom Balcony	
12:00 - 1:30 pm	**Business Meeting and Luncheon - Ballroom**	
1:30 - 2:00 pm	Networking and Vendor Consulting - Ballroom Balcony	
2:00 - 2:50 pm Calvert Salon A	Karen W. Bauer, *Assistant Director, IR and Planning* University of Delaware 1993 NEAIR Research Grant Recipient	**Cognitive and Social Gains of College Freshmen** *Paper* Findings from the first year of this longitudinal study are presented. Results from the Fall 1993 and Spring 1994 surveys and Spring focus group discussions offer information on self-reported freshmen demographics, anticipated activities, as well as level of satisfaction and academic and social gains made over the 93-94 school year. Moderator: James L. Ritchie, Assistant Director, Institutional Research, University of Pittsburgh
2:00 - 2:50 pm Calvert Salon B	Charles Secolsky, *Research Associate, Office of IR* Rockland Community College	**The Use of Measurement Tools in Institutional Research** *Paper* Three areas in which measurement tools are essential to institutional research are discussed: the creation of scales for measuring dimensions of how a new course affects students, tools for establishing "cutoff" scores, and tools for validating "cutoff" scores using grade performance. Moderator: Richard Rugen, Asst. to the President for Planning and Info. Technology, Kutztown Univ. of PA.
2:00 - 2:50 pm Calvert Salon D	David A. Hemenway, *Director, Office of Planning and IR* Eastern Connecticut State University CANCELLED	**Gender Bias in Maryland Community College Faculty Salaries** *Paper* This paper analyzes Maryland Community College faculty salaries to determine which factors influence faculty salaries. It is based upon data collected from each of the 17 Maryland community colleges. The methodology could be used by other institutions to determine whether there is gender bias at their own institution. Moderator: Denise Krallman, Institutional Research Analyst, Miami University

MONDAY, NOVEMBER 14 (CONTINUED)		
2:00 - 2:50 pm Calvert Salon E	Stephen W. Thorpe, *Director of Institutional Research* La Salle University	**Administrator Evaluation in the Small, Private College Environment** *Paper* This paper presents the major findings from a survey of administrator evaluation. The survey was conducted in 1992 and contained 100 comparable institutions from the Middle States region. The topic is timely in the context of increased demands for effectiveness and accountability. Moderator: Brenda Bailey, Coordinator of Institutional Research, Edinboro University of Pennsylvania
2:50 - 3:30 pm	Vendor Consulting / Soda Break - Ballroom Balcony	
3:30 - 4:20 pm Calvert Salon A	Barbara H. Palmer, *Director of Institutional Research/University Registrar* Brandeis University 1993 NEAIR Research Grant Recipient	**Lesjes van de Nederlanders: "Little Lessons from the Dutch" on Promoting Educational Quality** *Paper* Using a multi-site case study approach, this study explores quality assessment and accountability in Dutch university education. It describes their national system of internal and external quality assurance, and various models which are being successfully employed to implement it. It develops a comparative analytic context for speculation about implications for policy and practice. Moderator: Michael McGuire, Senior Planning Officer, Franklin and Marshall College
3:30 - 4:20 pm Calvert Salon B	John DiElsi, *Associate Professor* Sara McGlinchy, *Assistant Professor* Mary Dawson, *Assistant Professor* Carol A. Moore, *Provost* Donna Killian Sorkin, *Assoc. Professor* Joseph Victor, *Professor* Mercy College	**Faculty Merit: A System to Enhance Productivity** *Paper* In response to increasing fiscal constraints, colleges are focusing on ways to increase productivity. Mercy College has implemented a merit system to encourage faculty participation in meeting College goals. The College is currently evaluating the effectiveness of this new merit system. Moderator: Peter J. Murray, Director, Planning and Institutional Research, The Catholic Univ. of America
3:30 - 4:20 pm Calvert Salon D	Joseph E. Revelt, *Descriptive Statistician* Shippensburg University of PA	**Predicting Retention with Senior Class Characteristics** *Paper* Along with high school percentile rank and SAT scores, this study incorporated attributes of each student's high school senior class as predictors of persistence. Two of these attributes were statistically significant and are readily available to subscribers of the College Board's Enrollment Planning Service. Moderator: Darryl E. Bullock, Director, Planning and Institutional Research, Mercy College
3:30 - 4:20 pm Calvert Salon E	Yun K. Kim, *Director of Institutional Research* Goucher College	**Freshmen for Sale: Role of Financial Aid in Matriculation of Admitted Students** *Paper* Financial aid is no longer limited to lessening the burden of students and their families. Recently it has become a tool for buying students. Do we really understand the role of financial aid in freshman matriculation? This presentation describes an effort to understand the interplay between financial aid and student matriculation. Moderator: Amy Ensminger, Coordinator of Institutional Research, Mansfield University of Pennsylvania

MONDAY, NOVEMBER 14 (CONTINUED)		
4:30 - 5:15 pm Calvert Salon E	Herbert M. Turner, III, *Research Analyst, IR and Planning* University of Delaware	**Faculty Teaching and Enhancing Budget Flexibility** *Topical Case Study* The Office of IR and Planning studied the teaching productivity of the University's full time faculty. Applying a methodology developed by the Maryland Higher Education Commission, this study benchmarked the faculty's level of productivity and estimated the cost-savings to the University if that level of productivity were to increase beyond the benchmark. Moderator: Robert Brodnick, Director of Institutional Research, Shippensburg University of Pennsylvania
4:30 - 5:15 pm Calvert Salon B	Barbara A. Thelen, *Assistant for Institutional Research* Thomas P. Judd, *Director of Institutional Research* Rockland Community College	**From Number 2 Pencil to Final Report: Evolution in Intervening Technology** *Workshare* In a workshare presented at the 1989 NEAIR conference, we demonstrated the hardware and software we used in large data collection processes. A second look at this system will illustrate how it has evolved as changes in our expertise, technology and budget allocations have occurred. Moderator: Yun K. Kim, Director of Institutional Research, Goucher College
4:30 - 5:15 pm Calvert Salon D	Michael J. Keller, *Director of Policy Analysis and Research* Maryland Higher Education Commission Marvin A. Titus, *Planning & Policy Information Specialist* University of Maryland System Admin.	**Two State-Level Enrollment Projection Models: Different Methods, Same Results** *Topical Case Study* This session involves a discussion of the methodologies used in two enrollment projection models developed independently to predict trends at senior public campuses in one state. The accuracy of the two models was demonstrated by their similar results and closeness to 1993 actuals. Moderator: Margaret Cohen, Assistant VP for Institutional Research, George Washington University
4:30 - 5:15 pm Calvert Salon A	Barbara Sadowski, *Dir. of Planning/Institutional Research* Marie Huester, *Assistant Director, Planning/IR* Marywood College	**Techniques and Instruments Used to Evaluate the Effect of Technology in Improving Academic Programs** *Topical Case Study* Evaluation and results of a 4-year grant providing a multimedia science laboratory, faculty workstations, peripherals enhancing a psychology lab and campus networking will be presented. Data supporting improvements in quality of instruction, faculty effectiveness and enrollment increases will be discussed. Moderator: Walter Ziemba, Director of Institutional Research, Southern Connecticut State University
5:30 - 7:00 pm	**"Meet Your Party for Dinner" Reception (Cash Bar / hors d'oeuvres) - Versailles Room**	
7:00 - ?	**The Toast of Baltimore**	

TUESDAY, NOVEMBER 15, 1994		
6:30 - 7:30 am	Fun Run/Walk (Meet Paul Davalli in the hotel lobby.)	
7:30 - 9:00 am	**Continental Breakfast - Ballroom**	
7:45 - 8:45 am Ballroom	**Table Topics:** **1. Conference Evaluation Focus Group** Daniel B. Shapiro, Program Chair **2. Conference Evaluation Focus Group**, Richard M. Myhalyk, Local Arrangements Chair **3. Changing Jobs: Costs and Challenges**, David Hemenway, Dir. of Research and Planning, Eastern Conn. State U. CANCELLED **4. NEAIR Past Presidents**, Dawn Geronimo Terkla, Dir. of Institutional Research, Tufts University **5. Faculty Staffing Needs Analysis**, Denise Krallman, Institutional Research Analyst, Miami University **6. Young Turks Needed: How Can I Get Involved in NEAIR**, Marian Pagano, 1995/95 NEAIR President **7. College Guides: Ratings and Rankings**, Stuart Rich, Dir. of Institutional Research, Georgetown University **8. Designing Your Own Scannable Survey Forms**, Diane Cuneo, Dir. of Institutional Research, Smith College **9. Monitoring and Projecting Enrollments: Discussion of Techniques, Problems and Solutions**, Wendell Lorang, Assoc. Dir. of IR, SUNY-Albany	
9:00 - 9:45 am Calvert Salon A	J. Fredericks Volkwein, *Director of Institutional Research* Bruce P. Szelest, *Associate for Institutional Research* University at Albany	**Factors Associated with Student Loan Default among Different Racial Groups** *Paper* Current national policy holds campuses accountable for the default behavior of former students, yet campuses have virtually no information on the dynamics of loan defaults among the groups of students they serve. This research asks whether student loan repayment and default behaviors are different across various racial groups. Moderator: Dawn Geronimo Terkla, Director of Institutional Research, Tufts University
9:00 - 9:45 am Calvert Salon D	Peter J. Murray, *Director, Planning and IR* Tracy Hunt-White, *Research Analyst, Planning and IR* The Catholic University of America	**Informing Fringe Benefit Policy: A Profile of Selected Personal Characteristics of Employees at a Research University** *Paper* A reappraisal and reshaping of existing fringe benefits policy requires knowledge of the personal characteristics of employees. The study analyses these characteristics and presents a profile (in terms of age, gender, race, marital status and number of dependents) by employee category including those characteristics that reveal the greatest differences between employee categories. Moderator: Indira Govindan, Director of Institutional Research, Drew University
9:00 - 9:45 am Calvert Salon B	Anthony Napoli, *Director of Institutional Research* Suffolk County Community College Paul M. Wortman, *Professor & Director of Undergraduate Psychology Program* SUNY Stony Brook	**Validating College-level Reading Placement Test Standards** *Paper* Presentation of the results of an ongoing research effort to empirically establish the 'cutoff points' for the CPT Reading Comprehension Test (CPT-Read; 1990) at Suffolk Community College. Assessment tests must have empirically substantiated construct validity, and must also empirically establish the criterion-related predictive validity of the 'cutoffs' in the score distribution. Moderator: John Kraus, Director of Institutional Research, University of New Hampshire

TUESDAY, NOVEMBER 15 (CONTINUED)		
9:00 - 9:45 am Calvert Salon E	Eugene Muller, *Director of Assessment* Bloomfield College	**The Effects of Adjunct Teaching on Student Perceptions and College Operations** *Paper* The paper describes research on the use of adjunct (or part-time) faculty at a small, private, urban-based liberal arts college, and the effect of these adjunct faculty on instruction and mentoring. The question was investigated from the perspective of student performance, student opinions, student attitudes, and college operations. Moderator: Mona-Rae Thompson, Director of Institutional Research, Carroll Community College
9:50 - 10:35 am Calvert Salon B	Ann Preston, *Professor of Communication* North Dakota State University John F. Biter, *Director of Institutional Research* St. Bonaventure University	**Chicken, Egg, Hatchery: Product before Public Relations** *Paper* This research paper establishes a model that institutions can use to define their cultures and images to prevent clashes of values and behaviors or identity and image as the institutions attempt to adapt to the changing marketplace. Moderator: Thomas Flaherty, Assistant VP for Academic Affairs, Central Connecticut State University
9:50 - 10:35 am Calvert Salon D	Oyebanjo A. Lajubutu, *Director of Institutional Research* Hartford Community College	**Transfer Patterns of Students at a Two-Year College** *Paper* This paper examines the transfer patterns of first-time freshmen of Fall 1988 and 1989 at a two-year College. The analysis shows when students are prone to leave, the lag after exiting and enrolling at the transfer institution, and the degree to which students who intended to transfer met their goals. Moderator: David Hemenway, Director of Planning and Institutional Research, Eastern Connecticut State Univ.
9:50 - 10:35 am Calvert Salon E	William S. Stuart, *Research Assistant, Office of Planning and IR* Rita Malenczyk, *Writing Dir. and Asst. Professor of English* Eastern Connecticut State University	**Swimming Skills & Writing Skills; How do we Assess Them?** *Paper* Assessment of the Eastern Connecticut State University Writing Program provides a model for the examination of writing assessment methods and assessment-based policy making. The validity and reliability of assessment by writing sample, the principle method used in the study, are discussed. Moderator: Phyllis Fitzpatrick, Director of Management Information, Fairfield University
9:50 - 10:35 am Calvert Salon A	Thomas P. Judd, *Director of Institutional Research* Rockland Community College	**Transfer Students: A Source for Examining Academic Integrity** *Paper* This is the latest in a series of studies examining academic integrity. Previous studies compared course content and faculty use of grades in two and four year institutions. This study used the experiences of transfer students as a source of evidence for examining academic integrity. Moderator: Marian Pagano, Associate Provost, Columbia University

TUESDAY, NOVEMBER 15 (CONTINUED)	
10:35 - 12:00 noon	**Coffee Break and Networking** **Grand Finale** **Conference Wrap-Up** **Surprise Event** **Ballroom**
12:30 - 4:00 pm	Steering Committee Meeting and Luncheon - Hanover A

1993-94 Steering Committee

Officers

President
Michael McGuire
Senior Planning Officer
Franklin and Marshall College

President-Elect
Marian Pagano
Director of Planning and Institutional Research
Columbia University

Secretary and Publications Chair
Jane Price
Assistant Director of Institutional Research
Franklin and Marshall College

Treasurer
Wendell Lorang
Associate Director of Institutional Research
SUNY-Albany

Past President
Dawn Geronimo Terkla
Director of Institutional Research and Planning
Tufts University

Members-At-Large

Karen Bauer
Senior Research Analyst
The University of Delaware

Darryl Bullock
Director of Planning and Institutional Research
Mercy College

Diane Cuneo
Director of Institutional Research
Smith College

James Fergerson
Director of Institutional Research
Bates College

Stuart Rich
Director of Institutional Research
Georgetown University

James Ritchie
Assistant Director of Institutional Research
University of Pittsburgh

Membership Secretary
Brenda Bretz
Assistant Registrar
Dickinson College

1994 Conference Chairs

Conference Program
Jennifer Brown
Director of Institutional Research
Connecticut State University

Local Arrangements
Craig Clagett
Director of Institutional Research and Analysis
Prince George's Community College

Cognitive and Social Development of College Freshmen

Karen W. Bauer, Ph.D.
Office of Institutional Research & Planning
The University of Delaware

Abstract

As part of a longitudinal study of university undergraduates, this study was begun in July of 1993. A New Student Survey was completed and returned by nearly 1700 new freshmen and transfer students in the summer of 1993. The majority of respondents were new freshmen who planned to live on campus. Ninety–five percent of the respondents said that acquiring career knowledge and skills was of "moderate" to "essential" importance to them, while only 35% said learning about other languages and cultures was of similar importance. In April of 1994, a follow–up survey was sent to students who had returned the Fall survey and who remained enrolled on campus. Weighted results from these 810 respondents indicated how they spent their time out of class, their level of satisfaction, and in what areas they had made intellectual and social gains. On average, respondents spent 15–16 hours per week studying outside of class and said they made the greatest growth in becoming more independent and responsible and in acquiring factual knowledge. Focus group discussions with a subsample of the spring respondents confirmed the Spring Survey findings that students were satisfied with their college choice and believed they had grown both intellectually and personally during their first year in college.

Introduction

With the increasing diversity of the college student population, it is critical that we have a better understanding of them – who they are, what level of abilities they have when they enter, and what values, attitudes, and aspirations they hold, and intentions for the future.

Numerous researchers including Astin (1985; 1993), Chickering (1969), Pascarella & Terenzini (1990) and Tinto (1987) have discussed characteristics and developmental needs of college students. Feldman and Newcomb (1969) introduced the idea that peer group influences are critical to the college student's growth. Pascarella and Terenzini and Tinto believed that academic and social integration are crucial factors in determining a student's success in college. When investigating the reciprocity between college satisfaction and performance, Bean and Bradley (1986) found that student satisfaction affected student performance as measured by GPA. In addition, Buczynski (1991) found that freshmen who enter college with a strong self–concept gained more intellectually from their college experiences than those with a lower self–concept.

Astin (1985) and Pace (1984) believed that students learn best when they invest their physical and psychological energy in college activities. Involvement in college activities is both qualitative and quantitative and when students put forth greater involvement, they will reap greater benefits. Students who become highly involved in a variety of curricular and extra curricular activities and events will, therefore, acquire the highest level of new skills.

To better understand the cognitive and social development and experiences of undergraduate students, a longitudinal study is under way with the Class of 1997 at the University of Delaware. This project consists of three components: a fall survey completed prior to matriculation; a spring survey completed in late spring or early summer, and focus group discussions with a subsample of the spring survey respondents. This paper will present findings from the first year of this project.

Fall 1993 New Student Survey

During New Student Orientation in July, 1993, a New Student Survey was completed by 1,696 new freshmen and transfer students. This survey offered demographic information as well as programs and services in which students anticipated involvement, importance of events (e.g., being active in politics, participating in programs to clean up the environment, etc.), personal values (e.g., importance of promoting racial understanding, helping others, etc.), satisfaction with financial aid offerings, and level of confidence regarding their academic success.

Fall 1993 Findings.

The majority of respondents were new females (67%) and new freshmen (91%) who planned to live on campus during the fall semester (88%). With a mean reported high school GPA of 3.31, 73 percent of Fall 1993 freshmen said they planned to pursue graduate studies. Although 75% of the respondents said they were confident of their ability to pay for their undergraduate studies, only 51% said they were satisfied with their UD financial aid offer[1]. When examining the relationship between parental income and confidence about ability to finance their baccalaureate degree, an expected positive correlation was found ($r = .33$, $p = .000$). In addition, for students with parental income over $15,000, a positive correlation was also found for satisfaction with income and financial aid offer. Findings showed that as parental income decreases, so does the level of satisfaction with the financial aid offer ($r = .23$, $p = .000$).

Fall 1993 freshmen reported greatest confidence in their writing and science skills, but reported least confidence in foreign language skills and cultural events. The table below lists their reported level of skills preparation:

Skill Area	Percent Well Prepared
Writing	65
Sciences	61
American History	59
Math	58
Social Issues	51
Study Skills	42
Foreign Languages	36
Art, Music, Drama	32

[1] Post hoc analyses indicated that the correlation between these two questions is problematic. Based on the wording of the questions, it is not possible to distinguish between students who applied for financial aid and those who did not.

These levels of skill preparation may also reflect why students come to college. When asked about their goals, the most frequent reason for attending college was for career knowledge and skills. As shown in the table below, 95% of the respondents said that acquiring career knowledge and skills were of "moderate" to "essential" importance, while only 35% said learning about other languages and cultures was important. Below are the goals and the percent of respondents who said that goal was of moderate importance or greater:

Goal	Percent
To gain career knowledge and skills	95
To think analytically and creatively	84
To learn about myself	79
To gain broad, liberal arts education	63
To learn about other languages and cultures	35

The Fall 1993 Survey asked respondents about activities with which they anticipated involvement. Table 1 lists the 23 items in descending order, from the activities of largest to lowest anticipated involvement . Making friends and other social skills development were placed at the top of the priority list for these freshmen, but strengthening their academic background was a close second in priority. Very few respondents said they expected to transfer before graduating, fail a course, or temporarily drop out of college.

In addition to examining their anticipated involvement, respondents were also asked to indicate the level of personal importance they placed upon some academic and social events and values. Table 2 lists these 23 items in descending order. As shown, respondents said that making friends was most important followed closely by taking advantage of the institutions' academic opportunities. Even in their freshman year, these respondents showed an interest in creating a family of their own and understanding the value of working now for future reward, and an interest in achieving financial gain after college.

Spring 1994 Follow–Up Survey

In April 1994, a second survey was sent to students who returned the Fall Survey and who remained on campus. A follow–up postcard was sent approximately five weeks following the initial mailing to students' local address. A second follow–up survey was sent to the home address of those fall respondents who did not return the Spring Survey. A total of 810 completed and usable surveys were received from Fall 1993 new freshmen, for a return rate of 52.4%. This Spring 1994 Survey examined the curricular and extracurricular activities in which students were involved, how satisfied they were with the campus and its community, and the intellectual and social areas in which they think they were changing.

Spring 1994 Findings.

Because the majority of Spring 1994 respondents were female (78%), the responses were weighted to yield a final spring sample of 348 (43%) men and 460 (56%) women. Respondents by ethnic category closely paralleled the University population: 94% White; 3% African–American; 2% Asian/Pacific Islander; and 1% other. The cumulative GPA for the sample was 2.83, and 133 (16%) said they had changed their major at least once during this first year.

Respondents appeared to continue their satisfaction with their college choice through the spring semester; 89% said they were equally or more satisfied with UD during the spring. When asked if they would make the same college choice again, 79% said yes, they would choose UD.

Academic studies filled the majority of respondents' out of class time. On average, respondents spent just under 16 hours per week studying during the spring term, compared to 14.7 hours during the fall semester. As a group, respondents were not spending much time at off– or on–campus employment or participating in clubs or other campus organizations (on average, 1–2 hours per week), but spent nearly 5 hours a week participating in intramural or other sporting events.

When asked in what areas these freshmen made their greatest growth, they said they had made the largest growth in becoming more independent, responsible, and self–disciplined as well as acquiring factual knowledge and other intellectual information (see Table 3).

When asked about their experiences as a first year student, a combination of academic achievement and development of social skills remained a high priority for these freshmen during the spring. As shown in Table 4, when asked what experiences they had participated in or agreed with, getting good grades, having strong and supportive friends, were the most important items listed. These findings are consistent with the areas of anticipated importance that freshmen indicated in the Fall 1993 survey.

Spring 1994 Focus Groups

Along with the Spring survey, eight trained graduate students met with groups of 7–10 volunteer freshmen who returned the Spring 1994 survey. During this 60 to 90 minute focus group discussion, students commented on their level of satisfaction with the campus, why they chose UD, how they spend their time when not in class, level of interactions with faculty, and if they have defined some academic and career goals for themselves. Table 5 presents a summary of focus group comments.

Overall, freshmen in the focus groups reported some initial transition difficulties (becoming familiar with campus buildings, people & services, missing high school friends, etc.) but overall, felt happy and satisfied with their choice to attend UD. When asked how they had changed since coming to campus last fall, the most frequent response was feeling more independent, being more self–disciplined, and accepting responsibility for their own actions. In addition, many students mentioned acquiring a new appreciation for cultural diversity and "learning to live with other people that may be different."

When asked why they had chosen the University of Delaware, focus group answers ranged from geographical proximity to home, reasonable in–state tuition rates, knowing friends or family who had previously attended, or "luck of the draw." Several mentioned that they had applied and been accepted at several institutions. They verbalized strong satisfaction with their college choice. One student in particular said that the campus tour was the final deciding factor. "I had been accepted at other schools, but the (UD) campus tour sold me."

Summary

Findings from the fall and spring surveys and focus group discussions offer some insight into the Class of 1997's transition into the University community. While acclimation in their social setting appears to be paramount, these freshmen respondents indicated that academic achievements are also important to them. When asked in what areas they made the greatest personal gain, spring 1994 freshmen reported learning to function independently and responsibly as well as acquiring new factual knowledge. Fall 1993 University freshmen indicated high satisfaction with their college choice and when asked if they could make the decision over again, the majority say yes, they would choose the University of Delaware again.

Because of the longitudinal nature of this study, as many of these students as possible will be followed throughout their academic career at UD. Changes in cognitive and social development can then be charted from year to year. Findings from this survey can offer information about college undergraduates and thus provide useful information to institutional researchers at many institutions.

Although findings at the University of Delaware may not generalize to all college student populations, results from this study will offer insight into current undergraduate attitudes and activities which may likely offer useful information to many institutional researchers.

References

Astin, A. (1993). What matters in college. San Francisco: Josey–Bass.

Astin, A. (1985). Achieving educational excellence: A critical assess of prior test practices in higher education. San Francisco: Jossey–Bass.

Bean, J.P. & Bradley R.K. (1986). Untangling the satisfaction–performance relationship for college students. Journal of Higher Education. 57, 393–412.

Chickering, A.W. (1969) Education and identity. San Francisco: Jossey–Bass.

Buczynski, P.L. (1991). Longitudinal relations among intellectual development and identity during the first two years of college: A structural equation modeling analysis. Research in Higher Education, 321, 571–583.

Pace, R.C. (1984). Measuring the quality of college student experiences. Los Angeles: Higher Education Research Institute, UCLA.

Pascarella E.T., & Terenzini, P.T. (Eds.). (1991) How college affects students. San Francisco: Jossey–Bass.

Tinto, V. (1987). Leaving college. Rethinking the causes and curses of student attrition. Chicago: University of Chicago Press.

Table 1. FRESHMAN EXPECTATIONS

Fall 1993
N=1696

Expectation	Mean*	SD
Make friends of a different culture	4.36	.75
Be satisfied with the Univ. of Delaware	4.33	.58
Maintain at least a B average	4.18	.69
Develop regular study habits	4.07	.74
Find a relevant job	3.83	.93
Go directly to graduate school	3.40	1.05
Work during semester	3.27	1.23
Help improve race relations	3.25	.92
Participate in intramural sports	3.25	1.21
Graduate with honors	3.16	1.00
Seek career and vocational counseling	3.04	1.06
Change my major	2.88	1.20
Belong to a fraternity or sorority	2.84	1.15
Be a leader in a UD club	2.81	.95
Participate in SGA, newspaper, or campus radio	2.71	1.07
Study abroad for a semester	2.64	1.26
Participate in intercollegiate sports	2.38	1.21
Seek personal counseling if needed	2.34	.87
Need extra time to complete degree	2.32	.94
Party more than study	2.04	.89
Transfer before graduating	1.89	.72
Fail one or more courses	1.54	.65
Temporarily drop out	1.37	.57

* 1=No chance, 5=Very good chance

Table 2. ISSUES OF IMPORTANCE TO FRESHMEN

Fall 1993

Importance	Mean*	SD
Making friends on residence hall floor	4.54	.84
Taking advantage of academics at UD	4.53	.63
Working hard now for the future	4.46	.71
Having family of my own	4.41	.82
Taking advantage of social opportunities	4.33	.78
Being financially well off	4.14	.78
Having someone to turn to for stress	3.99	.95
Helping others	3.99	.83
Taking active role in residence hall activities	3.85	1.00
Recognition from colleagues	3.82	.85
Becoming an authority in my field	3.79	.91
Developing philosophies of life	3.57	.97
Working on community service programs	3.37	.94
Influencing social values	3.34	.95
Promoting racial understanding	3.28	.97
Help clean up environment	3.13	.93
Make contribution to science	2.90	1.20
Leadership in residence hall programs	2.80	.93
Starting own business	2.80	1.02
Be politically active	2.51	1.08
Writing original works	2.29	1.15
Create artistic work	2.20	1.16
Be accomplished in the performing arts	2.18	1.11

* 1=None, 5=Essential

Table 3. SELF-REPORTED GAINS

Spring 1994
N=810

Self-reported Gains	Mean*	SD
I can function independently	2.14	.94
Grown personally responsible	2.22	.95
Gained factual knowledge	2.35	.77
Gained self-discipline	2.37	1.02
Gained variety of new intellectual areas	2.41	.90
Developed interpersonal social skills	2.51	.97
Adapted to social situations	2.57	.95
More open to new ideas	2.62	.95
Better understanding of myself	2.61	.97
Ability to learn on my own	2.60	.91
Intellectual curiosity	2.66	.88
Continual personal and intellectual growth after college	2.69	1.01
Cope with conflict	2.71	.97
Learning fundamental principles	2.73	.85
Building record of academic achievement	2.79	1.03
Analytical thinking	2.80	.89
Effective listening	2.83	.85
Relating to different ethnic backgrounds	2.87	1.08
Clear career goal	2.89	1.10
Gain knowledge for career	2.89	1.06
Effective team member	2.85	.99
Learning how to learn	2.94	.95
Understanding cultural differences	2.95	1.02
Developing problem solving skills	2.99	.93
Coping with moral and ethical issues	3.05	1.02
Ability to formulate creative and original ideas	2.97	.86
Developing long-term, leisure-time activities	3.00	1.05
Understanding scientific findings	3.14	.99
Know research methods	3.21	.92
Appreciating art expression	3.20	1.06
Effective writing	3.28	1.08
Understanding math concepts	3.27	1.08
Prepare for participation in society	3.36	.98
Effective speaking	3.33	.93
Knowing meritorious literature	3.48	.98
Placing problems in historic perspective	3.46	1.01
Graduate school preparation	3.61	1.05

* 1 = extraordinary growth, 5 = no growth at all

Table 4. FRESHMAN EXPERIENCES

Spring 1994
N = 810

Self–reported Gains	Mean*	SD
Getting good grades is important	1.27	.57
Have friends who would help if I had a problem	1.53	.75
Have strong friendships	1.63	.80
Confident can make new friends	1.62	.69
Friendships are personally satisfying	1.69	.84
Well prepared for exams	1.81	.74
Take advantage of academic opportunities	2.16	.93
Most faculty genuinely interested in students	1.85	.72
Not difficult to meet & make new friends	1.77	.92
Confident in doing good academic work	1.79	.74
Interpersonal relationships positive influence	1.84	.85
Most faculty are interested in teaching	1.85	.72
Academic experiences positive effect on growth	1.96	.74
Faculty spend time to discuss issues with students	1.96	.76
Satisfied with academic experiences	2.07	.79
Interpersonal relations positive influence in growth	2.05	.83
I have good study habits	2.13	.84
Most faculty are genuinely outstanding/superior teachers	2.37	.95
Satisfied with opportunities to participate in extra–curricular activities	2.08	.86
Courses intellectually stimulating	2.17	.79
Happy with my living arrangements	2.14	1.03
Satisfied with intellectual development	2.20	.78
Kept up with reading assignments	2.24	.89
Satisfied with opportunity to interact informally with faculty	2.30	.87
Friendly with at least one faculty member	2.23	1.05
Satisfied with dating relationships	2.35	1.10
Confident taking tests	2.31	.81
Nonclass interactions with faculty positive influence on growth	2.44	.91
Nonclass interactions with faculty positive influence on career goals	2.48	.97
Satisfied with academic performance	2.58	1.00
Nonclass interactions with faculty positive influence on values	2.54	.93
Weekends do more studying than partying	2.70	1.04
Do very little study on weekends	2.60	1.00
Fun more important than study	2.92	.93

* 1=Agree strongly, 4=Disagree strongly

Table 5. FOCUS GROUP SUMMARY
Spring 1994

Category	# Comments
Personal Independence/Autonomy	
I had to learn to be more independent	15
I have learned to manage my time better	17
I call home less often	5
Academic Skills Enhancement	
My study habits have improved	5
Real learning occurs in residence halls, outside class	25
Classes are harder than expected	6
I spend my free time studying	18
Relationships with Faculty	
I have had good experiences with faculty	10
I have had bad experiences with faculty	4
Professors do not have enough office hours	6
TA's/Professors need to speak better English	4
Students should take advantage of faculty's office hours	11
I' ve had some good/some not so good professors	11

Category	# Comments
Social Skills Enhancement	
Homecoming was memorable	4
Sporting events were memorable	4
Greek Week was fun	5
I have made strong friendships	29
I spend my freetime socializing/sport/clubs	24
Career	
My college experiences have helped me with my career/major options	6
I felt pressed to choose major	6
I have already changed major	9
My college experiences have confused me	7
Diversity	
I have learned to appreciate diversity	7
I don't feel this school is very diverse	14
I have learned to accept diversity	17
The Campus	
I enrolled here because campus is beautiful	13
I enrolled here because of location	14
I enrolled here because of the academic programs	10
I enrolled here because of cost	5
I enrolled here because of size	5
I believe tuition is too high	5

Quality Assessment of Professional Master's Degree Programs

Anne Marie Delaney
Director of Program Research, School of Education
Boston College

Historical analysis has revealed that assessment of master's degree programs in the United States was rarely mentioned in the literature until the 1970's. Further, once undertaken, master's level assessments were identified as a priority concern in graduate education (Pelczar & Frances, 1984). A review of the initial assessment efforts revealed two limitations: a limited focus on program resources and a lack of attention to student outcomes (Conrad & Eagan, 1990). In response to these limitations, critics have recommended expanding the criteria to ensure a comprehensive basis for assessment. Conrad and Eagan (1990) identify six criteria: faculty, students, resources, learning environment, curriculum and placement of alumni. More recently, authors of A Silent Success (Conrad, Haworth & Millar, 1993) identify attributes of high quality master's experiences which could form the basis for a comprehensive assessment program. Furthermore, for some time, researchers have advocated that master degree assessment efforts give greater attention to the students who are the primary 'stakeholders' in this enterprise (e.g., Clark, 1979; Kirkwood, 1985; & Conrad & Eagan, 1990).

The purpose of this paper is to demonstrate how survey research can be used to focus assessment of master's degree programs on student outcomes while expanding the criteria to include faculty, curricula and the learning environment. The paper also shows how instruments and analyses were designed to be responsive to policy concerns of administrators, instructional values of the faculty, standards of professional practice, and particular goals of a professional master's level educational program. Data for this paper are based on a survey of 541 alumni of master's degree teacher education programs. The survey was mailed during the 1993-1994 academic year, and a response rate of 64 percent was achieved.

Using as a model a completed assessment study of a master's degree teacher education program at a large northeastern university, the paper demonstrates how the methodology can be applied to assess other master's degree programs, particularly in professional schools. To inform the design of future assessment studies, the paper presents a conceptual framework, a research design plan, identification of relevant issues, hypotheses to be tested and appropriate techniques to be applied in analysis of the data. The paper also demonstrates how a well designed instrument can address a broad range of assessment issues.

Rationale and Guidelines for Designing an Alumni Survey

With the perspective acquired through experience, alumni are in a unique position to evaluate how well the program prepared them for their professional practice. They may use several criteria in their assessment - self-assessment of their own professional effectiveness, evaluation of how well they met the challenges they encountered, a comparison of their own professional skills relative to colleagues who attended other institutions, and the nature of the feedback received from supervisors. Awareness of these various perspectives suggests different types of questions that might be included in the survey.

From an institutional perspective, results from alumni surveys may serve many purposes relevant to assessment including both internal curriculum review and external program

accreditation. Alumni feedback regarding satisfaction with the program, the adequacy of their professional preparation and the challenges for which they needed more training may serve as a reference for assessing what aspects of the existing program should be continued, strengthened or revised and what new initiatives should be undertaken. These potential uses of survey results should be considered in the design of the survey as they will suggest the types of questions that should be asked.

With respect to accreditation, alumni survey results can be used to document the program's success based on graduates' accomplishment and satisfaction. Further, the effort involved in eliciting graduates' feedback potentially demonstrates a genuine interest on the part of the institution for continuous improvement. An initial step in the design of the alumni survey should be the articulation of specific student outcomes the program implicitly or explicitly intends to achieve.

Planning the Alumni Survey

Alumni surveys represent one type of institutional research study. As such, they should be designed to inform institutional decision-making and planning. Achievement of this goal requires a course of action based on answers to certain critical questions: Who should be involved? When should they be involved? How should they be involved? What issues should be addressed and what sources should be consulted in the design of the survey? The following discussion provides the author's perspective on answers to these questions and reflects procedures employed by the author in conducting a recent survey of alumni/ae of Master's Degree Teacher Education Programs.

In general, individuals responsible for and affected by the program have potentially valuable contributions to make to the design of the survey. An effort should be made to elicit the Dean's perspective on issues to be addressed in terms of his or her relationship with upper level administration, leadership in curriculum revision, and responsibility for accreditation. Program chairpersons, with responsibility for ongoing review of curriculum and leadership of faculty in curriculum development, represent the next administrative level of persons to be involved in the design of the survey. Also, a faculty voice is crucial to the design of the survey since faculty are the prime implementers of the curriculum and have perhaps the strongest vested interest in evaluation of the program and any potential revision impacting them or their program. Finally, the primary constituency, the students or graduates should be consulted to ensure that the survey addresses issues they perceive as critical. A central focus of communication with individuals in each of these groups should be to identify their priority concerns and their expectations regarding how the survey may address these concerns. The challenge in the design of the survey will be to balance the multiple perspectives and interests of many constituencies in a survey of manageable size.

By involving others, particularly decision makers, early in the design phase, one increases the likelihood of having a significant impact on decision-making and planning. Two primary considerations support the need to involve decision makers, planners, and other audiences early in the design phase. The first consideration is so that the survey will be designed to elicit information required for decisions and in a form that will be useful in decision-making. The second consideration is to ensure that the audiences with whom the results will be shared will perceive the survey as responsive to their concerns. Realization of this goal potentially enhances the utilization of the results.

In the planning process, one should involve a select number of individuals from the early design stage to the final production of the survey; seek opinions regarding what questions should be asked about the program, the faculty, post-graduate employment and student characteristics; obtain opinions regarding the level of evaluative questions, i.e., program or course level; and

request a priority ranking among proposed issues to be addressed. Early consultation should focus on the following questions:

- What types of information will be most useful in decision making ?
- What questions should the survey include ?
- With whom would users of the results like to compare the findings ?
- What are the concerns about the use of the survey information ?

Possible concerns regarding the use of the information may include a perception of the information as a potential threat to be used in evaluation or as a potential means of generating a negative image for the program. It is important to identify and deal with these perceptions at the outset of the survey. By addressing these concerns or fears about the potential uses of the data, one can develop strategies to ensure a sensitive handling of the data and win the confidence of the administration that the survey will be conducted, analyzed and disseminated to support the best interests of the institution. Attention to these issues early enhances the likelihood of achieving a broad base of support once the survey is undertaken.

In addition to involving various constituencies, it is also advisable to consult relevant professional sources in the design of the survey. The professional literature, that articulates the issues significant to the profession and to the preparation of professionals, is a primary source of ideas for the survey . Other alumni surveys, particularly those designed for a similar level and program, offer a rich resource of ideas for topics and issues to be addressed. Professional accreditation standards relevant to the program contain relevant information regarding standards of professional practice. One might also review internal documents, prepared by the faculty or administrators, that articulate program goals. Finally, survey design text should be consulted for guidelines on the principles of questionnaire design and construction.

General Guidelines for the Design of the Alumni Survey

In the initial design phase, develop a conceptual framework for the overall survey and for the major sections within the survey. For example, the survey may contain three main sections: Evaluation of the Program, Post-Graduate Employment Experiences, and Background Information on the Respondents. An outline of the content for each section should then be developed. For example, the Employment section might be comprised of three subsections: Employment Seeking Experience, Work History, and Challenges Encountered in Professional Practice.

In writing the questions, one needs to consider the appropriateness of the question in terms of the respondent's level of knowledge and experience. Also, in translating the questions into a survey instrument, it is important to determine what type of information users would find most helpful. This information will influence the types of questions to be included in the survey and whether the questionnaire will be designed to obtain primarily qualitative or quantitative data. The author's experience indicates that, for a large population, a primarily structured questionnaire with selected open-ended questions is most useful.

To ensure that the desired information will be available for decision makers, it is important to plan the analysis and identify the types of reports that will be requested during the design phase. For example, if reports will be requested at the individual program level, the data needs to include a program variable to segment the population. Similarly, if one intends to analyze the data in terms of variation in respondents' characteristics, one needs to ensure that the information regarding these characteristics will be obtained through the survey or by merging the survey data with another data base. In the latter case, a linking variable is critical.

Illustration of Design Considerations

The following discussion outlines the conceptual framework and design considerations employed in developing an alumni survey for graduates of a master's level teacher education program. The survey included three major sections: A. Evaluation of the Master's Program, B. Employment Experience Prior and Subsequent to the Master's Program, and C. Selected Background Information. The evaluation section, the core segment of the survey, included questions eliciting graduates' satisfaction with various components of the program as well as their assessment of how well the program prepared them for various aspects of their professional practice. This section focused on student outcomes in terms of academic and professional goals. This survey illustrates the importance of conceptualizing student outcome from the perspective of various constituencies.

For example, one question identified a list of potential **student expectations** that students may have upon entering the master's program. Alumni were asked to indicate if they held each of the expectations and if so to what degree were the expectations achieved. Illustrative expectations included: to further my own intellectual development, to advance myself professionally, and to become more competitive in the job market

The **faculty's perspective** on student outcomes provided the source for another question in the survey. This perspective, presented in a paper entitled 'Andover Themes', emanated from discussions at academic retreats held at the Andover Inn in Massachusetts. Alumni were asked to evaluate how well their master's program enabled them to achieve the following objectives related to the faculty themes: possess an adequate knowledge base to develop and evaluate one's own philosophy of teaching, develop the ability to reflect on and evaluate one's own practice, translate the theories learned into practical strategies, handle uncertainty, and deal effectively with complexity in the classroom.

In addition to the 'Andover Themes' question, two other questions focused on priority concerns of the faculty: the level of intellectual challenge offered in the program and the degree to which the program prepared students to cope with various aspects of diversity in teaching. With respect to diversity, alumni were asked how well their master's program helped them develop the capability to teach students with different ability levels in the same class; from different socioeconomic backgrounds, from diverse racial/ethnic, cultural backgrounds; and attending an inner-city school system. Finally, graduates were asked how intellectually challenging they found the following aspects of their program: class lectures/professors' presentations, class discussions/exchanges with peers, assigned readings, and course assignments/projects.

The external accrediting board's **standards of professional practice** provide yet another source for identifying relevant student outcomes. In this survey, the 'Common Knowledge Standards' articulated by the Commonwealth of Massachusetts for accreditation of teacher education programs were used as a basis for generating a question focused on student outcomes in terms of standards of professional practice. On a five point Likert scale, with response options ranging from 1, Very Poorly, to 5, Very Well, alumni were asked to evaluate how well their master's program enabled them to achieve standards which emphasize the application of knowledge to practice, including the ability to: communicate the goals of learning clearly to students; integrate knowledge of subject, method, and individual differences to enhance instruction for all students; use relevant support systems to optimize opportunities for teaching and learning; and show respect for the unique developmental and cultural needs of special needs children and linguistic and other minorities.

Development of Scales

Procedures employed in the analysis of this master's alumni survey illustrate how statistical techniques can be used to simplify survey data and to create reliable measures of the program dimensions being evaluated. Initially, factor analysis was employed with an extensive number of questionnaire items related to graduates' evaluation of the program and their report of challenges encountered in their professional practice. Results from factor analyses indicated which individual items were correlated with each other and what underlying dimensions were represented in the data. Scales were then created by combining similar items into one measure; items with high factor loading or weights on a particular factor were chosen to be included in the scale. Prior to using the scales in the analysis, alpha reliability coefficients were computed to determine the internal consistency of the scales.

Reliability analysis confirmed the internal consistency of eight scales. For purposes of analysis and discussion, these eight scales are classified into two broad categories: Program Evaluation and Professional Experience scales. There are six Program Evaluation scales and two Professional Experience scales. Given the nature of the issues addressed, a modified version of many of these scales may be relevant to evaluation of other programs. The content, while focused on teacher education, could be easily adapted to other professional degree programs.

Program Evaluation Scales

The six Program Evaluation scales represent different dimensions of graduates' evaluation of their education: their satisfaction with various program components, their perception of how well the program prepared them for their professional practice, and their assessment of the level of intellectual challenge offered in the program. To reflect these different dimensions, the program evaluation scales are presented in Table 1 in three categories: Program Satisfaction scales, Assessment of Professional Preparation scales, and Assessment of the Program's Intellectual Challenge. As shown in Table 1, there are two Program Satisfaction scales - Satisfaction with Courses and Satisfaction with the Practical Relevance; three Assessment of Professional Preparation scales - Standards of Professional Practice, Preparation for Reflective Practice, and Preparation for Diversity; and one Assessment of the Program's Intellectual Challenge scale. Table 1 presents the statistical properties for each scale including the mean and standard deviation for the total group on these scales and the alpha reliability coefficient measuring the scales' internal consistency. As shown, the reliability coefficients are quite high, ranging from .80 to .92.

Table 1. Statistical Properties of the Program Evaluation Scales

Scales	Mean	S.D.	Reliability	No. of Items	Range of Responses
Program Satisfaction Scales					Low - High
Satisfaction with Courses	3.31	.11	.88	10	1 - 4
Satisfaction with Practical Relevance	3.22	.11	.80	3	1 - 4
Assessment of Professional Preparation Scales					
Standards of Professional Practice	4.02	.20	.86	6	1 - 5
Preparation for Reflective Practice	3.90	.29	.90	6	1 - 5
Preparation for Diversity	3.25	.17	.92	3	1 - 5
Assessment of the Program's Intellectual Challenge	3.07	.11	.83	4	1 - 4

Program Satisfaction Scales

Items included in the first scale, **Satisfaction with Courses** are based on responses to questions asking alumni to rate their satisfaction with courses or aspects of courses in the master's program, including class lectures/professors' presentations, class discussions, School of Education courses in general, and courses in the student's own major. The second scale, **Satisfaction with the Program's Practical Relevance** measures a crucial aspect for teacher education programs today, i.e., the program's perceived success in educating student teachers regarding real world issues and in preparing them to apply theory in the world of practice.

Assessment of Professional Preparation Scales

One of the benefits of an alumni survey is the opportunity it provides to elicit graduates' evaluation of their education through the lens of their experience. Relevant to this evaluation is the perceived quality of the preparation provided for professional practice. As noted previously, this alumni survey included questions designed specifically to obtain graduates' evaluation of the professional preparation they received in relation to certain criteria - professional standards, faculty goals, and the School of Education's commitment to diversity.

The first scale in this category, **Standards of Professional Practice,** contains six items reflecting selected standards from the National Council for Accreditation of Teacher Education Programs, such as communicating the goals of learning clearly, understanding and showing respect for individual differences among students, and using relevant support systems. The second scale, **Preparation for Reflective Practice**, contains six items reflecting selected themes from the faculty's philosophy of teaching including enabling students to develop a knowledge base, make the knowledge their own, apply the knowledge in uncertain and complex environments, and enhance the knowledge base of the profession by designing and conducting research based on one's own experience. The third scale, **Preparation for Diversity**, focuses primarily on graduates' assessment of how well their master's program helped them develop the capability to cope with various aspects of diversity in their teaching of students from diverse socioeconomic, racial, ethnic and cultural backgrounds and specifically those in an urban setting.

Program's Intellectual Challenge Scales

One question in the alumni survey focused specifically on graduates' assessment of how intellectually challenging they found the following aspects of their master's program: class lectures/professors' presentations, class discussions/exchanges with peers, assigned readings, and course assignments/projects. Factor analysis established one dimension underlying responses to these questions. These questions were, therefore, combined into one scale, **Assessment of the Program's Intellectual Challenge**, with a high reliability of .83.

Professional Experience Scales

The second category of scales developed in this research are defined as **Professional Experience Scales.** The two scales in this category are based on one question in the survey which presented respondents with a list of work related challenges, often mentioned by teachers, and asked them to indicate the degree to which these issues presented a challenge to them in their teaching assignments after earning their master's degree. The first professional experience scale, **Teachers' Relationship with Students** represents the various roles a teacher may assume with respect to students including teacher, advisor, mentor and disciplinarian. The second scale, **Teachers' Other Professional Roles** refers to the teachers' relationship with others and to his or her ability to evaluate his or her own teaching. The statistical properties for these scales are presented in Table 2. As shown, the reliability coefficients are quite strong, .87, for the first scale concerning challenges in teachers' relationships with students, and moderately strong, .76, for the second scale concerning challenges in teachers' other professional roles.

Table 2. Statistical Properties of the Professional Experience Scales

Professional Experience Scales	Mean	S.D.	Reliability	No. of Items	Range of Responses Low - High
Professional Challenges Encountered in Teachers' Relationship with Students	2.44	.35	.87	7	1 - 5
Professional Challenges Encountered in Teachers' Other Professional Roles	2.29	.23	.76	4	1 - 5

Results

Bivariate and multivariate techniques were employed in the analysis of the data including both individual items and computed scales. Chi square and correlation analyses were conducted to test hypotheses that statistically significant correlations exist between graduates' perceptions of professional growth achieved through the master's program, intellectual challenge offered by the program, and overall satisfaction with how well the program prepared them for their profession. Bivariate analyses also were conducted to examine the relationship between graduates' perception of how well their master's program contributed to their professional growth and the degree to which they experienced challenges in their career. Discriminant Analysis was used to predict whether or not graduates would make the same choice again regarding the master's program. Results from these analyses are presented in this paper primarily to illustrate the relevance of the techniques to analyzing alumni survey data.

Assessment of Intellectual Challenge and Overall Evaluation

Results from the Chi square and correlation analyses indicate that there is a significant relationship between graduates' ratings of the intellectual challenge of various aspects of their program and their ratings of how well the program prepared them for a teaching position. Analysis based on individual questionnaire items revealed statistically significant positive relationships between graduates' overall rating of the professional preparation received through the master's program and the perceived intellectual challenge of each of the following: class lectures ($r = .40$ $p \leq .001$), assigned readings ($r = .42$ $p \leq .001$), and course assignments and projects ($r = .41$ $p \leq .001$).

Data presented in Table 3 illustrates the moderately strong, statistically significant relationship found between graduates' assessment of the intellectual challenge of class lectures and their overall evaluation of the master's program. As shown, the majority of those who found the class lectures to be challenging, 52.1 percent, also reported that the program prepared them 'Very Well' for their professional practice. In contrast, the majority of those who found the class lectures only 'Slightly or Not At All' challenging, 57.7 percent, also rated the program from 'Very Poorly to Fair'.

Table 3. Assessment of Intellectual Challenge of Class Lectures and Overall Evaluation of the Program

	Overall Evaluation			
Intellectual Challenge	Very poorly to Fair	Well	Very Well	Total
Not at all/Slightly	57.7 % (30)	36.5 % (19)	5.8 % (3)	100. 0 % (52)
Moderately	26.2 (49)	51.9 (97)	21.9 (41)	100.0 (187)
Very	9.4 (9)	38.5 (37)	52.1 (50)	100.0 (96)

$X^2 = 65.03$ $p \leq .001$

Relationship between Evaluation of Program Dimension and Overall Evaluation

Results from correlation analyses with computed scales confirm the importance of intellectual challenge as well as various other dimensions of the quality of professional preparation received. Statistically significant relationships were found between the six program evaluation scales and graduates' overall evaluation of how well the master's program prepared them for a teaching position. As shown in Table 4, the strongest relationship was found with graduates' perception of the preparation received for Reflective Practice ($r = .73$ $p \leq .01$) followed by Standards of Professional Practice (.61 $p \leq .01$), Satisfaction with Courses ($r = .57$ $p \leq .01$), Satisfaction with the Program's Practical Relevance ($r = .54$ $p \leq .01$), Assessment of the Program's Intellectual Challenge ($r = .47$ $p \leq .01$), and Preparation for Diversity ($r = .45$ $p \leq .01$).

Of particular interest in these results is the strong relationship between perceived preparation for the profession and overall evaluation of the program. The high correlations for the two Assessment of Professional Preparation scales - Standards of Professional Practice and Preparation for Reflective Practice - indicate that graduates' perception of how well the program prepared them to meet the standards and responsibilities of their profession strongly influences their evaluation of their educational preparation.

Table 4. Correlations between Program Evaluation Scales and Graduates' Overall Evaluation of the Master's Teacher Education Program

Program Evaluation Scales	Correlation
Program Satisfaction Measures	
Satisfaction with Courses	.57**
Satisfaction with the Program's Practical Relevance	.54**
Assessment of Professional Preparation Scales	
Standards of Professional Practice	.61**
Preparation for Reflective Practice	.73**
Preparation for Diversity	.45**
Assessment of the Programs' Intellectual Challenge	.47**

** $p \leq .01$

Relationship between Assessment of Professional Preparation and Professional Experience

Correlation analysis results, based on individual questionnaire items, also revealed some statistically significant, though relatively weak, relationships between graduates' perception of how well the program prepared them for professional practice and the extent to which they experienced certain challenges in teaching. For example, statistically significant correlations were found between perceived growth in learning to communicate the goals of learning clearly and challenges encountered in developing students' critical thinking skills ($r = -.20$ $p \leq .01$); between perceived growth in learning to deal effectively with complexity in the classroom and challenges encountered in motivating students ($r = -.20$ $p \leq .01$); and between perceived growth in the ability to translate theory into practice and challenges encountered in motivating students ($r = -.20$ $p \leq .01$), developing students' critical thinking skills ($r = -.22$ $p \leq .01$) and problem solving abilities ($r = -.21$ $p \leq .01$). The negative sign for these coefficients indicates that graduates who rated the program higher in terms of these professional growth dimensions also reported less of a challenge with the professional practice issues specified.

Correlation analysis results, with computed scales, also revealed statistically significant, though weak, relationships between graduates' assessment of the preparation they received for reflective practice and the extent to which they encountered professional challenges in developing students' critical thinking skills ($r = -.22$ $p. \leq .01$), in motivating students ($r = -.22$ $p \leq .01$), and in relating to students as teacher, mentor, advisor and disciplinarian ($r = -.24$ $p. \leq .01$). The more prepared graduates felt with respect to reflective practice, the less they reported encountering challenges in their relationships with students. As noted earlier, the measure of reflective practice includes knowledge as well as the capacity to reflect on and evaluate one's practice, translate theory into practice, handle uncertainty and deal effectively with complexity in professional practice.

Predicting Graduates' Reevaluation of their Program Choice

Discriminant analysis was performed to predict graduates' responses to the question, "If you were to make the decision over again regarding this Master's Program, which course of action would you follow?" Respondents were classified in two groups, those who would make the same choice and those who would make a different choice. Six variables were included as predictors: five Program Evaluation scales - Satisfaction with Courses, Standards of Professional Practice, Preparation for Reflective Practice, Preparation for Diversity, Assessment of the Program's Intellectual Challenge and Employment Satisfaction. Results are presented in Table 5.

Table 5. Discriminant Analysis Results: Predicting Graduates' Reevaluation of the Program Choice

Predictors	Structure Coefficients	Percent Correctly Classified
Satisfaction with Courses	.85	81.93
Preparation for Reflective Practice	.66	
Standards of Professional Practice	.63	
Assessment of Intellectual Challenge	.49	
Employment Satisfaction	.45	
Preparation for Diversity	.39	
Canonical Correlation	.51	$X^2 = 75.32$ df=6 $p \leq .001$

As shown in Table 5, the magnitude of the structure coefficients indicate that three Program Evaluation scales are highly correlated with this function - Satisfaction with Courses, Preparation for Reflective Practice and Standards of Professional Practice. Although to a lesser degree, Assessment of the Program's Intellectual Challenge, Employment Satisfaction, and perceived Preparation for Diversity are also positively correlated with this function. The canonical correlation of .51 indicates that this function explains 26 percent of the variance in graduates' reevaluation of their program choice. This discriminant function accurately predicts the choice of 82 percent of the respondents.

This paper responds to the need in higher education for methodologically sophisticated and substantively comprehensive assessments of graduate level education. The paper illustrates how alumni survey research can be used effectively in these assessments. The analytical procedures presented demonstrate the use of factor analysis and reliability analysis in developing valid and reliable assessment measures. The survey design, method of constructing the scales and bivariate and multivariate techniques employed in this study may serve as a model for other assessment studies, particularly for master's level professional degree programs.

References

Clark, K. E. (1979). The issue of quality in master's degree programs. In the Council of Graduate Schools' Proceedings of the Conference on the Assessment of the Quality of Master's Programs. College Park: University of Maryland.

Conrad, C. F. & Eagan, D. J. (1990). Master's degree programs in higher education. In J. C. Smart (Ed.) Higher education handbook of theory and research Vol. VI (pp. 107-160). New York: Agathon Press.

Conrad, C. F. , Haworth, J. G. & Millar, S. B. (1993). A silent success. Baltimore: The Johns Hopkins University Press.

Kirkwood, R. (1985). The quest for quality in graduate education. Educational Record, 66 (3), 5-8.

Pelczar, M. J., & Frances, C. (1984). Graduate education: Past performance and future direction. In M. J. Pelczar & L. C. Solomon (Eds.), Keeping graduate programs responsive to national needs (pp. 3-10). San Francisco: Jossey-Bass.

Faculty Merit: A System to Enhance Productivity

John DiElsi, Associate Professor
Sara McGlinchy, Assistant Professor
Mary Dawson McGuinness, Assistant Professor
Carol A. Moore, Provost
Donna Killian Sorkin, Associate Professor
Joseph Victor, Professor
Mercy College

Introduction: In 1993-1994 Mercy College implemented a merit award system designed to encourage and reward faculty productivity. This process required the College to first develop and implement an evaluation system, as no formal evaluation process existed. After working with these new systems, the faculty committee that made the merit decisions recommended changes to improve both the evaluation and the merit processes. Because the merit program is new, its effectiveness in increasing faculty productivity has not yet been determined. The College is developing methodology to evaluate the impact of merit awards on faculty productivity; based on the evaluation, the merit award system may be revised to assure attainment of the original goal.

Background: Mercy College is a multi-campus, private, liberal arts college. Most of the 6200 students are commuters and approximately 50% are minority. There are 157 full-time faculty, most of whom have been at the College for more than fifteen years.

In 1990, after several years of enrollment decline and fiscal instability, a new president was selected and within a year enrollment began to rise. Shortly thereafter, at the urging of the President, the Board of Trustees approved a three-year contract for faculty with a 21% raise over the three years. The Board's offer, however, was contingent upon faculty approval of a merit system for years two and three. As faculty essentially had not received raises for three prior years, the proposal was endorsed by an overwhelming majority of faculty, despite skepticism on the part of many.

In preparation for merit and prior to the second year of the contract, an ad hoc committee of five elected faculty members, one academic administrator and the Provost was constituted to establish the process and procedures for awarding merit. The task before the committee was complicated by the fact that Mercy did not have an annual faculty review process in place. The lack of annual faculty evaluations and the use of such an evaluation procedure to form the basis of distributing merit awards created a high level of faculty apprehension. Additionally, although Mercy traditionally has been a teaching institution, the Board of Trustees of the College had just approved a new tenure policy which placed greater emphasis on scholarship and established an up-or-out policy for newer faculty.

The Merit Process: It was in this environment that the ad hoc committee began its work to establish the merit process. After three months of intense deliberations through the summer of 1992, the committee recommended a process to the full faculty, which was defeated. In the opinion of many, the negative vote suggested that merit might be stalled indefinitely. However, the President surveyed the faculty for their individual suggestions for a merit process and, based on the results, the original committee proposal was administratively modified and adopted. The Provost then worked with the Institutional and Professional Standards Committee, a

standing committee of the Faculty Senate, to develop a process for yearly faculty evaluations. The process included a standardized procedure for class observation, student evaluations and an evaluation of college service and scholarship by the department chairs.

With the faculty evaluation process having been implemented for the first time in academic 1993 - 1994, merit awards were to be made for salary increases for 1994 - 1995. Faculty were to receive a 4% across-the-board raise with an additional 3% for a merit pool. This pool was divided into two increments, one for average merit and one for extraordinary merit. (The amount for extraordinary merit was set at 50% more than the basic merit amount.)

The merit policy that was adopted placed a 60% weight on teaching and 40% weight on a combination of scholarship and service. Faculty applying for merit were required to have both scholarship and service components but could indicate what portion of the 40% should be allocated to each. Applicants were asked to provide brief summaries and documentation of their contributions in teaching, service and scholarship. The department chairs were to comment in each category and provide a summary evaluation and a general recommendation for merit. Five members of the faculty were elected by the faculty to serve on a Merit Committee, which was chaired by the Provost, to review applications and make recommendations to the President. A brief rationale for the Committee's decision of the committee would be returned to each applicant.

The application process was implemented late in the academic year with this committee meeting in May to discuss the overall parameters to be used in decisions and recommendations. It was decided that each member of the committee would read every application and make an initial evaluation. Meetings of the entire committee then would be held to arrive at a final consensus.

Results: Of 157 full-time faculty, 103 (67%) applied for merit. Of those applying, 12 received extraordinary merit (12% of those applying), 75 received merit (73% of those applying), and 16 received no merit (16% of those applying). Males account for 55% of the faculty; 54% of those who received merit are male. Females account for 45% of the faculty; 46% of those who received merit are female. Overall, 84% of those applying received merit, while 85% of minority faculty who applied for merit received merit.

About 60% of those applying easily fell into one of the three categories (extraordinary merit, merit or no merit). In the opinion of the committee, accomplishments of 13 applicants placed them on the border between extraordinary merit and merit (3 were awarded extraordinary merit) while accomplishments of 29 applicants placed them on the border between merit and no merit (22 eventually were recommended for merit). Since this was an initial attempt at implementing a difficult process, some of the merit recipients were awarded merit with reservation to indicate that expectations were minimally met. Of the 75 receiving merit, 13 were awarded merit with reservation.

Recommendations: After reviewing the evaluation procedure and obtaining informal feedback from faculty, the Committee is making the following recommendations for faculty and administration to consider for any subsequent merit process.

1. Format of application. Since it was difficult on occasion to read the handwritten materials, the Committee strongly urges all application forms and supporting materials be submitted only in typewritten form. The Committee also suggests the applications be placed in a three-ring binder to facilitate reading, and that the organization of the materials should closely follow the guidelines set forth in the application.

2. Documentation.

Teaching. The Committee emphasizes the necessity of submitting class observation(s) by the department chair and the summary data from student evaluations on the approved forms. A synopsis of student evaluations for all classes taught by the applicant should include a summary for each individual class as well as a summary of all classes taught by the applicant, and should incorporate comparative data for others in the applicant's department and the College. (The student evaluations used for this year's evaluation were problematic.)

Scholarship. In documenting scholarship, the Committee recommends faculty submit the first page of an article or the title page and the table of contents for a book; both these pieces of documentation should include the date of publication. For conference presentation and/or attendance, a detailed conference schedule, listing the presentation, should be submitted. In preparing the-self-reporting form, faculty should clearly indicate those conferences or professional meetings attended, the date of each, and the extent of participation (attendance, presentation, chairing a session, etc.).

College Service. In completing the self-reporting college service form, the Committee strongly urges faculty to organize their service activities and indicate the committees on which they served, designating whether they were departmental or college-wide. Faculty should indicate the approximate number of times the committee met over the course of the year, whether or not they were an officer of the committee, and note any specific contribution they made to that committee. A list of additional service opportunities can include volunteering to work with students in the Learning Center, serving as mentor to adjunct faculty, conducting alumni surveys for the department, conducting student outcomes assessment for the department, participating in orientation/registration at campuses, assisting in the training of faculty or students (e.g. computer software), encouraging students to register, recruiting students, conducting studies for department or college use (i.e. retention of majors), and evaluating assessment tasks.

3. Co-curricular Duties. The faculty member should clearly indicate on the application any release time they received, the purpose for which the release time was granted, any stipend received and the purpose of the stipend. Faculty should clearly label those duties (teaching, administration, etc.) done as an overload or for additional compensation for either the College or for the cooperating graduate program housed on campus.

4. Chair Recommendations. The Committee recommends that department chairs indicate the level of merit (extraordinary merit, merit, no merit) in addition to an overall endorsement and rationale for the level chosen. The Committee recommends the Provost work with the department chairs (offer a workshop, etc.) on the merit evaluation process to develop recommendations that will best present individual faculty members applications.

5. Student Evaluations. The Committee recommends that the student evaluation form be reviewed by the appropriate Senate Committee and modified. The current form has not been statistically validated or normed. There is no comparative data (essential to place any individual faculty member's student evaluations in the context of the overall evaluations for the department or the College), and there are an inadequate number of choices for student responses. The Committee further believes the phrasing used in some of the questions or statements could be improved.

6. Review Time. The Committee recommends that a longer time be given to the Committee to review the applications; the turnaround time, from submission of application to decision by the Committee, was inadequate. Hence, the Committee suggests the deadline for Committee recommendations be moved from May 30th to June 30th.

7. Outside Employment. If faculty members include outside employment, such as consulting, to their service or scholarship contributions, they must specifically make the case that the compensated activity does in fact benefit the College or impact currency in teaching and/or in their discipline. It is the responsibility of the faculty member to make a compelling case that such employment does in fact benefit the College.

8. Levels of Merit. A. The Committee discussed, at considerable length, the possibility of changing the two levels of merit currently available. After much discussion of either limiting merit to one level or expanding merit to as many as five, the Committee recommends that merit remain at the current two levels. The Committee believes consolidating the two levels into one level of merit would eliminate the incentive for individuals to strive for extraordinary merit. The Committee considered the expansion of the merit levels to more than two because there was a broad range of contributions to teaching, service and scholarship presented by those individuals who received basic merit. It was initially thought that expanding to more categories might help the decision-making and narrow the range of performance within each category. However, after a full discussion, the Committee concluded that increasing the number of merit categories would not make the decision making process any less difficult, but may in fact complicate rather than simplify the process.

B. This year, since the profile of faculty in the merit category was so wide ranging, the Committee felt it must indicate to some faculty members that they were recommended for merit with reservation. These faculty members presented a "marginal profile" as compared to others in the merit category, yet they had made contributions to the College. The Committee recommends that in subsequent years those individuals with similar profiles be recommended for merit with reservation. It is felt that this recommendation will alert the faculty member to the nature of the his or her contributions as compared to other faculty members in the merit category.

9. The Time frame for Merit. The Committee suggests that the time frame for faculty activities to be considered for merit extend from June 1, 1994 through May 31, 1995.

10. Recognition. The Committee suggests that the names of those receiving a merit/extraordinary award be publicized. The Committee bases this recommendation on the essential goal of merit, i.e. to encourage and reward those who have made significant contributions to the College. The Committee sees that part of the reward is public recognition, recognition by faculty colleagues as well as the College administration.

11. Academic Administrators. In reviewing all applicants the Committee recognized that department chairs (assistant and associate chairs) and other faculty who have significant administrative responsibilities should be evaluated as a group within the faculty. The nature of their work cannot be directly compared to the typical responsibilities of faculty. The Committee does not recommend a separate merit pool but does recommend that faculty with administrative duties be evaluated comparatively within an academic administrative group. Further, the Committee recommends scholarship and service be evaluated somewhat differently. Specifically, many of the administrative tasks done by chairs can also be considered as college service when it goes 'above and beyond' the basic expectations, i.e. weekly visits to Extension Centers. Given the volume of administrative work required in most departments, scholarship for chairs should include administrative conferences and workshops as well as academic scholarship.

12. Professional Development Plan. The Committee concluded, after reviewing all applications, that faculty would benefit from preparing a plan, each fall, in which they would establish annual goals. This plan would be reviewed and approved by the chair, and would provide clear guidance for yearly expectations in the areas of teaching, service and scholarship.

Evaluation: In an effort to measure changes in faculty in productivity from year to year, the Committee is developing an assessment system that would systematically record faculty contributions in teaching, service, and scholarship. This uniform approach will enable the College to evaluate the long term impact of the merit award program on faculty productivity.

Conclusion: The merit award program has resulted in the creation of a faculty evaluation procedure and in an increased awareness of College expectations of faculty in the areas of teaching, service, and scholarship. The College is working towards evaluation of the true impact of the merit award program on faculty productivity.

Bibliography

Anderson, K.L. (1992). Faculty support for a merit pay system. Annual Meeting for the Study of Higher Education, Eric document ED 352990.

Barnett, H., Cohen, C., Perry, J., and Rosen, W. (1988). Coping with merit pay, Academe, 74:6.

Burke, R. (1988). Research on the Effects of rewards: implications for merit pay, Annual Meeting of Association of Teacher Educators, Eric document ED 294854.

Elliott, S.M., and Ryan, N.E. (1986). A market and merit plan for faculty salary increases, College Teaching, 34:4.

Fassiotto, M. (1988). The merit of merit: notes and arguments for and against merit systems, Eric document ED 271040.

Wood, P.H. and Burke, R.R. (1989). College Faculty attitudes toward merit pay, Eric document ED 319290.

Employee Trip Reduction Program: Can it Work?

Indira Govindan
Director, Office of Institutional Research
Drew University

Summary

When the NJ Traffic Congestion and Pollution Control Act required every employer to create an Employee Trip Reduction Program, the reaction at Drew University was to do it in the least expensive way and with as little pain as possible. Fortunately for Drew, its problem was not severe enough to need drastic changes. Yet by focusing narrowly, it missed an opportunity to create a flexible work place with creative options such as teleworking.

Background

The NJ Employee Trip Reduction (ETR) program is an offshoot of the 1990 Federal Clean Air Act (and the NJ Traffic Congestion and Air Pollution Control Act) which requires that states with air pollution levels that exceed Federal standards reduce their levels of atmospheric carbon monoxide and ground level ozone. The goal of the program is to reduce traffic congestion and air pollution by reducing the number of vehicles traveling during morning commute hours. All New Jersey employers with more than 100 employees were expected to participate in the program. For the purpose of the program, the 18 NJ counties were classified into three zones : Urbanized Area Zones 1&2 and Suburban Area Zone. Through state-wide surveys, and after many revisions, the NJ Department of Transportation (NJDOT) established Average Passenger Occupancy (APO) target for the three zones.

Starting from the early part of 1993, all affected employers including Drew University, began to receive notification of the ETR program. Each employer was to survey employees to determine commute patterns and develop a plan to reduce employee vehicle trips to the work location. The deadline for submitting a compliance plan was set for November 1994, even though much of NJDOT own policy and procedures were incomplete and were subjected to a multitude of revisions and changes throughout 1993 and the final policy and procedures were not put in place until the beginning of 1994. DOT's slowness notwithstanding, there were serious monetary penalties attached to any kind of non-compliance on part of the employers. For many cynics in the state, including this institution, this seemed just one more way of making up the state's budget shortfall.

Drew University and the ETRP

Drew University, located in Madison, NJ, has a workforce of 480 employees of which 42 percent are faculty, 32 percent are in the professional/technical category, 19 percent in the clerical category, and 7 percent in the executive/managerial category. About 380 employees report to work between 6 a.m. and 10 a.m.. Since food and plant services are outsourced, these workers are not considered as Drew employees. Parking is generally easily available and no parking fee is charged for employees. Most employees live within commuting distance from the campus, with more than 60% living within 10 miles (**Table 1**).

Table 1. Distance Commuted by 6 am to 10 am Employees

Distance	Percent
Less than 2 miles	32.1%
2.1 to 5 miles	16.7%
5.1 -10 miles	12.4%
10.1 to 20 miles	21.4%
20.1 to 30 miles	7.7%
More than 30 miles	9.7%
Total	100.0%

Drew owns several residential properties adjoining the campus and one in particular is a fair-sized condominium complex serving exclusively Drew faculty and staff. As will be seen later, the presence of staff/faculty housing will have substantial impact on Drew's APO. The town of Madison is also served by a train line, located about a mile from the campus.

During the second week of October 1993, the employee transportation surveys were mailed to all employees. Advance notice of the survey was given through e-mail. To achieve the 90% response rate required by the program, a mail-in renewal of parking permit was included along with the survey. The Human Resources and the Institutional Research offices jointly shared the responsibilities for the administration and the analysis of the surveys. A committee of staff and faculty members was also established to act as a general liaison to the community. The committee was seen as a political hedge, should there be a need to implement unpopular measures to bring the APO to the target level.

Survey Results

Not unsurprisingly, majority of the employees arrived at the campus by driving alone. About nine percent used carpools and another three percent worked from home. Given the nature of the workforce as well as the location of the train station, only a small segment used the transit service. However, what was unique for Drew was that a significant segment of the employees walked or bicycled to work. It was this population that substantially elevated the APO level for Drew and made the job of the Employee Transportation Coordinator (EOC) considerably easier **(Table 2).**

Table 2. Employee and Vehicle Arrivals (Mon-Fri)*

Commute Mode	Total Employee Trips 6-10 am	Total Vehicle Trips 6-10 am	
Drove alone	1133	1133	
Dropped off	12	12	
2-person carpool	114	57	(114/2)
3-person carpool	28	9	(28/3)
4-person carpool	0	0	
5-person carpool	0	0	
6-person carpool	0	0	
Vanpool	0	0	
Bus, train etc.	54	0	
Walked	151	0	
Bicycled	22	0	
Teleworked	52	0	
Employee Trips	1566	1211	
Total Vehicle Trips (adjusted for alternate fuel vehicles and compressed work)		1173	
Work Location APO (1566/1173)		1.34	
Target APO		1.38	

*Categories taken from NJ Employee Trip Survey.

Though the initial APO rate was received with a sigh of relief, there was still the knotty issue of bringing it to the state mandated level. While the immediate problem was compliance, the issue itself raises broader socio-economic questions of why so many workers drive alone to work. As our survey indicates, the automobile is no longer a single purpose vehicle (**Table** 3). As more women join the workforce and two-parent working family becomes the norm, the automobile is not just used to commute back and forth from work, but is also needed to pickup/drop off children at school/daycare on the way to/from work and to run errands during lunch hour. For such employees, the flexibility that the automobile provides cannot be simply sacrificed, unless there are strong alternatives available.

Table 3. Reasons for Driving Alone

Reasons	% Responding
Enjoy my privacy	7.2%
Work schedule requires time flexibility	23.9%
Need car during the work day	17.6%
Need car before/after work	21.6%
Other	4.6%
Need car in case of emergency	10.5%
Cannot find anyone to ride with	8.9%
Driving alone is faster	5.5%

For many employees, one of the most desirable alternatives to driving alone, was teleworking or a compressed work week program (**Table 4**). Though there was some discussion in the committee about flexible work options, it was felt that it would not receive any support from the administration and was abandoned early on.

Table 4. Would Change to Alternate Commute modes

Incentives Offered	% Responding
Work at home/compressed work schedule	17.0%
Guaranteed ride home in emergencies	10.1%
Travel allowance	9.7%
Cash subsidies	9.5%
Help finding someone to carpool	9.3%
Company cars for ride sharing	7.5%
Shuttle bus from transit station	4.2%
Discount Transit Passes	3.8%
Information on transit routes	3.2%
Parking charge for those driving alone	2.6%

* Not all responses included

For the rest, it became quite clear that the our choices were quite limited. To reach the target APO, about 50 employees had to be persuaded to use alternative modes of commute. For practical reasons, financial incentives and other services that would require financial investment (e.g. van from train station) were eliminated from consideration. Survey responses showed that parking charges would be unpopular and therefore was not seriously considered.

Thus among the short list of options, the most credible remaining was "guaranteed ride home in emergencies for ride shares." Since the university has a campus safety office and owns a fleet of police cars, it was felt that this option would be the most viable and the least expensive way of achieving the target. The survey data indicated that the availability of such a service would induce some to carpool. The final plan that emerged contained just two new incentives to encourage alternative modes of commute: guaranteed ride home and on-site sale of transit passes.

Conclusion

For the present, Drew's ETR program has taken the easy approach. The state gives each employer two years to test the efficacy of its program. Drew plans to do a follow-up survey in 1995 which would tell us whether our plan has achieved the desired APO rate. As is often the case with institutional plans, the response has been aimed at a short term solution to a specific problem rather being seen as an opportunity to address the longer term and larger issues of work schedules and commute patterns.

Transfer Students: A Source for Examining Academic Integrity

Thomas P. Judd
Director of Institutional Research
Rockland Community College

As open admission institutions with missions which mandate serving populations with diverse circumstances and needs, many community colleges have nurtured both traditional and non-traditional students with a variety of learning modalities, flexibility in scheduling and semester time frames, and other accommodations. However, a continuing threat in this accommodation process is the potential for slippage in academic integrity. Concerns about this potential slippage are evident in interest with grade inflation, transferability of courses, and the academic performance of community college students who transfer to four-year institutions.

This study is the latest in a series conducted with the Rockland Community College Faculty Senate Committee on Academic Standards examining the academic integrity of the institution. In an initial unpublished study a comparison of course outlines and catalog descriptions of introductory courses from seven two-year colleges and six four-year institutions in New York State was conducted for courses in eight academic disciplines. A subjective analysis by faculty from each curriculum area found a high degree of similarity between all institutions in course justification, catalog description, competencies to be learned, outlines of content, specific learning activities, criteria for evaluation, texts and evaluation methods.

To examine the meaning faculty attribute to grades, a second study used a questionnaire to examine faculty opinions in two- and four-year institutions on the use of formal evaluation methods, sources influencing course objectives, attitudes towards grading, and the types of skills reflected in final grades (Judd, 1992). Results again indicated a high degree of similarity between faculty in both institution types in most areas investigated. A few differences existed in areas where smaller class sizes would enable more consideration of individual student differences. For example, faculty at two-year institutions agreed more strongly with statements indicating the importance of written work, attendance, punctuality, daily preparation, critical thinking skills, creativity/originality and personal rapport in contributing to grades.

Given the overall similarity between the two-year and four-year institutions in the published content of courses, the expectations of student performance and the faculty use of grades, the experiences of transfer students seemed to be another critical source of evidence for examining the academic integrity of the institution.

The purpose of this study was to examine the effectiveness of the educational preparation of students who transfer to other institutions by asking them to compare their experiences at Rockland Community College to the transfer institutions.

Method

Subjects

Students who indicated on a survey of 1992-93 graduates or a survey of non-graduates who had not returned to Rockland Community College (RCC) in the fall 1993 semester that they had transferred to another college were selected for this study. Two mailings were used to maximize response rate. From the 552 surveys that were mailed, 115 usable surveys were received for a response rate of 21%. Students from 41 identified transfer institutions responded (Table 1). A list of the students' 48 majors at the transfer institutions is in Table 2.

Instrument

Questions relating to social and academic integration, availability and use of support services, perceived work load, external influences, class activities, evaluation of work, and difficulty of coursework were constructed by the committee. These areas were selected based on student responses to graduate questionnaires, surveys of former students, consultation with transfer counselors, and anecdotal feedback to faculty by students. There were 29 questions with three constrained choices. The instructions for these items asked respondents to compare their transfer institution to Rockland Community College. The three choices available had a middle choice of "about the same," and two choices which represented the both ends of divergence. For example, the choices for the first item "Are your classes" were "much larger," "about the same," and "smaller." The wording of each pair of divergent response choices were dependent on the specific content of the questions. There were six questions about the use and availability of support services. There were also four open ended questions and space for additional comments. The open ended questions were: "Do you feel that RCC prepared you well for upper level studies?", " What was your major at RCC?", " What is your current major?" and "Please add any comments that you think will help us understand what happens when students transfer, and how we can help prepare students."

Results

The percentage of student responses to each of the constrained choice options for each item is presented in Table 3. A review of the responses reveals that in general, at the transfer institutions, students are experiencing an educational setting that is more demanding than they experienced at RCC. Seventy-four percent of transfer students report that they write more papers, that the papers require more effort (79%), that tests are more difficult (74%), cover more material (56%), and require more rethinking of the material (63%). They report that there is more reading (84%), and that there are more assignments (68%) which are more difficult (82%) and require more time to complete (90%). Even though they report that the time required by nonacademic obligations is about the same (46%), 76% find it more difficult finding time to get everything done. Forty-seven percent of the students report that there is more class time spent in lecture. There is about the same emphasis on rote recall (61%), but more emphasis on critical or independent thinking (53%). They also report that the level of competition between students for grades is greater (61%).

Nonacademic classroom management experiences also differed at the transfer institutions. Fifty-seven percent of the students reported that the classes were about the same size, but 31% said they were larger. Only 40% felt that the attendance policy was about the same, and 39% said it was more strict. Although 59% said that the guidance by instructors for work was about the same, 49% said there was less flexibility for making up missed exams or work.

There were some important similarities reported between RCC and the transfer institutions. Availability (55%) and contact outside of class (46%) with instructors is about the same. Class discussion (61%), number of tests (63%), emphasis on rote recall (57%), and frequency of

feedback (46%) are about the same. Faculty at the transfer institutions, however, were less flexible for making up missed exams or work (49%). While 50% of students feel that grades at both institutions reflect their true ability in a similar manner, half of the students report that their GPA is about the same (35%) or higher (15%) at the transfer institution, and half report that it is lower.

The differences between transfer students who received a degree from RCC and those who transferred prior to receiving a degree are minimal for most items. The non-degree transfer students report that they feel like they belong to the transfer institution more that they did at RCC (52%), while 24% of the transfer students who received a degree from RCC felt about the same at both institutions and 40% felt less integrated at the transfer institution. A higher percentage of the non-degree transfer students also report that their tests at the transfer institutions require more rethinking of the material (71% for non graduates, 57% for graduates). This may be due, in part, to the lower level courses these students may have had at RCC in comparison to the students who transferred after receiving a degree.

There were also questions about the availability, use and helpfulness of such support services as academic advising, tutoring and personal counseling. Most students (92%) said they had been assigned an academic advisor. Sixty-eight percent said that academic advising was helpful, and 13% did not use it. Ninety percent said tutoring was available, but 65% did not use it, and 28% found it helpful. Ninety-two percent said personal counseling was available, but 80% did not use it, and 15% found it helpful.

Discussion

The results of this study suggest that the academic experience of transfer students is more rigorous at the transfer institution. A review of written comments by the students supports the conclusions that transfer students from RCC experience a period of adjustment to the increased demands at the transfer institution. However, an important consideration in interpreting these results is the level of coursework engaged in by the students at RCC and the transfer institution. Transfer students are more likely to be taking upper level courses, while RCC offers only lower level courses. Upper level courses can be expected to be more challenging as students move into the mainstream of their chosen course of study. It is quite possible that all students moving into upper level coursework experience the same differences whether they come from a community college or are native to a four year institution.

These results of this study suggest that it may be to our students' advantage to experience some of the more challenging aspects of the educational experiences they will have at transfer institutions. Faculty may want to consider increasing the amount and quality of reading, and the complexity and number of papers. Faculty may also want to consider reducing flexibility in making up missed exams and work, and increasing expectations of punctuality in completing assignments. While these recommendation may not be entirely appropriate across the college, especially as students are eased into the college experience, they may be more appropriate as students take second year coursework. These recommendations may be especially appropriate in programs where students have expectations of transferring.

For an open enrollment institution, the maintenance of the academic integrity of the academic program is a critical issue. One source for examining academic integrity can be transfer students. The two earlier studies examining course descriptions and faculty use of grades indicated that two year and four year institutions were similar in these dimensions. This study begins to examine where some differences may exist. Further studies in the area of academic integrity may investigate more directly the level of academic performance exhibited by students and expected by faculty.

Table 1. Transfer Institutions

Adelphi	1
SUNY Albany	5
Barnard	1
Barry University	1
SUNY Binghamton	4
Boston	1
Brooklyn	1
Claremont McKenna College	1
Cornell	1
Cortland	3
Dominican	9
Fairleigh Dickenson	1
SUNY Fashion Institute	2
Fordham	2
Georgetown	1
George Washington	1
John Jay	1
Iona	1
Long Island University	1
Mercy	2
Montclair	1
New Jersey Institute of Technology	1
SUNY New Paltz	8
Nyack College	1
SUNY Oneonta	2
Pace	7
SUNY Plattsburgh	2
SUNY Potsdam College	1
SUNY Purchase	3
Ramapo	20
Rutgers	2
Siena College	1
St. John's	2
St. Thomas Acquinas	4
SUNY Stony Brook	2
Unity College	1
U of Buffalo	1
U of Delaware	1
U of Wisconsin-Madison	1
Utica/Rome	1
Villanova University	2
Other/Did not respond to this item	10

Table 2. Major at Transfer Institution

	Number of transfer students
Accounting	7
Anthropology	1
Aviation Management	1
Behavioral Science	1
Biology	5
Business Administration-Marketing	1
Management	3
Information systems	1
Marketing/Management	7
Human Resources Management	2
Child and Family	1
Clinical Engineering Technology	1
Commercial Recreation and Leisure	1
Communication Arts	3
Communication Arts/Elementary Ed.	1
Computer Engineering Technology	1
Criminal Justice	1
Economics	1
Economics and Government	1
Elementary Education	1
English	4
Environmental Education	1
Environmental Science	1
Fashion Buying and Merchandising	1
Finance	1
Government	1
History	1
International Business	2
Law and Society	1
Literature	2
Management Information Systems	1
Marine Science-Biology	1
Math	3
Nursing	5
Nutritional Science	1
Occupational Therapy	2
Organizational Management	1
Pharmacy	1
Philosophy and Religious Studies	1
Physical Education	2
Police Science	1
Political Science	4
Psychology	9
Social Sciences and the Arts	1
Social Work	3
Sociology	1
Special Education/Elementary Ed	1
Speech Language Pathology	3

Table 3. Percent of Responses

Compared to RCC:		All Respondents	Grads	No Degree
Are your classes				
	larger	31%	35%	31%
	about the same	57%	51%	58%
	smaller	12%	14%	12%
Is your contact with instructors outside of class				
	more frequent	32%	35%	37%
	about the same	46%	37%	54%
	less frequent	22%	28%	19%
Are your instructors available outside of class				
	more	24%	28%	16%
	about the same	55%	48%	64%
	less	21%	25%	20%
Is the attendance policy				
	more strict	39%	37%	39%
	about the same	40%	39%	39%
	less strict	21%	25%	23%
Is class discussion encouraged				
	more	28%	32%	27%
	about the same	61%	54%	56%
	less	11%	14%	8%
Is the amount of class time spent in lecture				
	more	47%	50%	40%
	about the same	48%	44%	52%
	less	6%	6%	8%
Do your instructors encourage critical or independent thinking	more	53%	55%	46%
	about the same	44%	41%	54%
	less	3%	5%	0%
Do your instructors emphasize rote memorization				
	more	11%	16%	4%
	about the same	61%	57%	62%
	less	29%	26%	35%
Is the amount of reading				
	more	84%	80%	85%
	about the same	15%	17%	15%
	less	2%	3%	0%
Is the number of papers				
	greater	74%	75%	69%
	about the same	18%	15%	23%
	fewer	7%	9%	8%

Table 3 (Continued)
Percent of Responses

Compared to RCC:	All Respondents	Grads	No Degree
Is the effort in writing papers			
more	79%	75%	77%
about the same	18%	20%	23%
less	3%	5%	0%
Is the number of tests			
greater	19%	20%	15%
about the same	63%	56%	73%
fewer	17%	23%	8%
Is the breadth of material covered by the tests			
more	56%	59%	50%
about the same	42%	39%	50%
less	3%	2%	0%
Are the tests			
more difficult	74%	75%	76%
about the same	24%	22%	24%
less difficult	2%	3%	0%
Do the tests require the rote recall of material			
more	29%	31%	26%
about the same	57%	56%	48%
less	14%	13%	26%
Do the tests require rethinking material			
more	63%	57%	71%
about the same	36%	41%	29%
less	1%	1%	0%
Is the guidance by instructors for your work			
more directive	26%	25%	24%
about the same	59%	56%	68%
less directive	14%	19%	8%
Is the flexibility for making up missed exams or work			
more	10%	11%	8%
about the same	42%	37%	42%
less	49%	52%	50%
Is the number of assignments			
greater	68%	68%	64%
about the same	23%	22%	28%
fewer	9%	11%	8%

Table 3 (Continued)
Percent of Responses

Compared to RCC:	All Respondents	Grads	No Degree
Is the difficulty of assignments			
harder	82%	82%	84%
about the same	18%	17%	16%
easier	1%	1%	0%
Is the level of competition between students for grades			
more	61%	58%	68%
about the same	36%	36%	32%
less	4%	6%	0%
Is the frequency of feedback you get from the instructor on your performance			
more	31%	29%	33%
about the same	46%	44%	46%
less	23%	27%	21%
Compared to your GPA at RCC, is your GPA now			
higher	15%	16%	12%
about the same	35%	36%	36%
lower	50%	48%	52%
Is the amount of time your studies require			
more	90%	89%	88%
about the same	9%	9%	12%
less	1%	2%	0%
Is the time required by your nonacademic obligations			
more	38%	36%	38%
about the same	46%	45%	58%
less	16%	19%	4%
Is finding time to get everything done			
more difficult	76%	77%	72%
about the same	24%	23%	28%
less difficult	0%	0%	0%
Do the grades you get reflect your true ability			
more	17%	22%	13%
about the same	50%	48%	50%
less	33%	30%	38%
Do you feel like you belong to the institution			
more	40%	37%	52%
about the same	32%	24%	40%
less	28%	40%	8%
Is the amount of independent study you can do			
more	41%	38%	52%
about the same	38%	36%	36%
less	22%	27%	12%

Table 3 (Continued)

At your Transfer School:	Percent of Responses		
	All	**Grads**	**No Degree**
Have you been assigned an academic advisor			
yes	92%	92%	92%
no	8%	8%	8%
Is your advising			
helpful	64%	67%	56%
not helpful	22%	20%	24%
did not use	12%	9%	20%
Is tutoring available			
yes	92%	94%	84%
no	9%	6%	16%
Is the tutoring			
helpful	28%	29%	26%
not helpful	6%	8%	4%
did not use	68%	64%	70%
Is personal counseling available			
yes	93%	93%	88%
no	7%	7%	12%
Is the personal counseling			
helpful	18%	15%	17%
not helpful	4%	5%	4%
did not use	78%	80%	80%

References

Judd, Thomas P. (1992). A Comparison of Influences on Grading Practices of Faculty at Two-Year and Four-Year Institutions. Paper presented at the annual meeting of the North East Association for Institutional Research.

Freshman for Sale: Role of Financial Aid in Matriculation of Admitted Students

Yun K. Kim, Ph.D.
Director, Office of Institutional Research
Goucher College

Introduction

Richard W. Moll (1994) recently wrote about many small liberal arts colleges scrambling to get the new class, and their balancing act between the quantity and quality of the student body. In this "war-like" environment, the role of financial aid has become extremely critical in overall enrollment management. James Scannell (1992) states that "the purpose of any financial aid program - institutional, government, or private - should be to provide monetary assistance to students who can benefit from further education but who cannot do so without such assistance. The primary purpose of a collegiate financial aid program should be to provide financial assistance to accepted students who, without such aid, would be unable to attend that college" (p. 16). The financial aid award is no longer designed to lessen the financial burden of students and their families, but it has become a tool for buying students. Many colleges, especially small privates, have been practicing financial aid strategies to optimize the desired student mix. However, do we really understand the role of financial aid in student matriculation?

In 1990, St. John used national high school cohort data to analyze the effect of the amount of tuition charged and financial aid offered on student enrollment decisions. He found that all forms of financial aid - grants, work, and loans, were effective in promoting enrollment. Each $100 of grant aid increased the probability of enrollment by .43 percentage point, and each $100 of loan increased the probability of enrollment by .38 percentage point. St. John's study showed that low-income students were more responsive to an increase in grant aid than to increases in loans or work study; however, high-income students were not responsive to changes in aid amounts. More recently, Trushim & Gana (1994) analyzed approximately 3,000 financial aid offers at a large, public, doctoral level university and found that each $1,000 increase in grant awards increases the likelihood of enrollment by 6.7 percentage points for need-based aid applicants. For merit scholarship recipients, each $1,000 increase in merit awards increases the likelihood of enrollment by only 2.3 percentage points. Although these percentage points are statistically significant, these researchers stated that a real increase in the probability of freshman enrollment is very small.

A small, private liberal arts college, located in the mid-Atlantic region conducted an exploratory study of its financial aid data. The methodology used was very similar to Trushim and Gana's (1994) study. This paper will describe an effort to understand the role of financial aid in the matriculation of admitted students at a traditional four year undergraduate institution. The discussion will focus on three questions:

1. Does financial aid make a real difference in freshman matriculation?
2. Which population is most likely to accept the "offer" and matriculate?
3. Can we determine the peak total aid amount to maximize the yield?

Methodology

Freshman financial aid data from fall 1991, fall 1992 and fall 1993, both need-based and merit awards, were examined for this exploratory study. The data included 1,696 individual cases with 32 variables (see Table 1). Table 2 shows frequency breakout of the sample.

Table 1. Variables Used For Initial Analysis

Student Information:

1. Student Name
2. ID Number
3. Cohort Year
4. Home State
5. Zip Code
6. Enrollment Decision
7. Ethnicity
8. Gender
9. Student AGI
10. Student's Wage

Student Ability:

11. Reader Rating (internal grading system)
12. Merit Scholarship Type
13. SAT Verbal
14. SAT Math

Financial Aid Information:

15. Applicant's Dependency Status
16. Calculated Need Amount (based on internal method)
17. Total Aid Amount
18. Merit Aid Amount
19. Institutional Grant

Parent Income and Other:

20. Parents' Marital Status
21. Parent's Age
22. Household Size
23. Number of Parent's Exemptions
24. Number in College
25. Parent AGI
26. Parent Tax
27. Dad's Income
28. Mom's Income
29. Un-taxed Income
30. Family Income
31. Home Value
32. Home Debits

Table 2. Sample Distribution

Fall 1991	465	(27.4%)	Enrolled	574	(33.8%)
Fall 1992	558	(32.9%)	Did not Enroll	1122	(66.2%)
Fall 1993	673	(39.7%)			
Male	485	(28.6%)	African American	124	(7.3%)
Female	1211	(71.4%)	Native American	6	(.4%)
			Asian American	78	(4.6%)
			Hispanic	75	(4.4%)
Maryland	654	(38.6%)	White	1404	(82.8%)
New Jersey	118	(7.0%)	Foreign	9	(.5%)
Delaware	21	(1.2%)			
District of Columbia	12	(.7%)			
Pennsylvania	152	(9.0%)	Average Family Size	3.99	(S.D.= 1.19)
Virginia	52	(3.1%)	Average Family Income	$55,796	(S.D.= 31,223)
Other	687	(40.4%)			

Students with Demonstrated Need	1108 (65.3%)
Students who Received Aid Offer	1157 (68.2%)

First, a correlation procedure was run to extract variables which showed some linear relationship with students' enrollment decisions. After the initial analysis, several regression analyses were conducted to answer the three research questions. The outcome variable, student matriculation, was a dichotomous outcome - those who enrolled were coded as "1". For regression testings, the total financial aid amount and merit award were coded in an increment of $1,000 ($1,000 = 1). Logistic regression procedure was used in the final analysis, since it is appropriate for statistical testing of dichotomous variables. Categorical data modeling was also used in the analyses. This procedure analyzes data that can be represented by a two-dimensional contingency tables. Small number of outliers were excluded from regression testings.

In this exploratory study student abilities, gender, ethnicity and region were not included in the analyses. These variables will be examined in the second phase of the research.

Results

Sixty-five and three-tenths percent of the sample demonstrated financial need for aid, and 68.2 percent received financial aid awards. Only 33.8 percent of the sample matriculated at this institution (see Table 2). Need-based aid was awarded to 44.5 percent of the sample. Twelve and one-half percent received a combination of need-based aid and merit award, and 11.1 percent received merit award only (see Table 3). Amount of total aid, parents' adjusted gross income, mother's income and family income, despite small correlation coefficient values, showed statistical relationships with student's enrollment decision (see Table 4). Interestingly, parents' adjusted gross income, mother's income and family income showed negative relationships with the student's matriculation.

Table 3. Financial Aid Packages Offered

	Frequency	Percent
No aid	539	31.80%
Merit award only	188	11.10%
Need based aid only	754	44.50%
Need based and Merit Award	215	12.70%
Total	1696	

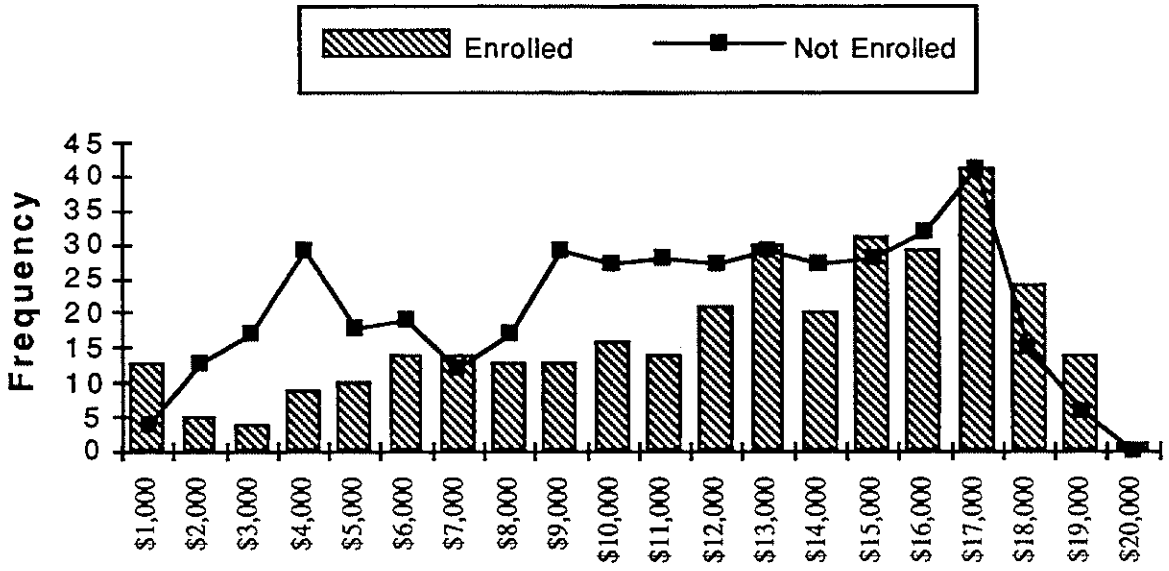
Table 4. Correlation Coefficient Matrix

	ENRDEC	NEEDAMT	TOTAID	MERIT	GGRANT	PARAGI	DAD INC.	MOM INC.	FAM INC.	HOME VAL.	HOME DEB.
ENRDEC	1.0000	0.0314	.1047*	0.0401	0.0759	-.1074*	-.0296	.-1390**	-.1410**	.0423	-.0006
NEEDAMT		1.0000	.8480**	-.0103	.7480**	-.4006**	-.3111**	-.1815**	-.3768**	-.2144**	-.2426**
TOTAID			1.0000	.1434**	.8455**	-.4482**	-.3705**	-.1819**	-.4402**	-.3053**	-.1949**
MERIT				1.0000	-.2162**	-.0274	-.0541	-.0008	-.0616	-.0434	.0420
GGRANT					1.0000	-.3486**	-.2921**	-.1242**	-.3337**	-.2662**	-.1855**
PARAGI						1.0000	.7808**	.3836**	.8813**	.3598**	.2695**
DADINC							1.0000	-.1809**	.7016**	.3271**	.2761**
MOMINC								1.0000	.3858**	.0404	.0266
FAMINC									1.0000	.3347**	.2209**
HOMEVAL										1.0000	.5915**
HOMEDEB											1.0000

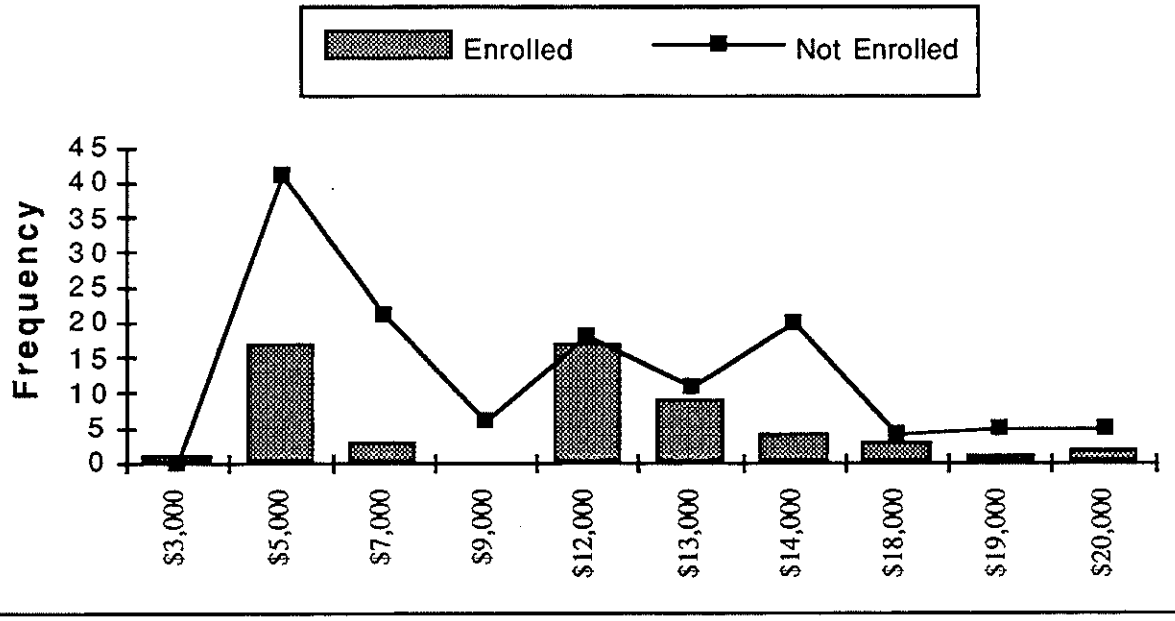
* significant at .01 ** significant at .001

Logistic regression testings were conducted on 754 need-based aid and 188 merit award recipients. A somewhat negative relationship between the amount of financial aid and student matriculation was observed. The need-based aid amount had a parameter estimate value of -0.0556 (pr > 0.0003, concordant=55.4%, and discordant=38.7%), and the amount of merit award had a parameter estimate value of -0.0228 (pr > 0.5034, concordant=42.4%, and discordant=40.6%). The results suggest that with each $1,000 increase in need-based aid, decreased the likelihood of enrollment by 5.56 percentage points (see Graph 1). Likewise, each $1,000 increase in merit award decreased the likelihood of enrollment by 2.28 percentage points (see Graph 2).

Graph 1. Need-Based Aid and Enrollment Decision



Graph 2. Merit Award and Enrollment Decision



When need-based aid amount and family income were loaded together as independent variables, the negative relationship observed earlier between the need-based aid and student matriculation got smaller. The table below shows the results.

	Parameter Estimate	pr > chi-square
Intercept	0.2652	0.3771
Need-based Aid	-0.0381	0.0220
Income Group	0.0984	0.0106
(concordant = 42.4%	discordant = 40.6%)	

Again, a slight negative relationship between the need-based aid amount and student matriculation was observed. As family income of students increased, their likelihood of enrolling at this institution increased by 9.8%. For this analysis, family income was separated into eight categories (see Attachment 1). Categorical data modeling also confirmed the negative value of the total need-based aid as a predictor for student matriculation in this institution. However, this minor negative relationship should be interpreted with a caution. The data showed that admission yield was significantly higher with the students who received aid offer of $15,000 and higher - 57.4% of the students who received $15,000 plus matriculated, where as, only 39.8% who received less than $15,000 did so. This seems to suggest that need-based aid should be substantial enough to cover the cost of tuition and fees to influence students' enrollment decision.

The table below shows the results when the amount of merit award and family income were loaded together as independent variables.

	Parameter Estimate	pr > chi-square
Intercept	1.0136	0.0177
Merit Award	-0.0218	0.5237
Income Group	0.0139	0.7792
(concordant = 51.0%	discordant = 43.7%)	

Loading the family income with the amount of merit award did not changed the results. Again, family income showed a positive relationship with the student matriculation. But, the impact of family income among the merit award recipients was not as strong as those observed among the need-based aid recipients. As family income of the merit award recipients increased, their likelihood of enrolling in this college increased by 1.39%.

Discussion and Future Study

The negative relationship observed between need-based aid, merit award, and student matriculation in this study is different from the findings of other similar studies. Studies using national data and data from public institutions found a linear relationship between the need-based aid and student enrollment (St. John 1990; Trusheim & Gana, 1994). The results of this study raises a possibility that in small, private, liberal arts colleges, financial aid might have a very different role in influencing students' enrollment decisions. With the high cost of attending private colleges, coupled with a large family income difference among applicants, need-based aid alone could not significantly increase the matriculation rate. Not surprisingly, family income was a much stronger predictor for admitted applicants' enrollment decisions. Merit awards add another dimension to the financial aid strategies. This study showed that the size of the award did not make a significant impact in increasing student matriculation. The student yield rate among the

need-based aid recipients was 44.5%, where as, the student yield rate among the merit award recipients was 30.3%. Clearly, in the "war-like" market described by Richard Moll (1994), for academically able freshmen the size of financial aid alone will not insure student enrollment.

Studies in the field of college enrollment behavior strongly suggest that the decision to attend a particular institution is not solely driven by tuition and fees, and financial aid award. These studies echo what we already know - desirability of a particular college to an individual (i.e., first choice, family ties, etc.), prestige and reputation, and quality of academic programs are stronger predictors of student matriculation.

In the second phase of this research, the following questions will be addressed:

- What is the relationship between the total financial aid package and student matriculation?
- Is there any relationship between financial aid, student abilities, and student matriculation?
- Do the students from Maryland and surrounding states behave differently than those who are coming from other states?

These types of analyses could assist college/university administrators to control the ever increasing financial aid budgets and develop truly effective aid strategies to lessen the financial burden of attending a liberal arts college.

References

Moll, W. R. (1994). The scramble to get the new class. Change: The magazine of higher learning, March/April 1994, 11-17.

St. John, E.P. (1990). Price response in enrollment decisions: An analysis of the high school and beyond sophomore cohort. Research in Higher Education, 31(2): 161-176.

Scannell, James J. (1992). The effect of financial aid policies in admission and enrollment. New York: The College Board.

Trusheim, D., & Gana, R. (1994) How much can financial aid increase the probability of freshman enrollment? Paper presented at the 1994 annual forum of the association for institutional research. New Orleans, LA.

Attachment 1

FAMILY INCOME GROUPING

Less than $20,000 = 1	$40,000 to $49,999 = 4	$80,000 to $99,999 = 7
$20,000 to $29,999 = 2	$50,000 to $59,999 = 5	$100,000 or higher = 8
$30,000 to $39,999 = 3	$60,000 to $79,999 = 6	

Environmental Scanning On A Limited Budget In An Urban Community College: An Ongoing Process

Arthur Kramer
Director of Institutional Research
Passaic County Community College

Introduction

This is essentially a "non-paper" paper because, as the title states, it is an on-going process. The initial stimulus for the environmental scan was to evaluate demographic, technological, economic, and immigration trends and changes within the service area of an urban community college; and the scan's results were to be utilized in the college's strategic planning process. Due to budgetary and personnel limitations many secondary data sources had to be identified and incorporated instead of specifically collecting all of the data as integral components of the process. While identifying these secondary sources it was realized that many were obtainable on a regular periodic basis, and their data could be maintained longitudinally. The resultant files could then be analyzed either as a snap-shot of the county at a point in time, or evaluated in regard to emerging trends. To date, the results have been utilized not only for strategic planning, but also in re-accreditation evaluation and program review and development.

Literature Review

A primary component of strategic planning is understanding the needs and changes that take place within a college's external environment, especially a publicly funded two-year college (Mecca and Morrison, 1988). Often called "environmental scanning," assessing multiple indicators of the transitions taking place outside of the college helps "fine tune" the strategic and operational planning initiatives and processes (Clagett, 1988). Measuring demographic and economic changes are two indicators that have been utilized (e.g., Lee, 1993) and the establishment of networks of organizations with similar concerns has been suggested to facilitate this process (Loomis and Fabian, 1989). In implementing the assessment of the external conditions estimates of industrial, technological, political, and other socio-cultural changes should be included in the analysis. A comprehensive environmental scan would also include an audit of the internal environment such as faculty changes, student characteristics, and the institutional mission and goals (Mecca and Morrison, 1988) along with information concerning the conditions outside of the college. But some of the most elusive data to capture are those concerning the external environment.

The College

The college is a county community college that serves a population that is ethnically, racially, culturally, and educationally diverse. The county is comprised of urban, suburban, and rural components, and the college is located in the most urban part of the county. Historically, the economic base of the county has been manufacturing, however, many of the established industries have re-located, leaving many unemployed people in their wakes. New service-providing industries are beginning to replace the old establishments. These new industries present a technological challenge to the unemployed, who find that the skills they have come to rely upon are now obsolete. A major component of this college's mission is to serve the educational needs of its two major constituencies: the county's industries, and a population that requires access to

affordable vocational training and post-secondary education. It had become imperative to obtain a precise understanding of the educational requirements of those constituencies --especially the needs resulting from the demographic, industrial, political, and technological changes to aid the College in its planning activities, so that it could effectively serve these groups. Furthermore, it is important to be able to recognize which changes will be long lived and which will be of relatively short duration, and plan accordingly. Services could have been contracted to assess those alterations, but fees for those are typically high--a prohibiting factor in the current atmosphere of economic austerity. A cost-effective method of assessing the external environment, as extensively as possible, had to be developed.

Methods

It was realized that quantitative and qualitative data could be obtained by utilizing census information, reports produced by other governmental and charitable organizations, coordinating with local business organizations, and combining with on-going institutional processes. These data had to be compiled into a usable format and disseminated so they could ultimately be used to evaluate the educational needs of the College's service area and support program development and curricular planning. Data were extracted from reports published by the United Way, the county's planning offices, and the state's Department of Labor Statistics. High school enrollments (obtained from the state Department of Education), data from institutional files, newspaper articles, surveys of chambers of commerce, employer follow-up surveys, and focus groups conducted by college personnel comprised of recruiters attending an annual Job Fair were other sources of data. These all served to provide indicators of trends that were either already in existence, or just beginning.

A document simply entitled Environmental Scan was distributed college-wide in the Fall of 1993. It contained analyses of the above mentioned data and made recommendations for future College actions. Updates of sections of that report have since been distributed throughout the College, and these will continue as they become available.

Another product of the scanning activities is that the Institutional Research Office has implemented a "clip report" of newspaper articles from local and regional papers that specifically address the topics of higher education, economic, demographic, political, and technological changes that occur within the state, county and community.

Bibliography

Clagett, Craig, A.(1988)."A Practical Guide to Environmental Scanning: Approaches, Sources, and Selected Techniques." Planning For Higher Education, (17:2) pp19-28.

Lee, Marcia, M.(1993)."A Demographic and Economic Outlook for the 1990's." Paper presentation at 20th Annual Conference, North East Association of Institutional Research, Lake George, N.Y.

Loomis, Frederick, D. and Fabian, Louis, J. (1989). Paper presentation at 16th Annual Conference, North East Association of Institutional Research, Pittsburgh, Pennsylvania.

Mecca, T., V. and Morrison, J., L.(1988). "Pathways to the Future: Linking environmental Scanning to Strategic Management". Community College Review,15 (4), pp35-44.

Departmental Profiles: Information for Academic Program Policy Decisions

John Kraus, Ph.D.
Director of Institutional Research

Susan Hopkins, M.S.I.S
Computer Specialist (Institutional Research)

University of New Hampshire

Introduction

"The truth of the matter is that in most instances the institution, including the departments, the offerings, and the various activities, has grown in a very unregulated fashion, and that the present state of affairs represents rather the degree of lack of clarity than any rational plan valid at any time in the past" (Woodburne, 1958). Unfortunately this statement made 36 years ago still has currency. More than ever, the leadership in higher education must have critical indicators enabling it to assess unit workloads, costs and effort. Consistent and accurate information is vital to policy and decision-making. Planning, however, cannot be obscured by clouds of quantitative data. The higher education endeavor must not be boiled down to, and judged on, simple productivity measures. As Walters (1981) notes, "Decisions about an academic unit should reflect its quality and priority in an institution. Its cost or cost-revenue relationship should not be the sole or primary basis for judging its performance." Centrality to mission, cost, student demand, potential for program growth and excellence are all important ingredients in a heated policy and planning goulash.

We need good ingredients. At the University of New Hampshire Departmental Profiles have played a significant role since Fall 1971 in providing data for academic program review. The objective of this case study is to outline the development of Profiles into its current form as it has been refined and refocused to better address pressing concerns in higher education and the needs of the institution.

Background and Review

Higher education is being challenged as never before to explain what it does and why a college education has come to cost so much. Words like "accountability," "productivity" and "assessment" are being fired point blank at the ivory tower. The credibility of institutions and the value of a degree are being questioned. Matters of misconduct in research compete for headlines with documented misrepresentation and padding to obtain inflated indirect cost recovery dollars. Zealous political correctness elicits public disbelief.

The ivy is getting scorched. Cartoonists like Gary Trudeau ridicule grade inflation, quality of education, cost of tuition and the "McJob" future for graduates. State legislatures and governors are interceding directly in pricing and accountability issues. Politicians and coordinating boards wrangle over who should control campuses. The Federal government, through legislation and rule-making by the Department of Education, has launched an offensive that includes Student Right to Know and the State Postsecondary Review Entities (SPREs).

Higher education must better explain what it does, or others will assume that role, will make their own interpretations, right or wrong, and will call the shots accordingly. Reports like

Departmental Profiles can make solid contributions to discussions about the academe and, properly used, can illuminate bottom line issues in ways legislatures and business oriented governing boards can understand and even appreciate.

Concern about faculty workload and the cost of academic units has long been part of higher education as a 1925 publication, Methods of Reporting the College Teacher's Load and Administrative Efficiency, attests. Most emphasis, however, focused on teaching load. A review of a 1958 text finds sections on teaching load and class size but nothing on costing units by credit hour production.

In the 1960s program budgeting began to find disciples in higher education. By the 1970s, resources were increasingly squeezed, and questions of budgetary efficiency began to grow as witnessed by a host of articles and publications on such topics as, "Comparing Expenses of Academic Departments" and "Linking Academic Priorities to Resource Decisions." Various state systems and governing boards got into the act. By 1974 the Illinois Board of Higher Education was doing an annual cost study and a faculty credit hour study based on a faculty activity analysis. Since 1975 a class size and teaching load analysis has been part of the Tennessee Board of Regents annual cost study. A 1991 SHEEO (State Higher Education Executive Officers) survey found almost half their sample of state higher education agencies collected and retained historical data on faculty teaching loads.

Halstead (1992) provides a very comprehensive review of current costing methods and literature. Chapter 11, "Conducting the Cost Study," includes guidelines and precautions and may be useful for institutions contemplating such endeavors. His earlier efforts (1974) provide background on resource allocation methodology.

Recent activity at the University of Delaware (Middaugh, 1990, 1992) shows remarkable similarity to developments at the University of New Hampshire. This is particularly interesting since these efforts were spontaneous and independent, almost as though they were separate control groups in a special study. The most striking parallel is that Delaware provides data by "origin of course" and by "origin of instructor." *Origin of course* looks at all workload generated in the discipline of the course. *Origin of instructor* focuses on the workload of faculty by budgeted assignment. At the University of New Hampshire, in Departmental Profiles, *student credits* are all the credits generated by courses offered in the unit displayed. But *faculty credits* are all the credits attributed to courses taught by faculty paid out of the general instructional fund budget of that unit. Fundamental to both Delaware and New Hampshire is the need for faculty and, consequently, their home department to get credit for the teaching they do, NO MATTER WHERE it takes place. At the University of New Hampshire this addresses the critical element in interdisciplinary activity so essential for productive use of teaching resources: the unit paying a faculty member must not suffer if some of that person's instruction is in another department or discipline. For faculty paid by multiple academic units, each unit "owning" a part of the faculty gets credit for his or her effort within that unit.

A difference with Delaware is their inclusion of sponsored research and public service expenditure elements. At New Hampshire, Profiles are restricted to instructional budget activity only.

Profiles Development at the University of New Hampshire

Departmental Profiles provide academic information at the University of New Hampshire by department, by college or school total and by university summary. One intensely compact page provides all the data for each unit as well as calculated factors such as expenditures divided by credit hours.

Spanning three decades, Profiles reflect the technology of the time and the focus of each period. First issued for Fall 1971, they were initially developed to supply fundamental decision-making information for a Vice President for Academic Affairs with a flare for numbers and an appetite for data; they were hand-compiled and hand-typed from paper copy and reports (Exhibit A). Profiles were computer based by 1980 but during this decade, reflecting the tenor of a different administration, the report was used largely for reference. Version 2 was developed and issued for Fall 1981, a decade after the first issue, in an improved, more comprehensive format (Exhibit B). Accompanying it were lists of the faculty by name supporting the counts provided in the display. This was a very practical addition giving immediate information enabling the user to see the names behind the numbers and thus enhancing credibility and reducing the volume of puzzled inquiries to Institutional Research. Beginning with academic year 1991-92 revised version Profiles were also issued for the spring semester. Previously they had been fall semester only. Now a full academic year was available.

Within Institutional Research each Profiles issue was backed by documentation showing modifications and new data incorporated. It was easily possible to track changes in and the evolution of the report. "Profiles' Definitions" were available from the beginning and, since 1980, all Profiles were issued with a complete "Profiles Explanation" replete with an example report keyed item by item to explanations.

By the late 1980s it became clear to Institutional Research that Profiles needed major revision to meet emerging future requirements. With the impact of serious budgetary constraints and rescissions this interest became actively shared by the schools and colleges. Such involvement was essential and a low-key, cooperative effort was undertaken to completely retool the report.

The Shared Need

The need for revisions both in format, in the ways data were aggregated, and in the factors and measures provided began to come to focus in 1990. In January 1991 Institutional Research supplied a partial Fall 1990 Profiles with course load data for the University Master Planning effort. The use of Profiles in this context gave rise to discussions at a Department Chairs' meeting in February and it seemed that the time was now right. Discussions about costs per credit hour, using Profiles data in a cost ratio matrix, at a Deans' meeting in April 1991 amplified the need to revisit Profiles, as did the issues surrounding a teaching load analysis. The Associate Vice President for Academic Affairs stated in a May memo:

> Improving our program review and planning processes will require more accurate and meaningful data than we currently collect on a university-wide basis. One example is the need to develop better information about the cost of academic programs, departments and colleges. . . . Currently, the most cited source of this information is Departmental Profiles, issued by Institutional Research. . . . If we are to base important decisions in part on cost-per-credit and similar data, we should develop a fair and consistent way to count costs.

Momentum began to build.

We instituted a two-stage process. The first stage was a complete review of our data in an effort to bring it fully up-to-date in reflecting proper alignment of programs, budgetary accounts and other elements that may have undergone incremental migration and become lost in the data ground clutter. Working closely with the Associate Academic Deans we completed this effort by April 1992. An immediate offshoot of this undertaking was a Profiles Source Information report providing the detail of all data sources used for each separate Profiles sheet. This working document was utilized by the schools and colleges to cross-check the data. The Associate Deans were part of the process and verified everything, giving Profiles total credibility.

The product-improved Profiles was then used as a foundation for an imaginative review and revision of all aspects of Profiles to improve understanding and usefulness and to better address emerging issues such as course loads and instructional credit. The second stage portion was completed in July 1993, working through a Version 3 and ending with Version 4 (Exhibit C). This year-long process was a step-by-step development in meetings with the Associate Academic Deans. Basically the meetings were brainstorming sessions attempting to resolve the issues of data reporting that were confronting the institution. Several sessions centered on particular interests of the Associate Vice Presidents for Academic Affairs. All suggestions were amalgamated. Each new format was then refined and further improved. Several times it seemed the process was completed but then new concerns arose and were addressed.

Financial Focus

During Fall 1993 it became clear that expenditure offset accounts would be added to Profiles financial data. This resulted in a substantial delay as discussions focused on identifying and adding the appropriate balancing revenue accounts. Meetings with the Associate Deans and the Associate Vice Presidents in January 1994 and then February with the Academic Affairs Business Managers concluded the revenue review cycle.

We met again with the Associate Vice Presidents and Associate Academic Deans in late February for a final confirmation. At that session, however, some inconsistencies in FTE computations were reviewed. It was decided to completely redesign the personnel feed so that instructional staff FTE computations were fully driven by budget rather than personnel data base considerations. Now "ownership" of a faculty member and that instructional effort was determined by who paid that person's salary. This redesign resulted in further delays. A meeting in mid-April with the Academic Affairs Business Managers reviewed the revised version and addressed some final questions.

As had been reviewed with the Academic Deans by memo in September 1991, the first academic year issue of the new Version 4 would overlap the last academic year issue of the old Version 2. This would help to bridge the gap between the versions and provide cross-referencing ability. Academic year 1991-92 in Version 2 was provided in October 1992. The overlap or crosswalk issue of Version 4 was issued for Fall 1991 in May 1994 and for Spring 1992 in July 1994.

More Improvements

Improvements continued. With the spring edition, summer session credits were now applied to expenditure/credit hour factor calculations to better express the academic year to fiscal year relationship. An additional reporting factor was added to give an expenditure per credit hour ratio for both faculty alone and all instructional activity (including graduate assistants, contributing staff, adjuncts, etc.). Further, all grad and staff courses were now cross-checked with courses and names obtained from a separate teacher evaluation data base. Additional faculty names were thus revealed and credits appropriately assigned to those individuals. This reduced the no-name staff component, providing the best instructional data available. Graduate students similarly identified by name had their course activity credited to the department in which they had their appointment, rather than in the department offering the course.

A significant addition with Version 4 Profiles was the **Faculty Detail Report** (Exhibit D) which is its companion piece and shows extensive additional instructional information for the names behind the counts. This report displays, for each individual contributing instructional effort, courses taught, credits produced and total enrollments. This data corresponds to that on the Profiles sheet for the unit indicated and is page number keyed accordingly to Profiles for ease of

reference. This document also "killed two birds with one stone" in incorporating previous requirements from the Vice President for Academic Affairs for detailed faculty teaching load information, eliminating the need for those reports.

Both Profiles and the Faculty Detail Report are distributed to Academic Affairs and Deans' offices in sufficient copies to provide for dispersal at the department level. Further documents supporting Profiles information retained in Institutional Research (but available to any academic unit) are detailed displays of expenditure and revenue accounts (Exhibit E) by budget categories as applied to Profiles and also the **Profiles Source Information** sheets (Exhibit F) indicating all data sources feeding the Profiles summary display, as previously discussed.

Results

Departmental Profiles give compact, detailed information on the following: faculty counts by rank, status and FTE, student data by majors, credits and contact hours and budgetary amounts by category. Also computed are nine reporting factors such as faculty credits/faculty FTE.

Among the results of the Profiles revision are the following:

- Displays all faculty ranks by category of tenure-track and non-tenure-track
- Uses standard course and credit hour data (replacing FTE Instructional Faculty measures)
- Differentiates between status and nonstatus, non-tenure-track faculty
- Provides a supporting Faculty Detail Report giving individual faculty information
- Expands and realigns past year expenditure budget data
- Credits revenue generation for identified accounts in the expenditure budget
- Calculates instructional staff FTE from budgetary data
- Indicates second majors
- Utilizes the full range of instructional types under "Contact Hours Produced"
- Provides data on both faculty credit generation *and* student (course) credit generation
- Adds summer session credit production
- Reduces leftover "generic" staff and no-name graduate assistant totals

Particularly significant is the focus of these new Profiles to provide BOTH credit hour generation information for a unit's *courses* and a unit's *faculty*. In the past, faculty effort outside a unit or department in interdisciplinary or other course activity was not reflected in the Profiles report for that unit or department. The new version enables the user to see all instructional activity within and without a unit.

Conclusions

Active involvement of the academic leadership at the school and college level is necessary for the credibility of any academic review document. At the University of New Hampshire, Departmental Profiles are the product of such an environment of shared need. Mutual development insures that the measures are understood by all and serve a common interest. This avoids any perception of a top-down weapons system. Focus is on accuracy and the effectiveness of the report. Energy is not wasted in discovery of hidden agendas or in conflict over design, method or purpose. With a unified view and a clear perception of report results, collaborative internal discussions are economical and direct. Response to external questions and concerns can thus be made with common understanding from a common base of knowledge.

References

Halstead, D.K. (1974). Statewide Planning on Higher Education. Washington, D.C.: U.S. Government Printing Office.

Halstead, K. (undated - 1992?). Higher Education Revenues and Expenditures: A Study of Institutional Costs. Washington, D.C.: Research Associates of Washington.

Jedamus, P., Peterson, M.W., and Asso. (1980). Improving Academic Management: A Handbook of Planning and Institutional Research. San Francisco: Jossey-Bass, Inc.

Massy, W.F. (1989, October). A Strategy for Productivity Improvement In College and University Academic Departments. Paper presented at the Forum for Postsecondary Governance, Santa Fe, N.M.

Middaugh, M.F. and Turner, H.M. III (1990, October). Developing measures of Academic and Administrative Productivity During a Time of Budget Recision. Proceedings, 17th Annual Conference Northeast Association for Institutional Research, Albany, N.Y.

Middaugh, M.F. (1992, November). Developing a Comprehensive Data Base for Assessing Faculty Productivity. Proceedings, 19th Annual Conference Northeast Association for Institutional Research, Washington, D.C.

Russell, A.B. (1992, November). Faculty Workload: State and System Perspectives - State Policy and College Learning. Denver: State Higher Education Executive Officers.

Yuker, H.E. (1984). Faculty Workload: Research, Theory and Interpretation (Research Report #10). Washington, D.C.: ERIC-ASHE.

Walters, D.L. (1981). Financial Analysis for Academic Units (Research Report #7). Washington, D.C.: ERIC-ASHE.

Woodburne, L.S. (1958). Principles of College and University Administration. Stanford: Stanford University Press.

DEPARTMENTAL PROFILE
(Data as of R+30)

College of Liberal Arts Department of History Semester I 1971-72

Staff	Full Time	Part Time	Tenured
Professor	6	--	6
Associate	5	--	a
Assistant	6	--	2
Instructor	1	--	
Lecturer	--	--	
Professional Staff (P.S.)	--	--	
Graduate Assistant	11	--	
Clerical (C.)	2	--	
Technical (T.)	--	--	
Full-time equivalent senior faculty	18.00		
Full-time equivalent instructional faculty including junior staff	20.75		

Student Load	Sem. I year ago	Sem. I current	% change
Undergraduate majors	490	328	-20.6
Masters candidates	67	29	-56.7
Ph.D. candidates	2	16	700.0
Student credits produced	6998	6810	-2.7
200-299			
300-599	4212	4340	3.0
600-799	2456	2242	-8.7
800-899	330	228	-30.9
Non majors serviced (Stud-cr)	4315	4331	.3
Contact hours by section			
Lecture			
Recitation			
Laboratory			

Financial Support	Salaries & Contract Labor	Supplies	Hourly Labor	Equipment	Travel	Total	Computation Center	Library[c]
Expended last year	278,200	4,581	2,095	170	-	285,046	2,859	14,966
Budgeted this year	300,300	3,500	1,000	-	-	304,000	1,689[a]	7,467
% change	7.9	-23.6	-52.2	-	-	6.9	-40.9	-50.1

System Reporting Factors

F.T.E. tenured F./F.T.E.F. = .66 F.T.E.F./F.T.E.P.S. = _ Stud-cr/F.T.E.I.F. = 328.2 Contact hours/F.T.E.I.F. =
Instruct. Sal./F.T.E.I.F. = F.T.E.F./F.T.E.T. = _ Direct cost[d]/Stud-cr (year ago) = $19.51 Sq. Ft./F.T.E.F. =
F.T.E.F./F.T.E.C. = 9.0 Direct cost[d]/Stud-cr (est. current year) = $22.07 Sq. Ft./Stud-cr (year ago) =

[a] Estimated
[b] Includes funded, AES, funded leaves; excludes grants, other, leaves without pay
[c] New orders plus continuations
[d] Total cost plus computer center

Office of Institutional Research and Planning March 1972

Exhibit A: Version 1 "Old" Profiles

DEPARTMENTAL PROFILES
(DATA AS OF R+30)

COLLEGE OF LIBERAL ARTS DEPARTMENT OF HISTORY SEMESTER I 1971-72

STAFF	FTEF TENURED	FULL TIME #	FULL TIME FTE	PART TIME #	PART TIME FTE	TOTAL #	TOTAL FTEIF	TOTAL FTE
PROFESSOR	6.00	6	11.20			6	11.20	6.00
ASSOCIATE	4.66	5	3.50			5	4.20	3.00
ASSISTANT		6	4.80			6	4.80	4.00
INSTRUCTOR		1	.80			1	.80	1.00
LECTURER								
GRADUATE ASSISTANT		11	2.75			11	2.75	2.75
PROFESSIONAL(P)								
CLERICAL(C)		2		1				1.83
TECHNICAL(T)								

	YEAR AGO	CURRENT
FTF =		19.00
FTIF =		20.40
FTIF =		2.75
FTEIF =		24.15
FTEF =		21.15
FTEF TENURED =		11.12
		10.00

STUDENT LOAD	SEM. I YEAR AGO	SEM. I CURRENT	% CHANGE
A.A. MAJORS			
UNDERGRADUATE MAJORS	190.0	152.0	-20.0
MASTER CANDIDATES	16.0	13.0	-18.8
PH.D. CANDIDATES	11.0	10.0	-9.1
STUDENT CREDITS PRODUCED	2,452.0	2,512.0	2.4
200-299			
300-499	1,677.0	1,697.0	1.2
600-799	641.0	665.0	3.7
800-899	110.0	100.0	-9.1
CONTACT HOURS PRODUCED	129.0	135.0	4.7
LECTURE	102.0	113.0	10.8
DISCUSSION	12.0	22.0	83.3
LABORATORY	15.0	12.0	-20.0
SQUARE FEET	3,935	3,855	

FINANCIAL SUPPORT	SALARIES & CONTRACT LABOR	SUPPLIES	HOURLY LABOR	EQUIPMENT	TRAVEL	SUBTOTAL	COMPUTER CENTER	LIBRARY	GRAND TOTAL
BUDGETED LAST YEAR	496.125	7.200	500	600	2.900	507.325	13.869	30.429	551.602
EXPENDED LAST YEAR	511.736	13.018	236	4.317	3.015	532.322	13.272	26.093	572.236
BUDGETED THIS YEAR	501.101	7.200	500	600	2.900	592.301	14.545	29.193	636.039

PROFILE REPORTING FACTORS

FTEF TENURED/FTEF =	.74	CONTACT HOURS/FTEIF =	6.00	SQ.FT./FTEF =	169.82
FTEF/FTEF =		STUD-CR/FTEIF =	215.02	SQ. FT./STUD-CR (SEM I 68-69) =	.84
FTEF/FTET =		STUD-CR/CONTACT HOURS =	35.81	SQ. FT./STUD-CR (SEM I 81-82) =	.77
FTEF/FTEC =	11.69	FTF - (5/8 * FTIE) =	6.25	*DIRECT COST/STUD-CR (86-71) =	64.15
		FTEF - (5/8 * FTEIF) =	7.26	*DIRECT COST/STUD-CR (EST. 81-82) =	67.25

* ADDITIONAL INFORMATION USED IN THE DIRECT COST CALCULATIONS (SEM I + (.9 * SEM II) = STUD-CR)

LAST YEAR SEM II TOTAL CREDIT HOURS 4,206.0
1ST OF SEM II CREDITS (.9 OF SEM I) 4,480.2

I.R. CODE: 35 210055 IR PAGE 35 ** VERSION 2 ** PREPARED BY THE OFFICE OF INSTITUTIONAL RESEARCH 03/13/82

Exhibit B: Version 2 "Revised" Profiles

(DATA AS OF 8+30) DEPARTMENTAL PROFILES (FISCAL YEAR 92)

COLLEGE OF LIBERAL ARTS DEPARTMENT OF HISTORY SEMESTER I 1991-92

	FTEF TENURED	F/T NO.	PART TIME NO.	PART TIME FTE	TOTAL NO.	TOTAL FTE	@STANDARD COURSES	#TOTAL CREDITS
TENURE/TRACK								
FULL	8.00	7	3	1.00	10	8.00	27	2,565.0
ASSOCIATE	3.00	3	1		4	3.00	4	630.0
ASSISTANT		4	1		5	4.00	8	1,089.0
INSTRUCTOR								
>SUBTOTAL	11.00	14	5	1.00	19	15.00	39	4,284.0
NON TENURE-TRACK								
FACULTY-IN-RESIDENCE	2				2	2.00	5	592.0
STATUS FACULTY			1	.90	1	.90	2	172.0
NON STATUS FACULTY								
>SUBTOTAL		2	1	.90	3	2.90	7	764.0
>> FACULTY TOTAL	16	6	1.90		22	17.90	46	5,028.0
OTHER								
GRADUATE ASSISTANT	9	3	.39		12	2.64	4	828.0
STAFF							1	21.0
>>>INSTRUCTIONAL TOTAL							51	5,877.0
PA/AA								
PAT								
OS		1	1		2	1.83		

FACULTY SUMMARY	FULL TIME FACULTY	PART TIME FACULTY
HEADCOUNT	16.00	6.00
STANDARD COURSES	42.00	4.00
FACULTY CREDITS	4,603.00	425.00
FTEF	16.00	1.90
FTEF TENURED	10.00	1.00

*STUDENT LOAD	SEM. I YEAR AGO	SEM. I CURRENT	% CHANGE
* ASSOCIATE MAJORS			
* BACHELOR 1ST MAJORS		239.0	100.0
* BACHELOR 2ND MAJORS		15.0	100.0
* MASTER CANDIDATES		23.0	100.0
* PH.D. CANDIDATES		20.0	100.0
*STUDENT CREDITS	6,633.0	5,654.0	14.8
* 200-399			
* 400-599		4,404.0	100.0
* 600-799		884.0	100.0
800-999		366.0	100.0
*CONTACT HOURS PRODUCED		199.0	100.0
* LECTURE		125.0	100.0
* LABORATORY			
* LECTURE/LAB			
* INDEP STUDY			
* DISCUSSION			
* LECTURE/DISC		66.0	100.0
* SEMINAR		8.0	100.0
* TUTORIAL			
* THESIS/DISSERT			
* CLINIC/INTERN			
* PERFORM/STUDIO			
* OTHER			

FUND 1000/1050 OPENING BUDGETS, EXPENDITURES AND OFFSETTING REVENUES

	PERM BUDGETED SALARIES	NON PERM BUDGETED SALARIES	BENEFITS	HOURLY LABOR	TRAVEL	SUPPLIES	EQUIPMENT	TOTAL	(REVENUES) OFFSET TO EXPENDITURE	ADJUSTED TOTAL [TOT-REV]
EXP FY 91	983,665	869	252,641	1,001	9,077	23,318	10,862	1,281,433	1,076	1,980,157
BUD FY 92	1,030,361		319,448	392	3,047	17,657	294	1,371,199	xxxxx	xxxxx

PROFILES REPORTING FACTORS

FAC CREDITS/FTEF - 280.89 STD CREDITS/STD COURSES - 106.75 ALL CREDITS/ALL COURSES - 76.32 FTEF TENURED/FTEF - .61
TT FACULTY CREDITS/TT FTEF - 284.27 STUDENT CREDITS/CONTACT HOUR - 28.41 TT FTE/NON-TT FTE - 5.17
*DIRECT ADJ. EXP./FACULTY CREDIT (FY 91) - N/A *DIRECT ADJ. EXP./STUDENT CREDIT (FY 91) - 96.33

@ COURSE DEFINED PER AGREEMENT OF DEANS: FULL TERM, 3-4 CREDITS, 10+ STUDENTS (5+ FOR GRAD), SINGLE INSTRUCTOR
# ALL CREDITS PRODUCED (IN STANDARD AND ADDITIONAL COURSES)

* ADDITIONAL INFORMATION USED IN THE DIRECT EXPENSE CALCULATIONS(SEM I + SEM II + STUD-CR)
LAST YEAR SEM II TOTAL STUDENT CREDIT HOURS 6,659.0 LAST YEAR SEM II TOTAL FACULTY CREDIT HOURS N/A

I.R. CODE: 34 UACHI20 IR PAGE 33 ** VERSION 4 ** PREPARED BY THE OFFICE OF INSTITUTIONAL RESEARCH 05/18/94

Exhibit C: Version 4 "New" Profiles

PAGE: 46 FACULTY DETAIL REPORT

FACULTY REPORTED IN PROFILES FOR HISTORY

TENURE?	LV?	RANK	NAME	FTE	@STANDARD COURSES	@STANDARD CREDITS	ADDITIONAL COURSES	ADDITIONAL CREDITS	TOTAL COURSES	TOTAL CREDITS	TOTAL ENROLLMENTS	
Y		PROF	CLA	1.00	2	176.0	2.00	14.0	4.00	190.0	49.0	
Y		PROF	DIE	1.00	1	120.0	1.00	12.0	2.00	132.0	33.0	
Y		PROF	JOW	1.00	4	308.0	8.00	208.0	12.00	516.0	129.0	

lines omitted

Y		ASSC	FUL	0.00								
Y		ASSC	SCH	1.00	2	384.0	1.00	3.0	3.00	387.0	99.0	
		ASSC TOTAL		3.00	4	587.0	3.00	23.0	7.00	610.0	161.0	**
Y		ASST	BOL	1.00	2	328.0	1.00	8.0	3.00	336.0	84.0	
Y		ASST	FRI	1.00	2	360.0			2.00	360.0	90.0	
Y		ASST	GOL	1.00	1	80.0	2.00	37.0	3.00	117.0	30.0	
Y		ASST	MCM	1.00	3	276.0			3.00	276.0	69.0	
Y	O	ASST	SAL	0.00								
		ASST TOTAL		4.00	8	1044.0	3.00	45.0	11.00	1089.0	273.0	**
		FIR	BRO	1.00	3	368.0			3.00	368.0	92.0	
		FIR	OCO	1.00	2	224.0			2.00	224.0	56.0	
		FIR TOTAL		2.00	5	592.0	0.00	0.0	5.00	592.0	148.0	**
		STAT	FRE	0.90	2	172.0			2.00	172.0	43.0	
		STAT TOTAL		0.90	2	172.0	0.00	0.0	2.00	172.0	43.0	**
		GRAD		2.64	4	828.0	0.00	0.0	4.00	828.0	207.0	**
		STAFF			1	21.0	0.00	0.0	1.00	21.0	5.0	**
HISTORY TOTAL				20.54	51	5444.0	26.00	433.0	77.00	5877.0	1482.0	**

NAMES VOIDED

Exhibit D: Faculty Detail Report

@COURSE DEFINED PER AGREEMENT OF DEANS: FULL TERM, 3-4 CREDITS, 10+ STUDENTS (5+ FOR GRAD), SINGLE INSTRUCTOR
#FACULTY CATEGORIES: (SEE ACCOMPANYING EXPLANATION SHEETS FOR FURTHER DETAIL)
STAT - STATUS FACULTY APPOINTMENT IN THIS ACADEMIC UNIT AT LEVEL OTHER THAN T/T PROF, ASSC, ASST, OR INST.
NSTAT - NON-STATUS FACULTY APPOINTMENT IN THIS ACADEMIC UNIT. INCLUDES SUPPLEMENTAL APPTS.
OTHER - INDIVIDUALS CONTRIBUTING INSTRUCTION IN THIS ACADEMIC UNIT WITH NO FACULTY APPT (STATUS OR NON-STATUS) IN THIS ACADEMIC UNIT. INCLUDES PATS, ADMINISTRATORS, AND 'OTHER' FACULTY (E.G., RESEARCH, ADJUNCT, MILITARY).

(199101/UACHI20) PROFILES REPORT PAGE: 33 * INSTITUTIONAL RESEARCH * 05/18/1994

EXPENDITURES/REVENUES

AREA_ORG	DEPARTMENT	SALARIES	HOURLY	BENEFITS	SUP&EXP	EQUIPMENT	MAND_TRANS	REVENUE	GRAND_TOTAL
UACAR20	UACAR10	0	0	0	0	0	0	-1361	-1361
	UACAR20	680751	13885	192655	56765	2519	0	0	946575
	UACAR21	55980	4057	15730	22850	545	0	0	99162
UACCM20	UACCM10	0	0	0	0	0	0	-900	-900
	UACCM20	302170	3791	85641	36891	13226	0	0	441719
UACD000	UACD000	332681	4068	94021	48832	11143	574	0	491319
	UACD001	1595024	0	289858	-38697	5985	13598	0	1865768
	UACD011	0	0	0	0	0	0	-7543	-7543
UACED20	UACED11	0	0	0	0	0	0	-3000	-3000
	UACED20	1179140	2136	314012	70551	1788	0	0	1567627
	UACED21	0	0	0	45295	0	250	0	45545
UACEN20	UACEN10	0	0	0	0	0	0	-22662	-22662
	UACEN20	1830613	14458	458863	69532	11939	100	0	2385505
UACFI20	UACFI10	0	0	0	0	0	0	-202	-202
	UACFI20	201240	179	56950	13021	0	100	0	271490
UACGE20	UACGE10	0	0	0	0	0	0	-186	-186
	UACGE20	208576	660	59026	17949	4336	0	0	290547
UACGR20	UACGM11	0	0	0	0	0	0	-1199	-1199
	UACGM20	0	515	0	13286	2023	75	0	15899
	UACGR20	276157	0	78152	0	0	0	0	354309
	UACJP20	0	0	0	1410	0	0	0	1410
	UACR010	0	0	0	0	0	0	-55	-55
	UACR020	0	450	0	5089	750	0	0	6289
	UACR021	0	599	0	3016	0	0	0	3615
UACHI20	UACHI10	0	0	0	0	0	0	-1076	-1076
	UACHI20	984534	1001	252641	32295	10862	100	0	1281433

Exhibit E: expenditure and revenue detail

PAGE: 27 FALL 1991 PROFILES SOURCE INFORMATION

HISTORY

ACCOUNTS GENERATING FACULTY APPOINTMENTS (FY 92):

UACHI20 HISTORY

ACCOUNTS GENERATING EXPENDITURE DATA (FY 91):

UACHI20 HISTORY

ACCOUNTS GENERATING REVENUE DATA (FY 91):

UACHI10 HISTORY INCOME

ACCOUNTS GENERATING OPENING BUDGET DATA (FY 92):

UACHI20 HISTORY

MAJORS GENERATING THE STUDENT LOAD DATA HEADCOUNTS:

CK01	BA	History
LK40	MA	History
LK75	PHD	History

DISCIPLINES GENERATING CREDITS INCLUDED IN THE STUDENT LOAD DATA:

HIST HISTORY

Exhibit F: Profiles Source Information

Transfer Patterns of Students at a Two-Year College

Oyebanjo A. Lajubutu
Director of Institutional Research
Harford Community College

Abstract

Two-year colleges and universities are increasingly being asked by accreditation agencies, state legislatures, and the federal government to show the "transfer rates" or pattern of their students to four-year institutions. In response, some states have developed the articulation between two- and four-year colleges and strengthening the transfer function is one of the growing concerns among academic planners, community college leaders and policy makers. This paper examines the transfer patterns of first-time freshmen at Harford Community College (HCC) with self-declared intent to transfer. The study tracked students who entered during the fall semesters of 1988 and 1989 to public senior colleges or universities within the state of Maryland. Eight semesters after their initial entry, the results show the transfer rates for all students to be 35%; for students earning Associate's it was 61%. As a general rule, three out of four students left the College within four semesters after their initial entry. Eighty-eight percent of the students enrolled at their transfer institutions the semester after departing HCC.

Introduction

Studies of student transfer, once of interest primarily to academic administrators, are increasingly finding an audience among legislators, accreditation agencies, and others who struggle with the fundamental issues of institutional quality and effectiveness. Despite the importance of transfer education as a major component of the two-year college, few institutions can reliably document this function. Consistent data are hard to find, even though such information would serve as an indicator of accountability and a means of self-assessment (Grubb 1991).

The purpose of this study is two-fold: (1) demonstrate the College's public value by providing information concerning the transfer patterns of its students, (2) give meaning to the College educational mission by an on-going academic outcomes effort to track the movement of students as they matriculate into baccalaureate-granting institutions.

Research Questions

The following research questions are posed for this study:

- When do students leave and where do they go?
- What is the "lag" (stop-over period) after exiting HCC and enrolling at their transfer institutions?
- What are the transfer rates by outcomes?

The answers to these questions can be used as a diagnostic tool by educational planners and administrators to assess the institution's effectiveness in preparing its students to transfer to four-year colleges or universities. It can also be used to gauge the institution's effectiveness on articulation efforts. Moreover, understanding student transfer patterns is important from an enrollment management perspective.

Method

Unit of Analysis

Units of analysis are first-time first-year students with a self-declared intent to transfer who started their careers at HCC during the fall semesters of 1988 and 1989. Eight semesters after their first entry, each cohort was followed from entry to public senior colleges and universities in Maryland. Six exclusive component of outcomes were generated.

Component of Outcomes

There are several ways in which students can transfer into four-year colleges. In many cases they can accumulate enough appropriate credits to transfer without receiving an Associate degree from their original institution, or they can earn an academic Associate degree and then transfer, perhaps the most obvious route. Thus, we have assigned students into one of six mutually exclusive components of outcomes (transfer).

- Transfer with AA + BA: Students who earned both Associate's and Bachelor's degrees, and earned the Associate's before the Bachelor's.
- Transfer without AA and earn BA: Students who transferred without Associate's, and earned Bachelor's.
- Transfer with AA and yet to earn BA: Students who transferred with Associate's but have yet to earn a Bachelor's degree.
- Transfer no AA or BA degrees yet: Students who transferred but have yet to earn either an Associate's or Bachelor's degree.
- Terminal AA: Students who earned Associate's as terminal degrees.
- Other patterns: This is a residual category for cases that do not fit in the previous five categories. It includes students who dropped out, transferred out of state, or enrolled in private institutions.

Classification of Transfer Institutions

Receiving institutions are classified using the following Carnegie classification:

Doctoral University:	Institution awarding at least 1 or more doctoral degrees.
Master University:	Institution awarding at least 1 or more master's degrees but no doctoral degrees.

Transfer Rate

The transfer rate is calculated by dividing the number of students in a particular group by the total number of students. Students who might have transferred to an in-state private institution or to any out-of-state institution were not followed.

Data Sources

Data for the study were obtained from the Enrollment Information System (EIS) , Degree Information System (DIS), and Transfer Student System (TSS) tapes maintained by the Maryland Higher Education Commission (MHEC). The initial cohort data were taken from the EIS tape for respective years. Among variables selected are social security number, race, sex, and attendance status. This data was then matched with the College's enrollment master file. The output generated was then matched with the DIS and TSS tapes.

Analysis and Findings

During the fall semesters of 1988 and 1989, a total of 564 students began college careers with self-declared intent to transfer. By and large, 98 percent were aged 24 or younger, 89 percent were white, and 89 percent were part-time students.

When do students leave and where do they go?

As shown in Table 1, about 73 percent of the students leave the College within four semesters after their initial entry, and of those, 77 percent were students who might have dropped out or transferred to an in-state private institution or to any out-of-state institution.

Table 1

OUT	Frequency	Cumulative Percent	Cumulative Frequency	Percent
1	95	16.8	95	16.8
2	116	20.6	211	37.4
3	54	9.6	265	47.0
4	144	25.5	409	72.5
5	55	9.8	464	82.3
6	65	11.5	529	93.8
7	20	3.5	549	97.3
8	15	2.7	564	100.0

As to where they go to finish their careers, Table 2 shows that more than 78 percents of the students attended a master degree university (an institution awarding 1 or more master's degrees but no doctoral degrees).

Table 2

TFICE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Master institution	155	78.3	155	78.3
Doctoral institution	43	21.7	198	100.0

What is the "lag" (stop-over period) after exiting HCC and enrolling at their transfer institutions?

The administration is a little skeptical about the time it took students after exiting the College and enrolling at their receiving institutions. Do the students stop over a long period before continuing their education at the four-year colleges and universities? The analysis (Table 3) shows that about 87 percent of the transfer students registered at their receiving institutions the semester after their departures from the College.

Table 3

LAG	Frequency	Cumulative Percent	Cumulative Frequency	Percent
0	172	86.9	172	86.9
1	6	3.0	178	89.9
2	3	1.5	181	91.4
3	6	3.0	187	94.4
4	6	3.0	193	97.5
5	2	1.0	195	98.5
6	1	0.5	196	99.0
7	2	1.0	198	100.0

What are the transfer rates by outcomes?

As shown in Table 4, more than 35 percent of the 564 students have transferred to public senior colleges or universities in the state of Maryland, and of those, 29 percent have completed a bachelor's degree. The transfer rate of students with Associate's degrees is 61%.

Table 4

Group	N	Transfers	Transfer Rate
All Students	564	198	35%
Students with 2-yr Degree	162	109	61%

The different transfer outcomes are shown in Table 5. Seven percent of the students earned both Associate's and Bachelor's degrees, and earned the Associate's before the Bachelor's. Three percent of the students transferred without Associate's, and earned Bachelor's. Thirteen percent of the students transferred with Associate's but have yet to earn a Bachelor's degree. Twelve percent of the students have transferred but have yet to earn either an Associate's or Bachelor's degree. Nine percent of the students earned Associate's as terminal degrees, and fifty-five percent of the students have either dropped out, or transferred out-of-state, or enrolled in private institutions.

Table 5

Semester After Initial Entry									
Component of Transfer	1	2	3	4	5	6	7	8	
Frequencies									
AA & BA	0	0	0	29	6	3	0	0	
BA/no AA	0	6	2	8	0	3	0	0	
AA/no BA yet	0	0	0	28	16	22	4	1	
no AA/no BA	1	17	8	23	8	11	1	1	
Terminal AA	0	0	0	17	11	12	5	8	
Other Patterns	90	90	43	47	14	14	10	5	
Cumulative Frequencies									
AA & BA	0	0	0	29	35	38	38	38	7%
BA/no AA	0	6	8	16	16	19	19	19	3%
AA/no BA yet	0	0	0	28	44	66	70	71	13%
no AA/no BA	1	18	26	49	57	68	69	70	12%
Terminal AA	0	0	0	17	28	40	45	53	9%
Other Patterns	90	180	223	270	284	298	308	313	55%

Discussion

The results of this study are useful to administrators and various campus committees in several ways: Inquiries by accreditation agencies, state legislatures, and other constituencies about transfer rates can be addressed. It also provides an analytical tool to gauge the effectiveness of articulation efforts. Likewise, parents and high school counselors can be given more detailed and useful information about students' chances of transferring within a public higher education system.

References

Adelman, C. 1992. *The Way We Are: The Community College as American Thermometer.* Washington, D.C.: U.S. Government Printing Office.

Grubb, W.N. 1991. "The Decline of Community Colleges Transfer Rates." Journal of Higher Education 62: 194-217.

Adjunct Faculty and Student Perceptions of Teacher Effectiveness

Eugene Muller
Director of Assessment
Bloomfield College

Introduction

According to the 1987 National Survey of Postsecondary Faculty (NSOPF) by the National Center for Educational Statistics, approximately 38% of all faculty today are part-time. At liberal arts colleges, the percentage of part-time faculty is 32.6%, while in the community colleges, part-time teachers comprise up to 58% of the faculty. Clearly, there are advantages for an institution to rely on adjunct faculty for its instructional needs. These include: lower costs for instruction on a per course basis, expertise in narrow areas without continuing commitment, and the ability to offer a wider selection of courses (thereby attracting more students) with little cash outlay. Due to limited resources, many colleges-particularly community colleges-rely on part-time faculty members to reduce wage and fringe benefit costs (Pollack, 1986). The hiring of adjunct faculty permits flexibility in managing the human resources of an institution that simply could not be obtained with tenured full-time faculty.

On the other hand, the disadvantages of using adjunct faculty are well known, including: a lack of administrative control, little teaching experience on the part of adjunct faculty, limited adjunct participation in departmental meetings, a lack of availability for student advising, a lack of continuity in course sequence offering, and a lack of participation in curriculum development (Cohen, 1977). A recent report on the status of adjunct faculty in the Bulletin of the AAUP (Academe) states that "institutions which assign a significant percentage of instruction to faculty members in whom they make a minimal professional investment undercut their own commitment to quality." The report also cites many of the abuses that can extend from the use of part-time or adjunct faculty, including a lack of job security, benefits, opportunities for advancement, poor working conditions (e.g., lack of office space and basic equipment), a lack of research support, and exclusion from the full-time faculty rewards system and governance structure (AAUP, 1992).

However, little empirical data has been obtained to determine whether or not adjunct faculty are providing a quality education to students. At Bloomfield College, we have encountered a number of problems with the use of adjunct faculty, including the perception that adjuncts will inflate grades and will provide less-than-adequate student advising and mentoring. Given the need to address these concerns, the College sought to undertake an empirical study of the question of the effects of its heavy reliance on adjunct faculty from the standpoint of students. Specifically, we investigated this question from the perspective of student opinions and attitudes. Two questions were considered:

Issue 1) Is there a difference in the way students perceive classes taught by full-time versus adjunct faculty, including the issue of academic advising?

Issue 2) Is there a difference in students' general attitude toward classes taught by full-time versus adjunct faculty? Is the level of student enjoyment significantly higher or lower in adjunct-led classes?

The study employed data obtained from two groups of students (half of which was taught by full-time faculty, the other half taught by adjunct or part-time faculty), and compared the responses of these two groups.

Method

Subjects:

In all, 229 students participated in this investigation -- 114 from the adjunct-led classes and 115 from the full-time led classes. To determine whether the two samples differed in terms of student characteristics and skills, the samples were compared along a number of demographic and academic variables. There were no significant differences between the two groups of students in terms of gender breakdown, ethnic breakdown, student level (i.e., Freshmen, Sophomore, Junior and Senior status), full-time/part-time status, new/transfer student status, and resident v. commuter status.

Student samples were also analyzed and compared in terms of age, credits enrolled, grade point average, semesters completed, credits completed, SAT-Verbal score, and SAT-Math score. A considerable portion of the students in both samples did not have SAT-Verbal or SAT-Math scores, which therefore makes the results for these two variables rather tenuous. However, an examination of the mean scores for each variable revealed no significant differences between the adjunct and full-time led students, indicating that the adjunct and full-time teachers participating in this study were, in general, dealing with students of relatively equal stature in terms of these variables.

In general, the adjunct and full-time teachers who participated in this investigation dealt with students of very similar backgrounds and skill levels, the only notable difference being the fact that the full-time instructors had a somewhat higher percentage of day students in their classes. It is therefore fair to assume that the students presented no discernible advantage or handicap for the adjunct and full-time teachers who served as the focus of this investigation.

Procedure:

To control for course and content differences, twelve Bloomfield College classes were selected for study, representing each division of the College (except Nursing, which underwent a separate investigation). Classes were selected in pairs, so that two sections of the same course -- one taught by a full-time professor, and one taught by an adjunct professor -- were chosen from each division.

All of the classes selected for study were at the Freshman (100) level or below. While the courses were selected deliberately to cover five divisions of the College (Business, Math/Science, Humanities, Fine and Performing Arts, and Social/Behavioral Sciences), the actual sections of each course were chosen at random from the pool of the available classes, thereby drawing a stratified random sample of classes. The pairs of selected classes served as the basis for all analyses.

Issue 1: Comparison Of Adjunct And Full-Time Teachers' Class And Student Mentoring Activities

A key area of concern in this investigation was the extent to which adjunct and full-time faculty differed in terms of how well they deliver instruction, and how extensively they provided academic advice to students. To answer these questions, we obtained data on the students' impressions of the faculty along these variables through a structured questionnaire administered to students in all participating adjunct and full-time led classes. The questionnaire consisted of twenty items describing typical classroom and teacher activities. Students responded to each item on a Likert scale ranging from +2 to -2. Students who left an item blank were given a code of 0 (for neutral) for that item.

The investigators found significantly higher student ratings for full-time professors for 6 of the 20 questions on the questionnaire. These included the following:

Ratings of the instructor's knowledge of the course subject matter

While the mean ratings for the two groups of students were in the positive range (between "Very Good" and "Good"), the rating for the full-time led students was significantly higher, meaning that full-time instructors were viewed as being somewhat more knowledgeable about their course subject matter than were adjunct faculty. This outcome, as well as the comments made by students to this question, did not so much reflect negatively on the adjunct faculty as it reflected positively on the full-time led faculty. Over 90% of the students in the full-time led classes gave their teachers the highest rating of "Very Good" for this question, while the remaining 9.5% gave the second highest rating of "Good." Adjunct-led students gave predominantly positive ratings to their teachers as well, although their ratings were not quite as high as those given to full-time faculty.

Ratings of the instructor's interest in the students

The average ratings for this question were in the positive range (between "Very High" and "High"), although the ratings for the full-time faculty were significantly higher than those for the adjunct faculty. Most of the comments made for both groups of students were of a positive nature. However, it would appear from these data that students, on the average, do perceive full-time faculty to be somewhat more interested in students than adjunct faculty.

Ratings of the overall teaching performance of the instructor

The average ratings for both groups for this question were also in the positive range (between "Very Good" and "Good") although the ratings for full-time faculty were significantly higher, indicating that while both groups of teachers were viewed as favorable in terms of overall teaching performance, the ratings for full-time faculty were somewhat more favorable.

Ratings of how often the instructor made his/herself available for tutoring

The average ratings for this question were both in the positive range (between "Often" and "Neutral"). The rating for full-time instructors was significantly higher than that for adjuncts, meaning that students perceived full-time instructors to be more available for tutoring than adjunct instructors.

The comments made by students added some insights to these results. Twelve of the students with adjunct instructors claimed that they never asked for or needed tutoring; seven more said the instructor was available for tutoring, and two more thought the instructor would have been available if asked. Despite the fact that full-time instructors were viewed, on the average, as more available for tutoring, no adjunct-led students offered particularly strong complaints with regard to teacher availability for tutoring.

Ratings of how extensively the instructor tutored individual students

The average ratings for both groups were in the positive range (between "Extensively" and "Neutral"). However, the rating for full-time faculty was significantly higher than that for the adjunct faculty, indicating that students perceived full-time faculty, on the average, to be more willing to provide extensive tutoring.

Overall ratings of instructor's tutoring

Here also, the average ratings for both groups were in the positive range (between "Effective" and "Neutral") but were significantly higher for full-time faculty.

For the remaining 14 questions of the survey, the researchers found no significant differences between adjuncts and full-time instructors. These questions included the following:

- Overall organization of the course
- Clarity of learning objectives
- Appropriateness of the course content to the perceived course objectives
- Appropriateness of class assignments to perceived course objectives
- Fairness of the student evaluations
- How well the instructor was prepared for class
- Instructor's enthusiasm for the course subject matter
- Clarity of the instructor's presentations
- Appropriateness of the instructor's presentations to the perceived course objectives
- Instructor's effectiveness in stimulating student effort in the class
- Instructor's fairness and objectivity in dealing with the course subject matter
- Overall effort put into the class by the student
- Instructor's personal concern for the interests of students
- Usefulness of the course material

For all of these items, the average rating for both groups of subjects were in the positive range, meaning that both adjunct professors and full-time professors were noted favorably on these factors, and that the ratings for the two groups of instructors did not differ significantly.

In summary, the results indicate that students in the full-time led classes perceived their instructors to be somewhat more knowledgeable about their course material, somewhat more interested in the students, and somewhat better in teaching performance than the students in adjunct-led classes. It is also evident that full-time instructors were viewed as being more available for tutoring, more willing to tutor students more extensively, and more effective as tutors overall. At the same time, all of the remaining questions on the student questionnaire suggest that students perceived the adjunct faculty to be as effective as the full time faculty in most other respects.

Issue 2: Comparison Of Student Attitudes In Adjunct And Full-Time Led Classes

A second question considered in this investigation was the overall morale of students in adjunct-led classes. Does the presence of a part-time faculty member have an adverse affect on student attitudes? Do students in adjunct-led classes, regardless of their performance, enjoy their classes less than do student in full-time led classes?

To answer this question, the students in both the adjunct and student led classes were administered a 30 question attitude scale twice during the semester. The scale was given for the first time (as a pretest) about three weeks after the beginning of classes. The scale was then re-administered (as a posttest) about three weeks before the end of classes.

The scale contained questions about the students' feelings (both positive and negative) about their classes. Statements appearing in the scale included the following:

"I usually look forward to coming to these classes"
"I am very tense when I come to this class"
"I usually feel enthusiastic about this course"

Students responded to each of these statements along the following Likert Scale:

+3 Agree Very Strongly
+2 Agree Strongly
+1 Agree
-1 Disagree
-2 Disagree Strongly
-3 Disagree Very Strongly

(Items left blank were scored 0 for "Neutral"). The Coefficient Alpha reliability for this scale was .94 for the pretest and .97 for the posttest. The scores for each item were added, to yield total score for each student. These scores were then compared for the adjunct and full-time led students. The results of an Analysis of Covariance appear in Table 1. The results show no significant differences in the students' posttest attitudes (adjusting for the pretest) between adjunct and full-time led students, suggesting that student morale at the end of the semester for adjunct-led students is no higher or lower than that for full-time students at the end of the semester. In summary, the analysis of student attitudes revealed no significant detriment on student morale due to the presence of adjunct faculty at the end of the semester.

Table 1. ANCOVA of Posttest Attitude (Adjusted for Pretest) For Adjunct and Full-time Led Students

Mean Scores on Posttest (Adjusted for Pretest):

Adjunct Led Students (N=71): 35.25
Full-time Led Students (N=70): 33.99

Summary Table:

Source of Variation	df	MS	F	Sig
Pretest	1	5596.90	195.21	.00 **
Teaching	1	55.66	.194	.66
Within Groups	138	286.67		
Total	140	682.69		

Discussion

The results of this study suggest that relatively little adverse effects exist through the use of adjunct faculty versus full-time faculty, at least from the standpoint of students. According to the students sampled and questioned in this investigation, adjunct instructors were no different from full-time faculty members in terms of course organization and preparation, clarity of objectives, class assignments, presentations, fairness in grading, enthusiasm, ability to stimulate effort, objectivity, and overall effort.

While full-time faculty were viewed by students as better teachers and more knowledgeable about the subject matter, it could be argued that these differences may be the direct result of more teaching experience and the attainment of a terminal degree on the part of full-time faculty. It also must be noted that while full-time faculty were deemed significantly better in teaching performance and knowledge of the course subject matter, both full-time faculty and adjuncts were rated in the positive range along these two variables.

The most serious performance discrepancy between adjunct and full-time faculty as reported by students was in the adjunct faculty members' willingness and availability for tutoring, as well as their overall tutoring effectiveness. This was made evident through data gathered from several sources, including the student questionnaire. This was also acknowledged by the division chairs, who said that most adjuncts will simply not tutor or advise students, nor do they expect them to do so. Some of the comments by students also acknowledge this. While it is true that some adjuncts will leave their home or work phone numbers with students, and encourage them to call when they have problems, it is also true that many students will feel reluctant to call them. This would suggest that one of the most important areas to focus on for the improvement of adjunct performance would be to make better arrangements for adjunct instructors to meet with students.

This study has looked at a limited (albeit important) aspect of adjunct teaching, and that is its effect on student perceptions and attitudes. Other questions on the topic of adjunct instruction not directly addressed by this study that nevertheless need to be answered include the following: Does student learning tend to differ for students taught by adjuncts as opposed to full time faculty, and in what way? Do adjuncts tend to adopt certain teaching styles or practices (positive or negative) that differ from those of full-time faculty? Do adjuncts tend to differ from full-time faculty in terms of grading practices? Are there reasonable steps that can be taken to rectify these differences?

References

American Association of University Professors (1992). On The Status of Non-tenure Track Faculty. Academe, 78, (6), 39.

Cohen, G.S. (1977) A note on adjunct professors. Engineering Education, 68,(2), 206-207.

Pollack, J.S. (1986). The erosion of tenure in The California State University. Academe, 72, (1), 19-24.

Informing Fringe Benefits Policy: A Profile of Selected Personal Characteristics of Employees At a Research University

Peter J. Murray, Director
Planning and Institutional Research

Tracy Hunt-White, Assistant Director
Planning and Institutional Research

The Catholic University of America

Statement of the Problem

The effects of changes in the composition of the workforce and impending Federal regulations are forcing a reappraisal and possible reshaping of employee benefit plans in higher education institutions. Presently, institutions of higher education may not be fully implementing benefit programs that meet employees' needs. Higher education institutions should review the personal characteristics and needs of their workforce, synthesize and assess the data, and evaluate policy alternatives (Ferber, O'Farrell, and Allen, 1991). Particularly important are personal characteristics by occupation of age, gender, and ethnicity, which have shown to have had dramatic effects on the workforce (Ferber, O'Farrell, and Allen, 1991; Kleeman, 1992; et al.). Employee data collection and analysis is important since the costs of shaping policies without adequate information are likely to greatly exceed any short-term savings (Ferber et al., 1991, p. 255). Prior to this study, there was a lack of current information regarding the effects of selected personal characteristics of employees on the workforce at this research university.

Purpose of the Study

The purpose of this study is to inform fringe benefits policy by developing a profile of the personal characteristics of employees. The study analyzed and evaluated the differences in selected personal characteristics of full-time faculty by rank, full-time regular professional employees, and full-time regular support staff employees at a research university. Specifically, the study compared for each rank of faculty, professional employees, and support staff employees the personal characteristics of age, gender, ethnicity, marital status, religious status, number of dependents, age of dependents, and length of service. The following questions were addressed:

1) What is the profile of full-time faculty by rank, professional employees, and support staff employees with respect to selected personal characteristics?

2) What are the predominant selected personal characteristics of employees at a research university?

3) What are the differences in the selected personal characteristics of full-time faculty by rank, professional employees, and support staff employees?

Background of the Study

Composition of a Changing Workforce

The composition of the American workforce has changed dramatically due to structural changes in the United States economy and the family (Sweeney and Nussbaum, 1989). Kleeman (1992) states that the labor force is expected to change even more in the decades to come. The most dramatic of recent demographic changes has been the insurgence of women into the workforce, the increasing representation of racial or ethnic minorities, and the aging of the labor force (p.1).

The participation of women in the labor force has nearly doubled since 1950 (Kleeman, 1992). Kleeman (1992) indicates that women's participation rates will continue to increase while men's participation rates will continue to decline. She also states that "labor force participation rates for married women with children ages 6 to 17 increased from 39 percent in 1960 to nearly 75 percent in 1990" (p.4). Nearly 60 percent of married women with children under the age of 6 were in the labor force in 1988 compared with about 20 percent in 1960 (Ferber et al., 1991). The percentage of families with children raised by mothers alone increased from 14.6% in 1975 to 20.6% in 1988, and these women are more likely to be employed outside the home (Hayghe, 1990 and Shank, 1988 in Aldous, 1990). In 1989, women represented 51% of the total workforce in higher education (National Center for Education Statistics, 1993). They comprise 27 percent of full-time faculty (Russell et al., 1991). El-Khawas (1994) indicates that six in ten higher education institutions have reported an increase in women faculty.

The number of minorities in the workforce has risen dramatically in the last ten years. They will continue to represent a larger percentage of the labor force and, based on Bureau of Labor Statistics, they will represent 27 percent of the workforce by the year 2005 (Kleeman, 1992). The Bureau of Labor Statistics predicts that while the number of whites in the labor force will increase about 17 percent between 1990 and 2005, the number of blacks will increase over 30 percent, and the number of Hispanics and Asian/other minorities will increase about 75 percent during this period (p.7). In 1991-92, minorities comprised 20.8% of total full-time employees in higher education institutions, with the largest percentage (29.4%) being employed as full-time non-professionals (The Chronicle of Higher Education, 1994).

In the last twenty years, the 25-to-54 age group grew more rapidly than any other age group in the labor force. From 1990 to 2005, the largest increase in the labor force will be in the 55-and-older group (Kleeman, 1992). El-Khawas (1994) reports that research and doctoral universities have had an increase in the number of faculty 65 years of age or older. She indicates that private independent universities anticipate problems with the end of mandatory retirement (p.17).

Women and men, and whites and non-whites, remain concentrated in different occupations. For example, nearly 30 percent of white and black women are employed in administrative support positions, while less than 10 percent of white and black men are employed in clerical-type positions. Similarly, the Bureau of Labor Statistics indicates that "almost 15 percent of white men and 11 percent of white women are in the executive and managerial category, compared with only 6 percent of black men and 7 percent of black women" (Bureau of Labor Statistics in Ferber et al., 1990). Sweeney and Nussbaum (1989) state, "research studies estimate that roughly three out of five men and women would have to change jobs to end sex segregation."

Changes in the Workforce and Effects on Fringe Benefits Policy

Policy analysts, both inside and outside academe, recognize that there are real tensions related to work and families and that employee benefits policy should receive a great deal of attention (Moore and Amey, 1993; Ferber et al., 1991). Members of Congress, private industry, unions, and academicians agree that families need to be supported through appropriate benefit programs. It is understood that new approaches to benefits must be more flexible to meet the changing needs of a diverse workforce (Ferber et al., 1991). Changes in personal characteristics of employees have had a subsequent effect on the type and amount of benefits employees desire (Moore and Amey, 1993). Organizations are under scrutiny to make comparable changes in the type and nature of benefits available to employees (p.5). Some employers have changed their human resources policies to help employees balance their work and family responsibilities (Kleeman, 1992, p.5). New flexible benefits are typically tailored to individual characteristics and preferences. Depending on personal characteristics, an individual may prefer benefit programs pertaining to pregnancy and adoption, childrearing, elder care, retirement, death, etc. (Ferber et al., 1991, p.129-131). The key element in these employers' benefit programs is offering a mix that is appropriate to workers' characteristics and needs (Moore and Amey, 1993; Kleeman, 1992).

As Ferber et al. (1991) indicates, the majority of employers have done very little to reduce employees' tension with work and family responsibilities by offering flexible work schedules, special leave arrangements, or other types of family-related benefit programs. Of twelve private universities, seven reported that they did offer employee assistance programs, while the other five institutions reported that they did not offer such programs (University of Pittsburgh Office of Human Resources, 1993). Employers typically refer to the lack of better information about the effects of new programs on productivity and costs, which is a major barrier to implementing such programs (Ferber et al., 1991, p.153). While colleges and universities are seeking to find the most value for their compensation dollar, which may prohibit new benefit programs, a point for policy analysis is to compare the effects of having a policy or program with not having one (Raabe, 1990). Raabe (1990) reiterates that the more visible costs of developing and implementing a new benefit program (e.g., maternity/parental leave or child care assistance) may be less than the costs of not having one (e.g., recruitment factor, higher turnover, absenteeism, or impaired job performance) (Fernandez, 1986; McCall, 1988; Moen, 1986; Friedman, 1987, 1989; Galinsky, 1989).

Governmental Influence

Employee benefit programs are also influenced by governments (Ferber et al., 1991, p.153). "The benefit packages available today have, in significant part, been shaped by government actions: tax policies (such as unemployment insurance and Social Security), tax incentives (such as the dependent care tax credits), and various regulatory policies" (p.12). Governments impose benefit policies on organizations, and not typically on the basis of economic cost-benefit (Starrels, 1992). Proponents of government action feel that governmental policy is more often ideological or moral since benefits under the law ensure universal coverage (Starrels, 1992; Ferber et al., 1991). Skeptics make the point that governments rarely make appropriate decisions about what benefits are needed, mainly because they lack knowledge about the particular needs and problems of specific groups of employees and employers (Ferber et al., 1991).

From a higher education management perspective, governmental regulations point to the need for better management of human resources (Calais, 1994; and Brown and Suster, Burke, 1987, in Moore and Amey, 1993). Newly adopted federal guidelines require a review of employee benefit plans in higher education institutions, with particular investigation as to whether the plan is discriminating or whether certain employees are too highly compensated (Calais, 1994). A self-study is recommended by the Internal Revenue Service in order to determine if there is a problem with the existing benefits plan. Reportedly, the IRS will take a more positive approach in helping

those institutions who request assistance with some difficult benefit plan issues. On the contrary, if the IRS or a federal regulatory agency discovers problems without institutional help, the IRS will be less accommodating (Calais, 1994). Whether higher education institutions like it or not, they will have to work with governmental policy makers in reviewing and developing appropriate employee benefit plans.

Data Needs

In undertaking a self-study or review of employee benefit policies, an institution needs data for analysis and evaluation. A variety of circumstances are changing the composition of the workforce and human resource managers need information regarding the personal characteristics of employees in order to define fringe benefits policy. Personal characteristics like age, gender, and race can vary dramatically from one institution to the next, and these variations in characteristics greatly affect compensation systems (Moore and Amey, 1993). Research indicates that individual differences, problems, and preferences can differ between professional, technical, and managerial workers (Galinsky, 1989a; Kamerman and Kahn, 1987; Presser, 1989; Spalter-Roth and Hartmam, 1988; Voydanoff, 1987; in Raabe, 1990). Moore and Amey (1993) indicate that "policy development and cost containment could be complicated when benefits to faculty are shared with other employees of the institution, and decisions for one group of employees could dramatically affect what can be offered--and at what cost--to another group" (p.6). The key is to do responsible, careful, and sometimes creative planning with critical information about the workforce. The goal is to increase employees' satisfaction by offering benefits that are beyond the scope of "core" benefits without overburdening institutional budgets. Higher education institutions which know the characteristics and needs of their workforce and which develop appropriate fringe benefits policy to respond to these needs may receive dividends in terms of improved recruitment, retention, and productivity.

Methodology

The Office of Planning and Institutional Research collected data pertaining to the age, gender, marital status, ethnicity, religious status, length of service, number of dependents, and age of dependents for 1,098 full-time employees of The Catholic University of America. Full-time employees and their corresponding characteristics were separated into categories of faculty by rank (AAUP definition), professional employees, and support staff employees. The full-time regular professional employee category included all exempt employees (EEO categories: executive, administrative, managerial, and other professionals) and the full-time regular support staff category included all non-exempt employees (EEO categories: secretarial clerical, technical paraprofessional, skilled crafts, and service maintenance).

The employees' age, gender, ethnicity, religious status, and length of service was extracted from the Human Resources Database through the use of a computer applications program. The variables marital status, age of dependents, and number of dependents required additional data collection techniques. Employees' dependent information, both age and number, was collected with assistance from the Office of Personnel Services and health care providers. The Omnibus Budget Reconciliation Act of 1993 requires employees and employers to disclose information regarding health care coverage for dependents of employees. The number of dependents of employees with CUA health care coverage was obtained from the federal disclosure form. The age(s) of employees' dependent(s) was requested directly from their health care provider. The various health care companies provided a list containing the employee's name, name(s) of dependent(s), the date of birth of the dependent(s), and their relationship to the employee (spouse or child). Marital status of employees was extracted from the Human Resources Database, but the accuracy of the information needed to be verified. The Office of Personnel Services, the federal tax filing status, and the type of health care coverage chosen by an employee were the sources for

verifying marital status. For example, if an employee's federal tax filing status was single but had health care coverage for a spouse, that employee was coded as married. The marital status was left blank for those employees for which marital status was in question or could not be confirmed.

The Statistical Analysis Software (SAS) was used to generate frequencies and means pertaining to the various characteristics of employees in each different employee category. A chi-square test of association was performed on the four categorical variables (gender, marital status, religious status, and ethnicity) to test the relationship between employee category and categorical variable. The resulting chi-square value indicated whether the distribution of frequencies in each categorical variable differed significantly between employee categories.

The Statistical Analysis Software was also used to run the two-way and one-way analysis of variance statistical technique. The two-way ANOVA was run in order to simultaneously test whether there were significant differences between the employee categories, personal characteristics, and any interaction between employee category and personal characteristics. Since the two-way ANOVA calculation indicated statistical significance, a series of post hoc tests were undertaken to investigate employee category and each personal characteristic separately. The one-way ANOVA technique blocking on employee category was run to determine if there were differences between employee categories with respect to personal characteristics. The one-way ANOVA tested the significance of the difference between employee categories for the following quantitative variables: age of employee, length of service, number of dependents, and age of dependents. All possible combinations of categorical variable (gender, marital status, ethnicity, religious status) were controlled to test the significance of the differences between employee categories.

Results

The percentages and averages displayed in Table 1 serve to answer the question: "What is the profile of full-time faculty by rank, professional employees, and support staff employees with respect to selected personal characteristics?" It is evident from Table 1 that there are differences between employee categories with respect to the selected personal characteristics.

With respect to gender, a high percentage of ordinary professors and associate professors are men, while the majority of support staff employees are women. Assistant professors and professional staff are about evenly split between men and women.

With the exception of support staff employees, the majority of employees in each category are married. Approximately sixty percent of ordinary professors, associate professors, assistant professors, and professional staff are married, while only forty-six percent of support staff are married.

A very high percentage of employees in each category are not affiliated with a religious order (categorized as lay). However, ordinary professors and associate professors have much higher percentages of employees categorized as religious, than do the other groups.

A very high percentage of employees in each group except support staff is of the ethnic category white. Support staff employees are evenly split between the ethnic categories of white and non-white.

With the exception of ordinary professors, the average age of employees in each category is in the forties. The average age of ordinary professors is nearly sixty years old.

The average length of service is relatively the same between assistant professors, professional staff, and support staff. Associate professors and ordinary professors have been at CUA much longer, reflecting averages of 13.2 and 21.3 years, respectively.

The mean number of dependents is very similar among the employee categories, with no category showing a noticeable difference from the others.

With the exception of ordinary professors, the average age of dependents is also similar among the categories. The average age of dependents for ordinary professors is somewhat higher than the other employee groups.

Table 1. Selected Personal Characteristics of Full-Time CUA Employees by Category

	Ordinary Professor	Associate Professor	Assistant Professor	Professional Staff	Support Staff
Gender					
Male	86.0%	68.5%	45.5%	49.7%	41.7%
Female	14.0%	31.5%	54.5%	50.3%	58.3%
Marital Status					
Married	60.8%	60.8%	60.2%	56.0%	45.5%
Not Married	39.2%	39.2%	39.8%	44.0%	54.5%
Religious Status					
Religious	18.2%	14.0%	7.9%	5.1%	1.4%
Lay	81.8%	86.0%	92.1%	94.9%	98.6%
Ethnicity					
White	81.0%	88.8%	79.2%	70.2%	49.4%
Non-White	19.0%	11.2%	20.8%	29.8%	50.6%
Mean Age (years)	57.5	48.9	43.2	42.9	41.5
Mean Length of Service (years)	21.3	13.2	5.8	8.5	6.0
Mean Number of Dependents	1.6	2.2	2.0	1.9	1.9
Mean Age of Dependents (years)	15.0	7.9	8.6	10.7	10.9

The percentages and averages in Table 2 serve to answer the question: "What are the predominant selected characteristics of employees at a research university?" The percentages indicate that a large majority of faculty are men, while the majority of staff are women. Overall, the profile reveals an almost even split in the number of men and women employees.

A large majority of faculty are married, while the staff show an even distribution of married and non-married employees. Overall, there is a slight majority of married versus non-married employees at CUA.

Approximately fourteen percent of faculty are religiously affiliated while only three percent of staff are categorized as religious. Overall, the percentage is about seven percent religious versus ninety-three percent lay.

A very large majority of faculty are white (83.6%), while about forty-six percent of staff are non-white. Overall, the majority of employees are white.

The average age of faculty is about eight years older than staff, with the overall average age of employees at nearly forty-five years old. The average length of service for faculty is almost double the average of staff (13.8 versus 7.0). The overall average is about nine years per employee.

There is very little difference between faculty, staff, and overall with the average number and age of dependents.

Table 2. Selected Personal Characteristics of Total Full-time Faculty, Staff, and CUA Employees

	Total Faculty	Total Staff	Total Employees
Gender			
Male	67.9%	44.9%	52.6%
Female	32.1%	55.1%	47.4%
Marital Status			
Married	60.7%	49.8%	53.6%
Not Married	39.3%	50.2%	46.4%
Religious Status			
Religious	13.7%	2.9%	6.5%
Lay	86.3%	97.1%	93.5%
Ethnicity			
White	83.6%	54.5%	64.4%
Non-White	16.4%	45.5%	36.0%
Mean Age (years)	50.2	42.0	44.7
Mean Length of Service (years)	13.8	7.0	9.2
Mean Number of Dependents	2.0	1.9	1.9
Mean Age of Dependents (years)	9.8	10.8	10.8

Table 3 and Table 4 serve to answer the question, "What are the differences in the selected personal characteristics of full-time faculty by rank, professional employees, and support staff employees?" Table 3 combines the results of a chi-square test of association between various combinations of employee category and each categorical variable, and a one-way analysis of variance which tested the significance of the differences between mean scores of employee categories for each quantitative variable.

The table reveals that the frequencies and means for faculty and staff were significantly different ($p<.01$) for marital status, gender, ethnicity, religious status, age, and length of service.

The greatest differences between employee categories, with respect to the number of significantly different personal characteristics, were between support staff and ordinary professor, and support staff and associate professor. The comparisons which revealed the fewest significant differences were between assistant professor and professional staff, and assistant professor and support staff.

With the exception of average number of dependents, every personal characteristic revealed significant differences for at least five different employee category comparisons. Gender, ethnicity, religious status, average age, and average length of service indicated significant differences for most of the comparisons of employee categories.

Table 3. Significant Differences in Personal Characteristics between Employee Categories

Employee Categories	1	2	3	4	5	6	7	8
Faculty vs. Staff	**	**	**	**	**	**	-	-
Ordinary Prof vs. Professional	-	**	-	**	**	**	-	-
Ordinary Prof vs. Support	**	**	**	**	**	**	-	*
Ordinary Prof vs. Associate	-	**	-	-	**	**	-	**
Ordinary Prof vs. Assistant	-	**	-	*	**	**	-	**
Associate vs. Professional	-	**	**	**	**	**	-	*
Associate vs. Support	**	**	**	**	**	**	-	**
Associate vs. Assistant	-	**	*	-	**	**	-	-
Assistant vs. Professional	-	-	-	-	-	**	-	-
Assistant vs. Support	*	-	**	**	-	-	-	-
Professional vs. Support	**	*	**	**	-	**	-	-

Codes: - means Not Significant; * means Significant at p<.05; ** means Significant at p<.01

Note: 1=Marital Status, 2=Gender, 3=Ethnicity, 4=Religious Status, 5=Average Age, 6=Average Length of Service, 7=Average Number of Dependents, and 8=Average Age of Dependents.

Table 4 reveals the results of using the one-way ANOVA technique blocking on employee category, and blocking on all possible combinations of categorical variable, to test the significance of differences in the pattern of the means between employee categories.

The results indicate that ordinary professors and associate professors had the greatest number of personal characteristics (male/female, white/non-white, married/single, religious/lay) that were significantly different within age, length of service, and age of dependents when compared to other employee categories. The comparisons between assistant professors, professional staff, and support staff employees revealed the fewest significant differences in personal characteristics.

The variables of age and length of service revealed the greatest number of significantly different personal characteristics when the employee categories were compared. The variable, number of dependents, revealed no significant differences between employee categories.

Table 4. Highly Significant* Differences in Personal Characteristics between Employee Categories within Age, Length of Service, and Age of Dependents

Employee Categories	Age of Employee		Length of Service		Age of Dependents
Ordinary Prof vs. Professional	Male Female Married Single	White Non-White Lay	Male Female Married Single	White Non-White Lay Religious	Male
Ordinary Prof vs. Support	Male Female Married Single	White Non-White Lay	Male Female Married Single	White Non-White Lay Religious	Male Married White Lay
Ordinary Prof vs. Associate	Male Married Single	White Lay	Male Married Single	Non-White Lay Religious	Male Married White Lay
Ordinary Prof vs. Assistant	Male Female Married Single	White Non-White Lay	Male Female Married Single	White Non-White Lay Religious	Male Married White Lay
Associate vs. Professional	Male Female Single	White Lay	Male Female Married Single	White Lay Religious	
Associate vs. Support	Male Married Single	White Lay	Male Female Married Single	White Lay Religious	
Associate vs. Assistant	Male White Lay		Male Female Married	White Non-White Lay	
Assistant vs. Professional					
Assistant vs. Support					
Professional vs. Support	Male		Male Single	Lay	
*Statistically Significant at p<.01.					

Summary, Conclusions, Recommendations

Summary Profile of Each Employee Category

The majority of ordinary professors were white, lay, married, males with a mean age of almost 58 years and over 21 years of service. The mean number of dependents was 1.6 and the average age of dependents was 15 years.

The majority of associate professors were white, lay, married, males with a mean age of almost 49 years and over 13 years of service The mean number of dependents was 2.2 and the average age of dependents was eight years.

The majority of assistant professors were white, lay, married, females. The mean age was 43 years with almost six years of service. The mean number of dependents was 2.0 and the mean age of dependents was almost nine years.

The majority of the professional staff were white, lay, and married. Females and males were evenly split in this employee category. The mean age was 43 years with almost nine years of service. The mean number of dependents was 1.9 and the mean age of dependents was almost 11 years.

The majority of support staff were single, lay, females. Ethnicity was almost equally split between non-whites and whites. The mean age was 41.5 years with six years of service. The mean number of dependents was 1.9 and the mean age of dependents was almost 11 years.

The overall profile of full-time employees at CUA was white, lay, married, males with a mean age of almost 45 years and with over nine years of service. The mean number of dependents was 1.9 and the mean age of dependents was almost 11 years.

Conclusions

The findings show noticeable differences in the percentages, means, and patterns of frequencies and means, when selected personal characteristics are compared across employee categories. As the profiles of employees have revealed, the overall composition of employees is really the middle ground between two very different groups of employees (faculty and staff). The majority of ordinary professors and associate professors were older, white, males while the majority of support staff employees were younger, non-white, women. The study findings have shown that different employee categories have different and distinct personal characteristics.

Recommendations for Further Research

Additional research should be undertaken to further inform fringe benefits policy decisions. A survey could be designed which collected data regarding the fringe benefits desired by employees. The expected preferences, developed based on the personal characteristics of employees, could be compared with their actual choices for fringe benefits. A more comprehensive study including the personal characteristics of part-time employees and an analysis using additional selected personal characteristics may be warranted. Lastly, similar data from other peer institutions could indicate whether the differences between employee groups as well as whether the institution's personal characteristics of employees are related to the culture and values of the university where they are found, or whether they are representative of the industry as a whole.

References

Aldous, J. (1990). Specification and Speculation Concerning the Politics of Workplace Family Policies. Journal of Family Issues, 11 (4), 355-367.

Calais, M.J. (1994). National Association of College and University Business Officials Report to Controllers of Consortium Universities of the Washington Metropolitan Area.

The Chronicle of Higher Education, Inc. (1994). The Almanac of Higher Education, 1994. Chicago, The University of Chicago Press.

El-Khawas, E. (1994). Campus Trends, 1994. Higher Education Panel Report Number, 84. Washington, D.C., American Council on Education.

Ferber, M.A., O'Farrell, B., and Allen, L. (1991). Work and Family: Policies for a Changing Workforce. Washington, D.C., National Academy Press.

Kleeman, R.S. (1992). The Changing Workforce: Demographic Issues Facing Employers. Washington, D.C., United States General Accounting Office: General Government Division.

Moore, K.M. and Amey, M.J. (1993). Making Sense of the Dollars: The Costs and Uses of Faculty Compensation. ASHE-ERIC Higher Education Report No. 5. Washington, D.C.: The George Washington University, School of Education and Human Development.

National Center for Education Statistics (1993). Digest of Education Statistics, 1993. United States Department of Education, Office of Educational Research and Improvement.

Raabe, P.H. (1990). The Organizational Effects of Workplace Family Policies: Past Weaknesses and Recent Progress Toward Improved Research. Journal of Family Issues, 11 (4), 477-491.

Russell, S.H., Fairweather, J.S., Hendrickson, R.M., and Zimbler, L.J. (1991). Profiles of Faculty in Higher Education Institutions, 1988. National Center for Education Statistics. Statistical Analysis Report, U.S. Department of Education Office of Educational Research and Improvement.

Starrels, M.E. (1992). The Evolution of Workplace Family Policy Research. Journal of Family Issues, 12 (3), 259-278.

Sweeney, J.J. and Nussbaum, K. (1989). Solutions for the New Work Force: Policies for a New Social Contract. Cabin John, MD, Seven Locks Press.

University of Pittsburgh, Office of Human Resources (1993). University of Pittsburgh Benefits Survey Report.

Validating College-level Reading Placement Test Standards

Anthony R. Napoli
Suffolk Community College
& SUNY Stony Brook

Paul M. Wortman
SUNY Stony Brook

Abstract

College placement tests are being increasingly used as indices of academic preparedness for placing students in remedial courses prior to enrollment in traditional programs of study. Such tests must conform to accepted and established psychometric practices to be considered valid. In particular, test users must empirically establish the criterion-related predictive validity of the decision or cutoff points used in making placements. The present report describes results of an ongoing research effort to empirically establish the cutoff points for the CPT Reading Comprehension Test (CPT-Read) at Suffolk Community College (SCC).

Introduction

The establishment of valid placement test standards to serve as indices of academic preparedness for exemption from remedial course work and entry into traditional academic programs of study must conform to accepted and established psychometric practices. In addition to selecting an assessment instrument with empirically substantiated construct validity (Nunnally, 1978) and reliability (Cronbach, 1970), test users must empirically establish the criterion-related predictive validity (Anastasi, 1982) of the decision or cutoff points on a placement test's score distribution. The present report describes results of an ongoing research effort to empirically establish the cutoff points for the CPT Reading Comprehension Test (CPT-Read; 1990) at Suffolk Community College (SCC).

The College Board/Educational Testing Service (1990) has recommended that colleges establish cutoff scores which meet the specific and individual requirements of the institution. Two criteria were considered meaningful and appropriate to validate CPT Reading test score cutoffs: performance in Introductory Psychology and overall Grade Point Average (GPA). The psychology course was selected since it relies heavily on reading (typically 650 pages per semester) to cover its broad content areas. Success in the course, therefore, serves as an index of reading skills proficiency commensurate to the demands of college curricula. From a practical perspective, the high enrollment associated with the course would substantially guarantee (far beyond any other survey course offered at SCC) sufficient data for quantitative analysis. The inclusion of GPA as a validating criterion is based on its overall importance with regard to program completion and its ability to convey, in a global manner, success with college-level academic demands.

It was expected that both performance in the psychology course and overall GPA would be significantly related to CPT-Read scores. If sufficient correlation between the measures exists, then regression analysis could identify those points on the CPT-Read distribution that predict academic outcomes with a high level of statistical accuracy. Once identified, those points would serve as the cutoff by which students would be placed into or exempted from a remedial reading course. This paper reports on these analyses and the resulting cutoff points identified.

Method

Sample/Procedure

The academic records for approximately sixteen thousand (16,000) students, attending classes at SCC during the years 1988 through 1990, were electronically searched to identify those individuals who had CPT-Read scores, and who had not been placed into a remedial reading course. These dual criteria identified 1,450 who students served as the sample for the current study. It is important to note that although SCC had been employing a CPT-Read cutoff score of 90 and above to exempt students from taking remedial reading courses, fifty percent (50%) of the sample (or 722 students) had CPT-Read scores below 90.[1] The mean CPT-Read score for the sample equalled 86.1, the standard deviation equalled 16.3. The range of CPT scores equalled 27 to 120, which closely approaches the actual limits of the test which range from 20 to 120. An analysis of the form of the CPT-Read distribution, employing Pearson's coefficient of skew, failed to detect any significant deviation from normality ($sk = .34$).

Results

Results for Introductory Psychology

Pearson's Product-Moment correlation coefficient was employed to assess the relationship between the predictor variable (CPT-Read) and targeted criteria variables. As seen in Table 1, CPT-Read scores were found to be reliably related to psychology grades (PSYGPA; $r = .519$, $p < .0001$). To assess the possibility that CPT-Read scores and PSYGPA may be related in a non-linear or higher-order manner (Pedhazur, 1982) hierarchical regression was employed in which PSYGPA was regressed on the quadratic, cubic, quartic, and quintic forms of CPT-Read. Results from the regression model failed to detect any significant higher-order relationships and confirms the assumption of a linear relationship between CPT-Read and PSYGPA.

Results for the simple regression of PSYGPA on CPT-Read are presented in Table 2. Employing the general linear regression equation ($Y' = A + bX$), the next phase of analysis applied the regression constants (see Table 2) to the raw CPT-Read scores to produce predicted PSYGPA scores. This was done for each case in the sample. To determine the degree of concordance between predicted psychology grades and actual grades, both score distributions were dichotomized to form groups of students who scored grades of "C" and above and grades below the "C" level.

The crosstabulation of predicted and actual grade dichotomies is presented in Table 3. Results indicate that approximately seventy-six percent (76%) of the 281 students who received grades below "C" were correctly classified based on their CPT-Read scores. Slightly more than seventy-seven percent (77%) of the 1,169 students who received "C" or better grades were correctly identified. Overall, a seventy-seven percent (77%) concordance rate was observed between actual and predicted psychology grade outcomes ($p < .000001$, Fisher's Exact Test).

To locate the cutoff point on the CPT-Read distribution which is predictive of the "C" or better, or below "C" outcome in the psychology course, we employed the general linear regression equation. Listed in Table 4 are select CPT-Read scores and corresponding predicted psychology grades. The regression equation identifies a CPT-Read score of 75 and above as the point on the CPT-Read distribution that is predictive of the "C" and better psychology grades. CPT-Read scores below 75 predict below "C" performances in the psychology course.

Results for Overall Grade Point Average

Appearing in Table 1 are the correlation coefficients for overall GPA with CPT-Read, and total credits completed (Credits). As expected, the CPT-Read scores are positively and significantly related to GPA ($r = .41$, $p < .0001$). Results from a hierarchial regression analysis failed to detect any significant higher-order relationships, and again confirm a linear association between CPT-Read and GPA. In addition, GPA is also significantly dependent ($r = .270$, $p < .0001$) on Credits. Since GPA has been shown to increase as the number of credits increases (Goldman & Gillis, 1989; Jesse & Gregory, 1987), hierarchical regression analysis (Tabachnick & Fidell, 1983) was employed to control for confounding influence of Credits on overall GPA. In the hierarchical regression model, the variable "Credits" is entered on the first step of the analysis. This procedure produces residualized GPA scores which are adjusted for total credits completed. On a second step of the regression model, the residualized GPA scores were regressed on CPT-Read to produce the adjusted regression constants (regression coefficient and intercept) appearing in Table 5.

The degree of concordance between predicted GPA and actual GPA was determined following the procedure described above. Both score distributions were dichotomized to form two groups of students: those who scored grades of "C" and above and those scoring below the "C" level. The crosstabulation of predicted and actual grade dichotomies is presented in Table 6. As seen in the table, of the 157 students who actually received grades below "C," approximately fifty-six percent (56%) were correctly classified based on their CPT-Read scores. Slightly more than seventy percent (70%) of the 1,293 students who received "C" or better grades were correctly identified. Overall, the sixty-nine percent (69%) concordance rate observed between actual and predicted grade outcomes is a highly significant finding ($p < .000001$, Fisher's Exact Test).

Appearing in Table 4 are select CPT-Read scores and corresponding predicted GPA scores obtained from the regression model. The model indicates that a CPT-Read score of 70 and above is predictive of "C" and above grade point averages. CPT-Read scores below 70 predict below "C" GPA performances.

Summary

The objective of the current research effort was to identify CPT-Reading Comprehension test standards to serve as decision points for either placing students into or exempting them from remedial reading courses. The study employed criterion-referenced performance outcomes, specifically, performance in introductory psychology classes and overall grade point averages, to serve as indices of reading comprehension proficiency. Upon confirming the presence of significant correlation between the predictor and criterion outcome variables, regression analysis and statistical modeling was employed to predict performance outcomes from CPT-Reading Comprehension Test scores. Actual and predicted grade distributions were then dichotomized to produce performance outcome categories of At/Above "C" Grade Levels and Below "C" Grade Levels to assess the agreement rates between predicted and actual grades. A comparison of predicted and actual performance categories demonstrates significantly high concordance rates of 77% and 69% for psychology and overall GPA, respectively. Importantly, results for both sets of analyses suggest that, and converge on, a CPT-Read score in the mid seventies (75) would serve as a reliable "cutoff point" for the SCC population.

In the present study, the application of statistical modeling and verification techniques produced significant and meaningful enhancements to the placement decision process. By selecting criterion-based performance outcomes it became possible, with a high level of statistical accuracy, to identify CPT-Reading Comprehension placement test standards which convey performance capabilities. Whether the standards identified for the SCC population would generalize to other institutions is not clear and should be the subject of further inquiry.

Based on the above results, the SCC Developmental Studies Committee decided to adopt a CPT-Read cutoff score of 80, and has used this score for the past two years. Although a score of 80 is slightly higher than the identified value of 75, it was chosen to accommodate for placement errors which typically occur around the cutoff point. It also reflects a greater tolerance among committee members to error on the side of a developmental reading placement. Specifically, for the results presented on overall GPA we observed a discordance rate of approximately 30 percent between actual and predicted GPA categorization. When disagreements occurred, however, they were 5.5 times more likely to be of a *false positive type*, and would result in a developmental placement.

It is noteworthy that the impact of lowering the cutoff score from 90 to 80 has been to reduce enrollment in developmental reading classes by 24 percent, or approximately 700 students. This reduction is based on the distributional properties of CPT-Read scores at SCC, where a score of 90 is at the seventy-fourth percentile and the lower score of 80 is at the fiftieth percentile. The cutoff adjustment has not only lead to a better and more justifiable placement model, but also represents an economic savings to the college and to those students who would have been unnecessarily required to enroll in a developmental reading course.

A recent evaluation indicates that the remedial reading program has had the desired beneficial effect, and suggests that exposure to the reading program produces meaningful enhancement in reading comprehension levels (Napoli, Wortman, & Norman, 1994). Future assessment efforts will require continued monitoring of students' academic performance and progress to assure that the adopted cutoff points continue to serve as valid indices of academic preparedness.

This paper illustrates a simple procedure for validating standards for determining assignment of students to remedial programs. Given the nationwide emphasis on improved education, the determination of such standards is increasingly important in matching student needs to limited resources.

Table 1: Correlation Coefficients.

	PSYGPA	GPA	M	SD
CPT-READ	.52*	.41*	86.1	16.30
Credits		.27*	32.9	18.50
PSYGPA			2.50	1.10
GPA			2.76	.71

* p.<.0001, df = 1448

Table 2: Regression of PSYGPA on CPT-Read.

Variable	R^2	*b*	*A*	t
CPT-Read	.2690	.0346	-.4879	23.08*

**p.<.0001, df = 1448

Table 3: Crosstabulation of Actual by Predicted Psychology Grades.

Actual Grades	Predicted Grades: Below "C" n (row %)	Predicted Grades: "C" & Above n (row %)	Row Totals n (row %)
< "C"	214 (76.2%)	67 (23.8%)	281 (19.4%)
≥ "C"	264 (22.6%)	905 (77.4%)	1169 (80.6%)
Column Totals	478 (33.0%)	972 (67.0%)	1450

Total Cases Correctly Classified = 77.2%.
Fisher's Exact Test, p. < .000001.

Table 4: Predicted Psychology Grades and Overall Grade Point Averages for Selected CPT-Reading Comprehension Scores.

CPT-Read	Predicted Psychology Grade (letter grade)	Predicted GPA Grade (letter grade)
40	.90 (F)	1.52 (D+)
45	1.07 (D)	1.61 (D+)
50	1.24 (D)	1.70 (D+)
55	1.42 (D)	1.80 (D+)
60	1.59 (D+)	1.89 (D+)
65	1.67 (D+)	1.98 (D+)
70	1.93 (D+)	2.08 (C)
75	**2.11 (C)**	**2.17 (C)**
80	2.28 (C)	2.26 (C)
85	2.45 (C)	2.35 (C)
90	2.63 (C+)	2.45 (C)
95	2.80 (C+)	2.54 (C+)
100	2.97 (C+)	2.63 (C+)
105	3.15 (B)	2.73 (C+)
110	3.21 (B)	2.82 (C+)
115	3.50 (B+)	2.91 (C+)
120	3.66 (B+)	3.00 (B)

Table 5: Regression of GPA on CPT-Read controlling for credits

Variable	R^2	b	A	t
CPT-Read	.251	.0185	.777	18.46*

**p.<.0001, df = 1447

Table 6: Crosstabulation of Actual GPA by Predicted GPA.

	Predicted Grades		
Actual Grades	Below "C" n (row %)	"C" & Above n (row %)	Row Totals n (row %)
< "C"	88 (56.1%)	69 (43.9%)	157 (10.8%)
≥ "C"	377 (29.2%)	916 (70.8%)	1293 (89.2%)
Column Totals	465 (32.1%)	985 (67.9%)	1450

Total Correctly Classified = 69.2%, Fisher's Exact Test, p. < .000001.

References

Anastasi, A. (1982). Psychological Testing (5th ed.). New York: Maxmillan.

College Entrance Examination Board and Educational Testing Service (1990). Coordinator's Guide for Computerized Placement Tests, Version 3.0. Princeton, NJ: Author.

Cronbach, L. (1970). Essentials of Psychological Testing (3rd ed.). New York: Harper and Row.

Goldman, B.A., and Gillis, J.H. (1989) Graduation and attrition rates: A closer look at influences. Journal of the Freshman Year Experience, 1(1), 65-77.

Jesse, D.M., & Gregory, W.L. (1987) A comparison of three attribution approaches to maintaining first-year college GPA. Educational Research Quarterly, 11(1), 13-25.

Napoli, A. R., Wortman, P. M., & Norman C. (1994). A Critical Multiplist Evaluation of Developmental Reading Instruction at Suffolk Community College. Colleague, 16-25.

Nunnally, J. (1978). Psychometric Theory (2nd ed.). New York: McGraw-Hill.

Pedhazur, E.J, (1982). Multiple Regression in Behavioral Research. New York: Holt, Rinehart, & Winston.

Tabachnick, B. G., and Fidell, L. S. (1983). Using Multivariate Statistics. New York: Harper and Row.

---

[1] These students had successfully petitioned the Dean of Instruction to be excused from developmental reading courses based on their high school grades and standardized test scores.

Authors Note

Paper was awarded AIR's Best State/Regional or Sector Presentation for 1995, and will appear in the Spring 1995 volume of the Journal of Applied Research in the Community College.

This research was supported in part by a grant from the College Board.

Requests for reprints should be sent to Anthony R. Napoli, Office of Institutional Research, Suffolk Community College, Selden, NY 11784-2899.

Lesjes van de nederlanders: Little Lessons from the Dutch to Promote Educational Quality

Barbara H. Palmer
Director of Institutional Research
Brandeis University

Abstract

Using a multi-site case study approach, this study explores quality assessment and accountability in Dutch university education. It describes their national system of quality assurance, and the various models which are being successfully employed to implement it. It summarizes the range of apparent effects and influences which quality assurance has had on Dutch higher education. Finally, it invites comparison with American higher education to promote speculation about implications for policy and professional practice.

Introduction:

Fundamentally, this paper is a case study of quality assurance in Dutch university education. It builds upon published and unpublished documentary sources, and incorporates information and insights gained from roughly thirty "key informant" interviews conducted during an eight week study visit in the winter of 1993 and the spring of 1994 which included Amsterdam, Groningen, Maastricht and Utrecht. Interviewed were students; faculty members; administrators at departmental, divisional, and institutional levels; researchers with a scholarly interest in this area; and educational leaders responsible for the design and implementation of the system on a national level. The basic methodology is uncomplicated and fairly primitive; in the words of Charles Adams "if you want to find out what's happening ask those who are making it happen as well as those to whom it is happening" (Adams, 1993) and compare their observations with one another and with whatever external objective sources are available. Initially, a structured interview format was employed; soon it was discarded for a more open-ended, subject-centered approach. Several general themes were explored: informants' level of knowledge with respect to Dutch quality assurance, their accounts of local changes and effects, their sense of the relationship between those changes and the national system of quality assurance, their personal assessment of the significance of such changes, their judgment of the criteria upon which the success of the system should be evaluated, and their assessment of existing "meta-assessment" efforts.

While this paper seeks to summarize faithfully the features of Dutch higher education and its quality assurance system, this is not its only objective. That goal has been accomplished many times over by numerous reporters (see for example, Goedegebuure et al, 1990; Kells, 1992; Maassen et al, 1992; Teichler, 1989; van Vught, 1991) who document the rightful claim of the Dutch as pacesetters in peer review-oriented assessment procedures and applaud the subtle wisdom and elegant compromise of their program in balancing the creative tension between the academy and the government, between educational improvement and public accountability. Throughout its inception and development during the last decade, the Dutch system of internal and external quality assurance has received a lot of attention. Articles on the subject appear frequently in European journals and talks abound at international conferences. While descriptive accounts are plentiful, reports dealing with concrete institutional initiatives and implementation models (Acherman et al, 1993; van Boetzelaer, 1993; van Boetzelaer & Verveld, 1990; Maassen & van Buchem, 1990) and with the effects of the national program of quality assurance on Dutch university education (Frederiks et al, 1993; Lentz et al, 1993; Vroeijenstijn, 1990, 1993, 1994a) are less frequent. This paper is a small contribution to those slender literatures. Its larger significance may reside in its

contribution to the development of a backdrop to facilitate reflection upon our own approaches to educational accountability and quality. Ultimately, it offers "little lessons" by which to inform our own professional practice.

"But Nobody Would Ask That Question in Holland!": Developing a Context for Comparison

American higher education consists of a collection of about 2140 four-year colleges and universities serving in excess of 8.5 million students (excluding two-year non-profit and proprietary institutions) in a system in which the fifty states, not the federal government, have primary responsibility and in which state governments provide 50% of the income for public institutions. We have a strong private sector which involves about 3/4 of the 4-year institutions and about a third of the students. The tuition cost for one year of undergraduate study averages in the neighborhood of $2700 at a public institution and could run to $20,000 at a prestigious private university. The range of educational missions for these institutions is equally wide with pre-professional, academic, personal growth and "education for responsible citizenship" goals often coexisting within a single institution. Almost all colleges and universities in America (as opposed to those institutions devoted almost exclusively to higher vocational aims) assume responsibility for some form of "general" or "liberal" education, a job commonly assigned to secondary education in Europe. A truly hybrid institution, the American university melds the goals of the Anglo-Saxon residential college and the German research university to which has been added the uniquely American mission of community service. The typical first degree takes four years to earn. Roughly 50% of those who start finish, and of those who finish 70% do so within five years. Accreditation, a non-governmental process to monitor educational institutions for threshold adequacy, has persisted for at least three-quarters of a century and has contained some form of external peer-review for at least fifty years.

Tiny Holland boasts of thirteen universities with a total enrollment of 180,000 students. (It also has a higher vocational sector comprised of 82 institutions and another 250,000 students, but this paper deals exclusively with the university sector.) Virtually all higher education is "public." Ninety percent of the funds to support university education in the Netherlands comes directly from the government, through the Ministry of Education and Science. A flat tuition fee of 1950 NLG (about $1100) a year applies at all Dutch universities. The singular goal of Dutch university education is to develop the capacity to undertake original research independently. By our standards, university education in Holland is highly specialized, with students selecting their field of study upon entrance and taking virtually all their work in that discipline. The first degree, roughly equivalent to a master's degree, is completed on average in 5.5 years with about 62-67% of those who begin finishing (van Vught, 1991). Somewhere between 12% and 19% go on to advanced work beyond the first degree. Dutch higher education, rooted in the German university model, has no tradition of internal or external quality assessment; its system, in place since 1988, is organized on a nationwide basis by discipline, not by institution and is devoted not to weeding out the inadequate, but rather to the twin objectives of improvement and public accountability.

In contexts seemingly so different, what's to compare? At first blush it seems an ill-fated venture. These and other differences led often to comical misconceptions during the interview process, and led inexorably to the response "but that question would never be asked in the Netherlands," a phrase which came to exemplify the difficulty of finding shared threads from which to weave a common tapestry.

But important common threads exist, as can be seen from these 1991 Organization for Economic Cooperation and Development (OECD) data. Both countries devote a relatively large fraction of their gross domestic product to tertiary education -- 1.7% and 2.4% for the Netherlands and the U.S. respectively. For both countries higher education's share of total enrollments at all educational levels is above the OECD mean: 13.2% and 16.6% for the Netherlands and the U.S.

respectively. With the exception of Australia, the U.S. and Holland, at 29.8% and 34.4% respectively, devote to higher education the highest fraction of total educational spending in the world.

But the more fundamental similarity derives from the almost universal political and economic climate in which higher education has operated in developed democracies since World War II. This climate has undergone dramatic changes in the last twenty-five years, almost convulsive in character in the past decade. The following scenario fits contemporary American and Dutch higher education equally well. The 1960's saw unbridled growth in higher education in terms of the number of students and institutions, as well as constantly escalating public budgets devoted to higher education. Improving the educational attainment of its citizens was seen as equally beneficial to the social and economic agendas of the nation and to the personal opportunities of each citizen. The goal of equal access became paramount. All students with appropriate school leaving certificates from secondary school deserved access to higher education. Quality considerations were subordinate to the pursuit of a uniform level of institutional adequacy and comparability. Predictably enough, by the mid-1970's the system made an abrupt correction. Governments, unable to keep up with universities' appetite for funds, called for higher education to demonstrate greater efficiency and productivity. Essentially faculty-centered institutions were asked to become student-centered ones. The public and the government wanted more for their money, less wastage, and built in market incentives for quality improvement. A period of deep budget cuts ensued. In America entire state systems of higher education were nearly dismantled and private tuition rates skyrocketed as government support receded. In the Netherlands, in the five year period between 1980 and 1985 public expenditures for higher education decreased by 16% while student enrollment increased by 12% (Teichler, 1989).

Historically, the distribution of power in American higher education has favored strong central administrations at the institutional level, leaving only supporting roles for government and the faculty. In contrast, continental European systems have long been characterized as having a large governmental role, a comparable role for the guild of professors and a small to vanishing role for central university administrators (Kells, 1992). Ironically, in the past decade this balance has shifted, such that the regulatory environments for American and Dutch higher education are growing more alike at the same times that our respective pursuits of educational quality are taking different paths. While our federal government has been increasingly strident, intrusive and conspicuous in its demands for accountability and quality in American higher education, in 1985 the Dutch government adopted a deliberate strategy of "steering from a distance."

Making a Pact with the Devil: The Dutch Government and Higher Education in Pursuit of Quality

This new philosophy of "steering from a distance" came on the heels of several examples of heavy-handed, direct governmental regulation. There were the draconian retrenchment efforts already mentioned and the introduction of a "two tier" structure to university education by which to shorten study programs, decrease time-to-degree, and increase efficiency. Finally, 25% of research positions and other material resources were wrenched from regular university budgets as the government embarked on a program of "conditional funding" to increase accountability for government funded research and to promote quality (Teichler, 1989).

In 1985 the government changed course and issued its new policy document entitled "Higher Education Autonomy and Quality" (known as HOAK). From the government's perspective HOAK was a strategic and fairly risk-free retreat. The Ministry would share its power in order to promote self-regulating universities. It would move away from direct concrete law-making on the nuts and bolts of university management in exchange for a comprehensive program of quality assurance. The government's twin goals of accountability and quality would become the indirect results of the universities becoming less self-absorbed, more sensitive to external market

conditions, and more likely to act in their own enlightened self-interest. Being more independent, the universities would be able to adapt more readily to changing economic and social conditions and to capitalize on opportunities.

To the cynical observer the government has little to lose. It is "sharing" on its own terms. Universities can only become autonomous to the extent and in the direction that the government desires (Maassen & van Vught, 1989). Moreover, resource constraints are envisioned for some time to come; with institutional funding based on the number of students enrolled and with a fixed to moderately decreasing supply of young people to populate Dutch universities, even institutions which become wildly successful in attracting a bigger fraction of potential enrolls may find that they are accomplishing little more than holding their own. Finally, the fate of "open access" is arguably threatened by some of these developments. Increased participation rates and financial aid budget constraints are on a collision course. Observers have speculated that the interaction of some of the new provisions represent a covert retreat from open access on the part of both the government and the institutions (Maassen et al, 1992). In a recent opinion survey of university faculties throughout the world, only in the Netherlands did a majority (57%) of the respondents reject the proposition that "access to higher education should be available to all who meet minimum entrance requirements" (Altbach et al, 1994), a reflection of the growing frustration over the apparent conflict between available resources, human and financial, and governmental expectations for improved productivity and quality. Any government wise enough to embark on a policy of "steering from a distance" has seen these eventualities on the horizon and recognizes the desirability of distancing itself from them.

It appears that the universities are still distrustful that the Ministry is serious about autonomy; moreover, they are unconvinced that the policy has heretofore led to the level of autonomy promised. Suspicions linger that quality assurance is just a blind from which to identify the victims for the next round of budget cuts. (To date, such suspicions are groundless.) Still the universities were smart to overcome their reservations, and accept the invitation which HOAK represented. In doing so, they took leadership in defining the context for quality and the boundaries of accountability. The process promoted an unprecedented debate between higher education and government, defined their respective roles in pursuing quality, brought clarity to the areas of mutual agreement, heightened mutual understanding in areas of persistent disagreement, put control of the curriculum more firmly in the hands of the universities, and led to "probably the best example that has been developed" (Kells, 1992) of a self-regulating system emerging through dialogue and consensus building.

Building a System for External Quality Assessment (EQA)

The Association of Universities in the Netherlands (VSNU), founded in 1985 and comprised of representatives from the member universities, became the buffer agency through which the universities spoke with more or less one voice to the Ministry of Education and Science. Picking up the government's offer, the VSNU developed the national program of quality assurance for higher education. Internationalization being an important theme in contemporary Dutch higher educational policy, they examined closely a variety of quality assurance models in use elsewhere. The structure which emerged shows a strong resemblance to American accreditation in terms of its emphasis on peer review and visiting committees. But it shows important differences as well, notably in its philosophy and objectives, its focus, and its willingness to "go public."

Unlike American accreditation which is aimed at defining the floor below which an institution is drummed out of the corps, the position of the Dutch universities reflected the goals and methods associated with Total Quality Management (TQM) and Continuous Quality Improvement (CQI). While conceding the government's legitimate interest in accountability, their program is unabashedly "improvement" oriented and "process" based. The Dutch process emphasizes external assessment but begins with an internal self-study. A group of external experts

use the self-study as a point of departure in conducting its on-site visit and in writing its subsequent report. The focus of the investigation is the discipline, not the institution. In a given year, several different disciplines are studied nationwide. A single visiting committee visits all universities providing instruction in the field. The process is cyclical, with all fields being visited within a six year period. This discipline-based aspect of the process reflects the power and decision-making structure of Dutch higher education, and specifically echoes the structure which was employed only two years earlier in evaluating university research (Maassen & Weusthof, 1989). The formal reports of the visiting committee are submitted to the VSNU, accounts of which are routinely found in the newspaper. Initially, the reports of the visiting committees were faulted for understatement and "concealing language" (Vroeijenstijn, 1990), but more recent efforts demonstrate remarkable candor, for example, "in the opinion of the Committee there is too little time spent on teaching by the professors" or "quality assurance is nearly non-existent and should be improved" (IPR-EE Committee, 1992). The public aspect of the process speaks to the government's firmness in advancing its accountability aims. While in theory the public nature could promote strategic behavior toward generous evaluation, in practice it seems to keep the process honest, as does the fact that at least one member of every visiting committee is a true outsider, generally a member of the professorial ranks from a foreign country.

The Quality Police: The Inspectorate

In this transition from state-regulation to self-regulation, one aspect of the process, meta-assessment, remains in the hands of the government. The Higher Education Inspectorate, created in 1986, supervises the performance of higher education and advises the Minister of Education and Science. In performing its role as meta-evaluator it assesses the assessment process itself and its effectiveness (Bresters & Kalkwijk, 1990; Kalkwijk, 1992). The Inspectorate likes to describe itself as independent, and in the sense that it determines its own methods for carrying out its obligations to the Ministry, it is. But among University personnel the Inspectorate is often described as the meddlesome mouthpiece of the government. Under certain conditions, the Inspectorate may undertake its own "additional" investigations on behalf of the Ministry which can in theory lead to the cessation of funding to chronically troubled programs. This possibility of direct intervention exceeds the role of meta-evaluation and has led to concern and criticism. Still, the Inspectorate plays an important role which could not be convincingly undertaken by the universities themselves. It maintains criteria against which to assess the reports of the various visiting committees. It argues for a more uniform format in visiting committee reports and for more quantitative measures to facilitate comparative judgments. And it puts pressure on universities to take action on the problems uncovered through the assessment process.

Among the VSNU and the universities there is predictable and understandable reluctance to invite comparisons, and worse yet, rankings. The Ministry suffers no such qualms, imagining a world in which consumer guides would inform the process by which Dutch youth select a university. Such a guide, subsidized by the Ministry, has since hit the newsstands. The data do not really justify comparative judgments, and the result falls considerably short of altering the single factor which has long dominated university choice in Holland: proximity. Most Dutch students choose a university because it is close to home. But this event serves to demonstrate the sustained interest of the Ministry and its Inspectorate in making the results of this process accessible to the public. It also reflects the government's predisposition to view students as consumers, not as primary players in the quality assessment process itself (Paardekooper & Spee, 1990).

Students: "The Flowers of the Nation"

Students leaders are not content with the role of "consumer," voting with their feet and allowing "the rough hand of the market" to define their level of satisfaction with university education. They believe they have earned a place at the table as genuine partners in governance.

They expect that their views will be taken seriously. Certainly, they have carved a far more substantial place for themselves in day to day university management than have their American counterparts. Students interviewed for this study, by no means a representative sample, demonstrated genuine sophistication in their grasp of the issues confronting the universities and in the political arena in which those issues must be addressed. Their knowledge base, the bounty of an enormous emotional and temporal investment, renders them a formidable force which American undergraduates cannot begin to match. To be sure, their participation in university affairs is not universally embraced. Some faculty informants showed evidence of good natured condescension, hinting that the "real action" still occurs behind closed doors; the government and the VSNU express reservations about the value of student participation. For the most part the student leaders identify more readily with the improvement-oriented motives they associate with their academic mentors than with the accountability aims they regard as the exclusive interest of the Ministry. But in this respect the students and the government agree: the machinery for internal and external quality assessment leads only to diagnosis, not necessarily to corrective action. They are interested in action and they see stronger central management as the key to change.

For the most part, Dutch educators hold their students in enormous regard and speak of them as junior, albeit limited, partners in scholarly pursuits. Nothing reflects the intensity of this conviction more than the lovely metaphor used by one faculty informant repeatedly when referring to his students. His commitment to improvement in educational quality grew from his reverence in having been entrusted with "the flowers of the nation" -- not a trivial turn of phrase in a country where flowers are spiritual necessities of life.

Getting Teaching on the Agenda: The Faculty

"Getting teaching on the agenda" is almost a mantra, recurring over and over in discussions with Dutch educators about the value of their EQA program. The contemporary Dutch university, like the classical German model from which it derives, tends to be a loose federation of autonomous academic units with a comparatively weak central administration and a strong emphasis on research at the expense of teaching. A recent Carnegie Foundation study of the academic profession serves to demonstrate the extent of this favoritism; when asked "Do your interests lie primarily in teaching or research?" only 25% of Dutch respondents reported a preference for teaching, putting the Netherlands last among the thirteen countries studied. In contrast, 63% of the American academics surveyed favored teaching (Altbach et al, 1994). The language of this paper is itself misleading on this point. In referring to "the university" as if some monolithic institutional focus is descriptive of the Dutch case, it provides a disservice. In fact, there being no university-wide learning goals, the sort which our commitment to "liberal education" provides, in Dutch university education no natural forum exists beyond the department level for the discussion of teaching and curricular matters. And given the proclivity for research, at the department level the research goals of the unit monopolize the agenda. Given the power of autonomous academic departments ruled by the professorate and the weak influence of central administrative leadership, it is impossible to overstate the difficulty of "getting teaching on the agenda." Repeatedly, informants emphasized the truly revolutionary character of the entire venture. It was unheard of in the Netherlands that bureaucrats -- governmental or local -- would ask faculties to justify their activities.

In creating an unavoidable excuse for the discussion of teaching and learning, EQA has changed all that. The challenge to university leaders at all levels has been to build organizational structures to serve as forums for curricular and pedagogical debate and to promote internal quality assessment (IQA). As will be seen in the section on implementation models, the spawning of IQA processes and structures may be the most important effect of the national effort. While universities took quite different approaches, one aspect was common to them all: the recognition that only a "bottom up" approach had the remotest chance of success. In part this is merely an acknowledgment that the bulk of the power resides at the "bottom," i.e. with the departments. In

part, it reflects the basic wisdom that the pursuit of educational quality is at its heart a matter of modifying the behavior of the professional teaching force. Such a transformation is most likely to occur in quiet and informal ways, friend to friend, colleague to colleague, among people of good will. In the end progress depends upon instructors, collectively and individually, committing themselves to change. Hence, in designing their system, Dutch educators have shown a preference for peer-review over performance-indicators models and for qualitative rather than quantitative methodologies. One informant summarized the appeal of peer review in this way: "There is at best an imperfect relationship between policy and innovation. There are only people who are alive and whole and able to change. And others who for whatever reason cannot. The former may do so in response to any treatment which reinforces the idea that people care about their work and are eager to help them do better. The rest, forget about!"

"The Enemy Used to Live in the Hague": The Administration

University administrators are not well thought of by Dutch academics, but not being very important either, the absence of esteem for them is likely to be dismissive in character, a half-hearted swipe at a fly at a picnic. Hence, when asked to respond to the proposition that "the administration is often autocratic," the Dutch registered the lowest level of agreement -- 37% compared to 67% for American academics (Altbach et al, 1994). Dutch administrators often describe themselves as "functionaries," a word choice which is neither accidental nor reflective of some vocabulary limitation in their use of English. Therefore, one of the most unsettling aspects of the Dutch quality mania is the strengthened role of the central administration in the affairs of academic life and its intrusion on the heretofore unilateral authority of the academic departments in matters of teaching and research.

Dutch universities employ heavily layered, egalitarian and complex governance structures, more so than any in western Europe (Teichler, 1989). Personal authority and singular responsibility are rare. Representatives from all aspects of university life participate in governance -- instructional staff at all ranks, deans, financial officers, support staff, technicians and students. An executive board serves in lieu of a chief executive; it largely implements the will of the university council. The university council determines policy in matters such as administrative rules and budgets; it is commonly comprised of equal numbers of faculty, staff and students with a smattering of representation by outsiders from the local community. University-level management is oriented toward consensus, compromise, coordination and moderation. Analogous bodies similarly constituted exist in the faculties and departments. One informant, a student, admitted to spending 70% of his time in meetings. The administrative machinery being so ponderous and bulky, nothing happens fast. The emasculation of authority through dispersion as evidenced in the formal structure gives rise to pockets of informal power where traditional faculty dominance remains intact. Faculty members express their frustration with the "dampening effect of the layers" in preventing good ideas from coming to the top and in almost eliminating any chance for opportunistic and entrepreneurial action.

Dutch academics have an approach-avoidance conflict with administrative authority. They resent the emerging strength of central leadership. They resent the resources which are being funneled toward administrative personnel, as a new breed of non-teaching career administrators has come on the heels of quality assurance processes. While attachment abides to committee-based governance and to the democratic spirit it represents, observers recognize as well that it is inefficient and inadequate to the demands of changing times. They want strong management to remedy the problems which the quality assessment process has spotlighted. And they recognize that strong leaders are not likely to be attracted to the current structure. Faculty, students and administrators alike voice predictions that the days of consensus governance are numbered and fervent hopes for a new kind of inspired institutional leadership. Repeatedly, they described the need for a new breed of "education manager" to carry the banner of quality improvement in education.

Changing Organizational Culture: Implementation Models for Internal Quality Assessment

Arguably the biggest effect of EQA has been the variety of IQA processes which have arisen to support it. Universities took different paths in inventing structures to facilitate institutional self-assessment. From this study, three distinct models emerged, but the full range of implementation activities to be found in Dutch universities may be richer and more varied yet. Some universities redirected the agenda of existing agencies of governance. Others superimposed new organizational units to take on self-evaluation tasks.. Still others embedded attention to internal quality in fundamentally different staffing patterns at the faculty level. All reveal a kinship with the notion of "quality by design," that "the improvement of quality does not come from inspection, or what in education might be termed assessment but from design -- from the continuous improvement of the underlying processes of education (Dill, 1992).

In the Dutch case, the promoters of change, heretofore unheralded central administrative bureaucrats or faculty administrators, often do not control the underlying processes of education, nor do they wield significant power with the academics who have direct impact on classroom processes. Hence, each has tended to emphasize elements of structure and process which can be initiated without confronting head-on historically sacrosanct areas of professorial autonomy. They have set out to "realign the faculty's thinking... [and to bring] about changes in the culture of the university" (Maassen & van Buchem, 1990). By effecting change in the organizational culture and structures which support the educational process, they began to alter the nature of the process itself. One institution started with the most basic of goals -- to adopt a uniform academic calendar for the entire university. That the quest for common structures to support teaching and learning needed to begin here illustrated in dramatic fashion the extent of the organizational anarchy in Dutch universities.

Some institutions have taken a pro-active "cattle prod" (PCP) approach. The University of Groningen is in this camp. It chose to manage the process of IQA by influencing existing structures rather than by building new ones. The strengths of their approach are evident at the very beginning and the very end of the quality assessment cycle, in what are called "evaluation plans" and in fairly extensive follow-up activities to external visitation.

A unit's evaluation plan is a kind of blueprint of what a department is going to do in the next five years to be ready for formal self-study and visitation (van Boetzelaer, 1993). It tends to prevent last minute unhappy surprises resulting from ignorance or neglect. Because the submission of the evaluation plan prompts prospective discussions with the university's executive board, central administrative authorities are reassured that the departments will be ready, that they will have been thinking about their goals and methods, and that they will have been gathering pertinent information along the way.

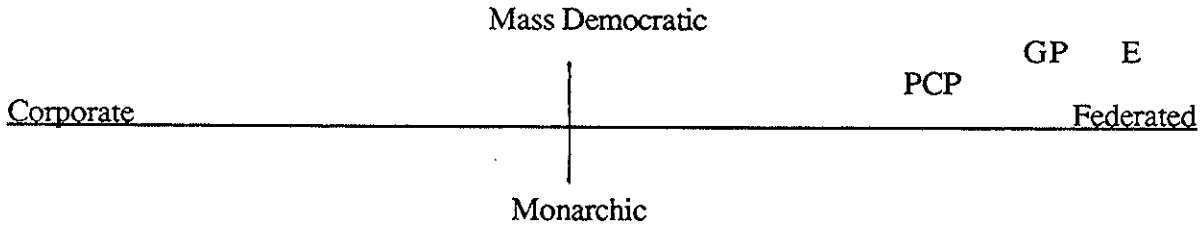
Groningen employs rather formal and elaborate follow-up activities in the wake of external visitation. The Department of Education, Research and Planning, which describes itself as "passive" in the assessment process itself but "active" in urging dialogue and follow-up, acts at a catalyst at several critical stages in promoting "passive utilization," i.e., talking about the reports and their implications at various levels in the institution (Frederiks et al, 1993). So many opportunities for discussion make it more difficult for the faculties to avoid developing action plans to address the concerns of the visiting committees. Ultimately, the faculty and the vice chancellor come to agreement over what course of corrective action is in order, and these proposed local responses are codified in the annual report of the university to the Ministry.

The University of Amsterdam takes a different tack, one in which new structures and "group process" (GP) consultants play important roles (Acherman et al, 1993). Three years ago a

new position was created: the "quality manager of education." The post carries no responsibility for the mechanics of the university's compliance with external mandates for quality assurance. The incumbent, a former high school principal, possesses an appreciation for the complexity of teaching and learning, a respect for the culture of the university, and sophisticated group process skills. Here the notion that "one size fits all" is rejected out of hand, as patient group work allows problem identification and possible solutions to emerge from the faculties themselves. Eventually, the quality manager becomes a fairly distant ringmaster, monitoring a collection of short and long term, custom-tailored projects occurring at various levels in the organization. She also develops in others the skills which will allow such processes to become self-sustaining, e.g., the creation of a center for teaching methods, curriculum development programs, and change agentry training. The most ambitious project, currently in a developmental stage, involves the creation of faculty-based "institutes of education." Basically, this new structure is superimposed on existing agencies of academic governance to serve the purpose of ongoing criticism about teaching, to promote conversations among instructional personnel within the same faculty but with divergent research interests, and to provide some general coordination of student services. An "institute" is simply another policy body; it requires a staff of administrators at the faculty level to implement its will. The obvious problem with this approach is the addition of another collection of committees to an already bloated and ponderous structure. It also generates escalating demand for this new breed of academic manager, and people with such skills and interests are in very short supply in the Netherlands. The obvious strength of the approach is its fundamental recognition of the federated nature of academic life and the necessity that the natural units become the locus for change in teaching and learning. At least one promising prototype is underway.

The University of Limburg at Maastricht is the best example of a fully evolved federated model in which the assessment of teaching and learning is truly "embedded" (E) in existing faculty structures. A young, specialized university, one of a kind and totally unlike the broad, classical universities so far discussed, its method is rooted in its commitment to problem-based learning, a philosophy which permeates the entire institution and tends to dictate much about its governance structures and academic culture. Pedagogy was the centerpiece of Maastricht's institutional mission long before educational effectiveness became a national priority. Maastricht's approach to quality assessment is to attach applied social science researchers to the various faculties. These individuals have regular teaching and research duties. The bulk of their "teaching" obligation is satisfied by overseeing and evaluating the quality of teaching and learning in the unit, and by assessing the effectiveness of their various evaluative instruments. The bulk of their research obligation is satisfied by publishing the results of this work, resulting in a substantial overlap between scholarly interests and applied research duties. If not entirely "one of the group," such personnel are at least "one with the group" in a deeper, more organic sense than any externally grafted research unit could be. This situation leads to sophisticated research designs, commonly embracing rigorous quantitative methodologies. Virtually all informants associated with other Dutch universities expressed suspicion and dislike for quantitative methods applied to education; Maastricht, in contrast, is a hot bed of number crunching. Given their problem-solving orientation, they need to devise assessment procedures which will measure instrumental goals. "Are the students better problem solvers?" becomes the most relevant question, and the answer is central to their professional lives. It is no more than a happy coincidence that it is also of interest in the Hague.

These models can be distinguished primarily by their placement along a continuum of sub-system autonomy. Here the three implementation models are displayed against the backdrop of Helsabeck's conceptual framework for college decision-making. The position on the vertical axis is a measure of participation in decision making and the position on the horizontal axis is a measure of centricity in decision-making (Helsabeck, 1973).



Given the uniformly egalitarian and autonomous character of Dutch universities, it comes as no surprise that all examples are clustered in the same quadrant, by any standards very democratic and very federated. American examples in contrast, would certainly tend more toward corporate and less toward mass-democratic: some with extremely strong chief executives might even tend toward the monarchic.

"Will taking Professor van Dijk's temperature every day improve his quality?": What Works?

The Dutch are a pragmatic people, not enamored of philosophical posturing or circumlocution. They want to cut to the chase. What works? How do serious, well-intentioned educators go about the business of making university education better? After six years of experience with external quality assessment, involving 242 experts making 163 committee visits with a collective investment of 70 years and $13 million, what do they have a right to expect and what do they have to show for their efforts (Vroeijenstijn, 1994b)?

There is no question that Dutch universities have become more productive and more efficient. They are doing more with less. Moreover, there is considerable anecdotal evidence that the culture of the faculties is changing. The institutions in this study all reported curricular changes in response to EQA. Almost certainly the heightened recognition of the need for more extensive student services is associated with having asked students to evaluate their university experiences. Published studies reveal that a lot of local discussion is being generated by the various IQA activities. They also suggest that EQA prompts discussion at higher levels in the organization, and is more likely to lead to tangible changes (Frederiks, 1993; Vroeijenstijn and Acherman, 1990). Finally, there is a general feeling of good will about the process of EQA and IQA, high levels of satisfaction and pride in the system, and enormous interest in it from other European countries. But in truth, there is precious little "hard data" to support these impressions, and frequently little reason to attribute the desirable results to the quality assessment program. In fact, several independent events may well be masking and/or neutralizing the effect of quality initiatives, including changes in the expected time-to-degree, student financial aid, and unemployment. Very recently, on the heels of the formation of a new government, Dutch higher education's prospects took a sudden, depressing turn with new rumblings of an upcoming budget-cut of 1.8 billion NLG (about $1 billion) related to yet another proposed reduction in the normal length of study for the first degree.

These are not problems which admit to quick fixes, and the program of EQA is itself a "work in progress." It is clear that the second round of visits will be different -- yielding reports that are more structured, more explicit, and better able to stand up to comparative analysis (Acherman et al, 1993; Vroeijenstijn, 1994b). The impact of the institutionalization and bureaucratization of the EQA program also needs to be addressed. So far it has enjoyed the novelty of youth; when it becomes an unavoidable, cyclical chore chewing up valuable time, it may lose some of its luster. The program will almost inevitably see a gradual shift toward more quantification. To date, there has been almost no reliance on quantitative indicators, and almost no focus on "learning outcomes." Finally, the potential impact of European unity on the distinctiveness of national systems of higher education remains to be seen; this in turn could have a profound influence on the goals, scope and shape of EQA programs.

Conclusions and Speculations: Little Lessons from the Dutch

Some important lessons which American higher education has taken for granted the Dutch have taken to heart. So secure are we in our tradition of independence for higher education that we have taken autonomy for granted. Nor have we paid much more than lip service to the idea of self-improvement. When embraced, "assessment" has been applauded more for its strategic value in keeping at bay relentless demands for accountability than for its capacity to genuinely enlighten and reform. For decades, we have been quite content to allow accreditation to languish as a toothless tiger, failing to recognize the important protection to the scholarly life provided by viable non-governmental buffer agencies. Today American accreditation is on the ropes. Whether it will prevail in the face of increasing direct governmental intrusion remains to be seen. Peter Ewell, a savvy observer of the assessment scene, thinks its chances are no better than 50/50 (Ewell, 1994).

During the course of this study, events in America repeatedly demonstrated the relevance of the Dutch case. At the end of 1993 the umbrella organization for regional accreditation, the Council on Postsecondary Accreditation (COPA), self-destructed. In January 1994 the Department of Education issued proposed regulations by which to enforce the Higher Education Act amendments of 1992. These regulations dictated the terms of governmental recognition of accrediting bodies, required twelve specific areas on which the accrediting bodies must have standards, imposed a federal "template" to define the content of many of these standards, and established onerous new watch-dog tasks relative to the monitoring of federal aid. They also established new bodies called SPREs (State Postsecondary Review Entities) which would review problem institutions referred by the Secretary of Education to determine if the institutions met statewide standards for continued eligibility to participate in federal financial aid programs. The SPREs were obliged to utilize "quantifiable baseline" standards in areas such as completion, retention and transfer rates. The release of the proposed regulations caused unprecedented concern and objection in academic circles, and prompted months of anxious uproar. When the dust settled with the release of the final regulations in late April, the most objectionable results seemed to have been averted. Some thought the crisis over, but most conceded that the autonomy of institutions and accreditation agencies had been eroded, that the SPREs were troubling new players on the regulatory scene, and that the relationship between American higher education and government was more unstable and unsettling than it had been in years. It is hard to escape the conclusion that Dutch university leaders demonstrated more foresight and strategic wisdom than their American counterparts in anticipating governmental clamor for accountability, in being pro-active with respect to it, and in constraining the role of the government in academic management and in the definition and assessment of educational quality.

Meanwhile American accreditation scrambles to reinvent itself. Articles in the Chronicle of Higher Education suggest radical redefinition such as segmentation not by region but by institutional type (Greenberg, 1994). Here too the Dutch case offers interesting variants. What if American regional accreditation were to incorporate some kind of disciplinary focus, and in the process capitalize on the powerful motivator of professional pride among members of the academic guilds? Would that provide a more potent incentive for self-improvement? What if we did something as simple as publishing the results of self-study and peer review efforts? What effect would that have on the conduct of the players, the content of the reports, and their significance within higher education and beyond? (Recently the National Policy Board of Higher Education Institutional Accreditation (NPB), a new group which banded together upon the death of COPA to try to rescue American accreditation, endorsed in principle the idea of public reporting.)

The Dutch case suggests some potential new roles for institutional researchers. When the advent of the PC dealt a critical blow to large, centralized, isolated, number-crunching IR office, the literature posited a number of liberating new models for the profession: research design coach, technical consultant, master up-loader and down-loader, cartographer of the database, etc. But did we ever envision for ourselves the role of "quality counselors," group process experts engaged to

help departments identify their problems and extract potential solutions? Should institutional researchers become as concerned about honing their group process skills as they are in mastering multi-variate analysis? Would American higher education be receptive to the role of "departmental researcher," a teacher/scholar in an academic unit whose professional loyalties were to that unit and whose fundamental responsibility was to monitor its progress in meeting its educational objectives? This also raises the question of whether IR people who are identified as agents of the administration can ever be effective players in the pursuit of educational quality.

Finally, the Dutch case invites us to confront our own provincialism. American educators rarely look abroad in search of solutions. We rarely even look for ideas beyond our own sector, never imagining that a university might have something to learn from a community college and vice versa. As this case demonstrates, the Dutch suffer no such affliction. They looked admiringly at other systems of self-regulation. They borrowed selectively. They built a version which at present is arguably the most vital example in the world, making use of lessons which we once taught, but somehow had forgotten.

Acknowledgments: I wish to thank the Dutch colleagues who were interviewed for this project for their patience, candor and generosity of spirit. I am especially grateful to J. Maurits van Boetzelaer and his staff at the Rijksuniversiteit Groningen, my home away from home. Finally, I am indebted to the Louis, Frances and Jeffrey Sachar Fund at Brandeis University and to the North East Association for Institutional Research for grant support of this project.

References and Related Readings

Adams, Charles S. (1993). The impact of the European Community on higher education in Ireland: A case study. Paper presented at the 18th annual meeting of the Association for the Study of Higher Education, Pittsburgh, Pennsylvania.

Altbach, Philip G., Boyer, Ernest L. & Whitelaw, Mary Jean (1994). The academic profession: An international perspective. New York: Carnegie Foundation for the Advancement of Teaching.

Acherman, Hans A., van Welie, Liesbeth A.A.M. & Laan, Carla T.M. (1993). Building on external quality assessment to achieve continuous improvement. In New Directions for Institutional Research, 78: 31-35. San Francisco: Jossey-Bass.

Boetzelaer, J. Maurits van (1993). University responses in Dutch higher education: The case of the University of Groningen. (from personal correspondence)

Boetzelaer, J. Maurits van & Verveld, Lambert (1990). Quality management in a Dutch university. Paper presented at the 12th EAIR Forum, Lyon, France.

Bresters, Dirk W., Kalkwijk, Jan P. Th. (1990). The role of the inspectorate of higher education. In Leo C.J. Goedegebuure, Peter A.M. Maassen & Don F. Westerheijden (Eds.) Peer review and performance indicators: quality assessment in British and Dutch higher education. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Centre for Educational Research and Innovation (1993). Education at a glance: OECD indicators. Paris, Organisation for Economic Co-operation and Development (OECD).

Dill, David D. (1992). Quality by design: Toward a framework for academic quality management. In John C. Smart (Ed.) Higher education: handbook of theory and research, vol. 8. New York: Agathon Press, Inc.

Ewell, Peter T. (1994). A new look at accreditation. In Assessment Update, vol. 6, no. 3. San Francisco: Jossey-Bass, Inc.

Frederiks, M.M.H., Westerheijden, D. F. & Weusthof, P.J.M. (1993). Self-evaluations and visiting committees: Effects of quality assessment in Dutch higher education. Paper presented by Westerheijden at the 18th annual meeting of the Association for the Study of Higher Education, Pittsburgh, Pennsylvania.

Goedegebuure, Leo C. J., Maassen, Peter A.M. & Westerheijden, Don F. (1990). Quality assessment in higher education. In Goedgebuure, Maassen & Westerheijden (Eds.) Peer review and performance indicators: quality assessment in British and Dutch higher education. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Greenberg, Milton (1994). A fresh look at accreditation. Chronicle of Higher Education, (Sept. 7), p. B1.

Guide for external program review (December 1990). Utrecht: Association of Universities in the Netherlands (VSNU). (English translation. Originally Gids voor de onderwijsvisitatie. May 1990)

Helsabeck, Robert E. (1973). The compound system: a conceptual framework for effective decisionmaking in colleges. Berkeley: University of California.

IPR-EE Committee (1992). International programme review electrical engineering: Report of the international visiting committee. Utrecht: Association of Universities in the Netherlands (VSNU)

Kalkwijk, Jan P. Th. (1992). Quality assurance in higher education in the Netherlands. Paper presented at the University of Stellenbosch, South Africa.

Kells, H.R. (1992). Self-regulation in higher education: a multi-national perspective on collaborative systems of quality assurance and control. London and Philadelphia: Jessica Kingsley.

Lentz, B., Manders, T., & Kalkwijk, J. (1993). Effects of external quality assessment on Dutch universities. Paper presented at the Congress of Quality Assurance in a Changing World, Montreal, Canada.

Maassen, Peter A.M., Goedegebuure, Leo C.J. & Westerheijden, Don F. (1992). Social and political conditions for the changing higher educational structures in the Netherlands. In Glaudius Gellert (ed.), Higher education in Europe. London and Philadelphia: Jessica Kingsley.

Maassen, Peter A.M. & van Buchem, Michiel T.E. (1990). Turning problems into opportunities: The University of Twente. In New Directions for Institutional Research, 67: 55-68. San Francisco: Jossey-Bass.

Maassen, Peter A.M. & van Vught, Frans A. (1989). Is government really stepping back? In Maassen & van Vught (Eds.) Dutch higher education in transition: policy issues in higher education in the Netherlands. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Maassen Peter A.M. & Weusthof, Peter J.M. (1989). Quality Assessmentin Dutch Higher Education: A Big Leap Forward or a Trojan Horse? In Maassen & van Vught (Eds.) Dutch Higher Education in Transition: Policy Issues in Higher Education in the Netherlands. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Netherlands Higher Education and Research Act. (1993). The Hague: Ministry of Education and Science.

Paardekooper, Cees M.M. & Spee, Arnold A.J. (1990). A Government Perspective on Quality Assessment in Dutch Higher Education. In Leo C.J. Goedegebuure, Peter A.M. Maassen & Don F. Westerheijden (Eds.) Peer Review and Performance Indicators: Quality Assessment in British and Dutch Higher Education. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Teichler, Ulrich (1989). Government and Curriculum Innovations in the Netherlands. In F.A. van Vught (Ed.) Governmental Strategies and Innovation in Higher Education. London: Jessica Kingsley.

Vught, Frans A. van (1991). The Netherlands: from corrective to facultative governmental policies. In Neave, Guy & van Vught, Frans A. (Eds.) Prometheus bound: the changing relationship between government and higher education in western Europe. New York: Pergamon Press.

Vroeijenstijn, Ton I. & Acherman, Hans (1990). Control oriented versus improvement oriented quality assessment. In Leo C.J. Goedegebuure, Maassen, Peter A.M. & Westerheijden, Don F. (Eds.) Peer review and performance indicators: quality assessment in British and Dutch higher education. Enschede, The Netherlands: Center for Higher Education Policy Studies (CHEPS).

Vroeijenstijn, A. I. (1993). Five Years (1988-1993) Experiences with external quality assessment in Dutch universities. (Based on Improvement and accountability: navigating between Scylla and Charybdis - guide for external quality assessment in higher education, in press. London and Philadelphia: Jessica Kingsley.

Vroeijenstijn, Ton I. (1990). Self-regulation based on self-assessment and peer review: experiences in Dutch universities with external quality assessment. In Proceedings of the 12th EAIR Forum: Quality and communication for improvement. Utrecht: EAIR, 1992.

Vroeijenstijn. A. I. (1994a). Some reflections on external quality assessment in higher education: conditions and basic principles. Based on Improvement and accountability: navigating between Scylla and Charybdis - guide for external quality assessment in higher education, in press. London and Philadelphia: Jessica Kingsley.

Vroeijenstijn, Ton I. (1994b) Untitled handout from personal interview.

Chicken, Egg or Hatchery: Identity Before Image

Ann E. Preston
North Dakota State University

John Biter
St. Bonaventure University

Introduction

Like many institutions in this era of declining enrollment, St. Bonaventure University is struggling to define or redefine itself. As a part of that process, it has adopted a new logo and will develop a graphic identity. Yet a logo or graphic identity is not a self definition. It relates more closely to the concept of image. Image is the way an organization is perceived by its publics. A graphic identity is the visual expression of a corporate identity program. A corporate identity is the fundamental style, quality, character and personality of an organization and the forces that define, motivate and embody it (Downey, 1986-87).

Corporate culture, or its shared values, beliefs and behavior, flow from the corporate identity. Thus, conscious control of identity is central to steering the organization toward specific goals. Knowledge and control of identity facilitates precise positioning and the creation of a corporate image.

Downey (1986-87) describes determining identity as an "open-ended, investigative, analytical process in which experienced identity consultants probe the company, the marketplace and the competitive environment" by examining all archival material, including communication materials on the company and its industries. Confidential interviews with a sampling of internal and external publics follows the review of documents.

Methodology

The strongest reflection of an institution's identity and image may be found in the documents with which it presents itself to its various publics. Primary publics for universities include students, prospective students and the parents of both. Significant documents prepared for communicating with those publics include viewbooks and college catalogs. Therefore, catalogs and viewbooks from each of the last four years, coinciding with two changes in the university presidency and a financial crisis in the institution, were selected for examination. Opinion leaders among the three partners in service to the students of St. Bonaventure administration, Friary and faculty were identified for confidential interviews that would facilitate the comparison of the snapshot of the university provided by examination of its documents with individual visions of the institution.

With the exception of specific course descriptions, all text and photographs in each document were coded for the presence of value utterances and for the nature of values projected. Note was taken of type faces and spot color usage, as well. Coding was done by a paid and trained coder with attributes similar to those of St. Bonaventure's prospective students and by an experienced quantitative researcher. Divergent codings were negotiated to agreement. Descriptive statistics and crosstabulations of value utterances were computed using SPSS-PC+.

Interviews were conducted by a different researcher unbiased by the nature of values being identified in the text. Interestingly, although most individuals interviewed could articulate their vision of the future of the institution, few were willing to provide a description of it in the present context. Sufficient information was provided, however, to suggest a difference between the institution described in the catalogs and viewbooks and the institution that occupied opinion leaders' hopes and dreams.

Findings and Discussion

A total of 2,222 value utterances were found in viewbooks and catalogs published between 1990 and 1993. The number of value utterances was evenly distributed across the four years of study. Despite their small size, viewbooks accounted for approximately 26% of the utterances.

Typography

Type Faces. Typefaces or fonts found in the viewbooks and catalogs included variations on Optima, New Century Schoolbook, Helvetica, Garamond and Futura. Optima, by far the most common, used in 51.5% of body copy and headlines, is a sans serifed typeface projecting beauty, grace and elegance. Although a member of the "Contemporary" type family, the delicate vertical stress recalls more traditional typefaces.

Helvetica, also a sans serifed Contemporary type face, appeared in 18% of body copy and headlines. Helvetica is described as clean, crisp, handsome and modern. It is distinguished from Optima by its lack of stress. The similar Futura, was found in 15% of headlines. It is important to note that nearly 70% of type used is sans serifed, which, despite its beauty, has been found to be unfriendly to readers. Serifs serve to assist horizontal eye movement. Without them, greater effort must be exerted to prevent the eye from wandering in its natural zig zag pattern.

Serifed type faces used included New Century Schoolbook with 12% of body copy, and Garamond with 11% of body copy and 6% of headlines. Garamond is described as unpredictable, beautiful, readable and narrow (originally to save paper). New Century Schoolbook is a neutral, inviting, readable font.

There is little evidence that type faces were selected on bases other than their aesthetic appeal, as crosstabulations reveal inconsistencies of message, inconsistencies across time and inconsistencies across the two types of publications. In 1990 both the viewbooks and catalogs use the difficult to read sans serifed type faces. In 1991, 1992 and 1993 both serifed and sans serifed body types are used. In 1991 and 1993 sans serifed type is used in the copy heavy catalogs. In 1992 the use of serifs is reversed.

Headline fonts were not consistent from year to year, though they often matched the body type used. However, it is common practice to use a headline font different from the body font in order to encourage deeper cognitive processing and allow the headline to serve as an advance organizer for the material to follow.

Interviews with campus opinion leaders suggest that the history and tradition of St. Bonaventure are among its greatest assets. Interviewees expressed a need to "recapture the past." Yet the fonts in the foundation documents analyzed here suggest a break with the past, an absence of the history that would be suggested by a Roman type face.

Justification. More than 75% of text was fully justified. While full justification presents a tidy, professional appearance, it also invokes a sense of linearity, rigidity and formality. It is less friendly to the eye than a ragged right presentation of text. Justified text was found in the catalogs,

while the friendlier ragged right text dominated the viewbooks. No change was detected from one year to the next.

To project the open and loving environment for "average" students, the informal ragged right presentation of text would be indicated.

Type Size and Column Width. Catalogs tended to use 9 point type, while viewbooks used primarily 10 point type. The general rule in advertising is to use 10 point or larger type for reader friendliness. No change was detected from one year to the next.

The most comfortable column width accommodates between one and two alphabets of the type style and size chosen. Only 21.5% of utterances were found in comfortable column widths, the remainder found in columns too wide for comfortable reading (18.5%) or mixed comfortable and wide (51.5%). The 1992 catalog was found to be particularly unfriendly, with all text that did not describe courses set in full page width columns of approximately 70 characters.

Again, to reflect the clientele identified as St. Bonaventure's market niche through interviews with campus opinion leaders, the column width should be narrowed for ease of reading.

Photographs and Colors

Photographs. A total of 188 value utterances were projected by photographs. Table 1 presents values accounting for 1% or more of value utterances found in the photographs.

Table 1. Value by Utterance in Photographs

Value	Frequency	Percent of Values in Photos
Compassionate Service	34	19.0
Contemplation	7	3.9
Love	7	3.9
Joy	42	23.5
Peace	6	14.6
Respect for All	6	3.4
Academic Excellence	11	6.1
Athletics	15	8.5
Beauty	17	9.5
Community	14	7.8
Science	18	10.1
Success	3	1.7

As a review of Tables 1, 2 and 3 reveals, St. Bonaventure's documents have internal inconsistencies. Compassionate Service makes up 19% of value utterances in photographs and 11.7 in text. Joy drops from 23.5% in photos to 2.5% in text. Peace drops from 14.6 to 1.8. Athletics drops from 8.5% in photographs to 3.6% in text, and Beauty from 9.3% to 2.7% and Community from 7.8% to 4.4%. Science is the only academic discipline represented pictorially, yet text reference fail to reach 1% of the total value utterance. The percentage of value utterances in text projecting the values of Respect for the Dignity of All and Academic Excellence represent more than double the percentage of photo value utterances.

These inconsistencies are repeated throughout the interpersonal interviews. Only one interviewee mentions athletics in a description of his ideal vision of St. Bonaventure. Yet Athletics is a dominant value in photographs and noteworthy among text utterances. None of the interviewees identifies science within his or her vision for the university. Academic mediocrity is a

more accurate description of visions for the university than academic excellence. Although students are described as bright, the market niche emerging through the interviews is of "'B' students" with "not always the highest SAT or GPA." An institutional strength is its ability to "nurture" the "underachiever."

Colors. Bonaventure's school colors are brown and white. Those colors were represented in each of the documents examined. Men associate the color brown with leather and wood, while women have been found to associate it with leather and fur. Although rarely identified as a "favorite" color, brown is a design color considered to have no inherent weaknesses. In western society, white is associated with purity and truth. In the Orient it is associated with mourning.

Red and blue were also found regularly as accent colors. In addition to capturing the eye, red represents passion, zeal, happiness and a carefree nature. Blue suggests fidelity, sobriety, passivity and fear. It activates schema for the sky, water and ice.

Values

Among the 2,222 value utterances coded, 49 identifiable values were repeated, plus occasional "other" values. They included the Franciscan values of Compassionate Service, Contemplation, Love, Joy, Peace and the Respect for the Dignity of All. Text was also coded for the direct converse of Franciscan values.

Franciscan Values. Franciscan values accounted for 37.2% of value utterances and their direct converse accounted for 12.7% of value utterances found in the catalogs and viewbooks. Compassionate Service dominated not only the Franciscan Value set, but, with the exception of academic excellence, the remaining value utterances as well. Table 2 presents the Franciscan values represented among the value utterances found in the 1990-94 catalogs and viewbooks.

Table 2. Franciscan Values by Utterance

Value	Frequency	Percent
Compassionate Service	259	11.7
Converse of Service	22	1.0
Contemplation	71	3.2
Love	19	0.9
Joy	55	2.5
Peace	41	1.8
Converse Peace	203	9.1
Respect for All	160	7.2
Converse Respect	57	2.6

Dramatic among changes in Franciscan values was a severe decline in representations of Compassionate Service from 14.4% of value utterances in 1990 to approximately 10% of value utterances in 1991. Contemplation increased slightly from 2.9% in 1990-91 to 3.9% in 1992 and 3.2% in 1993. Love was not present in 1990, but gradually increased to 2.3% of value utterances in 1993. Joy dropped from 3% of utterances in 1990, 1991, 1992 to 1.1% in 1993. Although Peace hovered near 2% of utterances throughout the four years examined, the Converse of Peace accounted for 9% of utterances. An identity conflict in terms of Respect for the Dignity of All diminished from 1990, when 6.7% of utterances revealed Respect and 3.2% its converse. By 1993 Respect utterances increased to 7.6% of all utterances and its converse decreased to 1.9%.

Opinion leaders interviewed, without exception, said that Franciscanism should be the unique selling proposition of the university. Interestingly, respect among the partners in the university was singled out as an area in need of improvement, just as tabulation of utterances

suggests discord on that element. A particularly articulate interviewee described his vision as one in which "all components will have service to other people," including Friars, faculty and students.

Significant among Franciscan values is Joy, which revealed a decline over the four years. Interestingly, each of the interviewees referred to lack of collegiality and trust among faculty and administrators. That strife is reflected in a decline in value utterances projecting Joy and somewhat in the surprising number of utterances reflecting the Converse of Peace. As one respondent described the university as a whole and as a community as "beautiful but run down ... (due to) lack of maintenance."

Other Values. Value utterances making up more than .5% of utterances and not directly codable as Franciscan values or their converse are found in Table 3. Through factor analysis some of these factors may be found to load with Franciscan values or their converse. The dominant value, Academic Excellence (17.3%), for example, might be found to be a converse of respect for the dignity of all.

Table 3. Other Values by Utterance

Value	Frequency	Percent
Academic Excellence	384	17.3
Beauty	61	2.7
Communication	26	1.2
Community	97	4.4
Confidence	13	0.6
Decisiveness	16	0.7
Family	54	2.4
Fine Arts/Culture	50	2.3
Goodness	13	0.6
Honesty/Truth	19	0.9
Leadership	84	3.8
Liberal Arts	62	2.8
Management	20	0.9
Personal Growth	48	2.2
Philanthropy	21	0.9
Athletics/Physical	79	3.6
Problem Solving	16	0.7
Resourcefulness	10	0.5
Responsibility	17	0.8
Social	40	1.8
Spiritual	44	2.0
Success	34	1.5

Outstanding changes observed include a drop in utterances reflecting Academic Excellence from 18.4% in 1990 to 14.8% in 1991 and 16.8% in 1992. In 1993 Academic Excellence climbed back to 19.2%. A small but stable increase was observed in Community from 3.6% to 4.6%. Family at .7% in 1990 increased in 1991 to 3% and stayed there. Fine arts and culture present in 3.0% 1990-92 disappeared entirely in 1993. Liberal arts hovered at 3% with the exception of a burst to 6% in 1992. Although not included in the table, Science appeared at 1.6% in 1990 and dropped to .5%, despite the fact that Science was the only discipline-related value represented in photographs. 1992 also provided a stronger Leadership representation at 6% than other years at approximately 3%. Athletic representations enjoyed a dramatic boost from 1.6% in 1990 to 4.3%, 4.1% and 4.2% in subsequent years. Social utterances dropped from 2.7% in 1990 to .5% in 1993. Spiritual utterances increased from 1.4% to 4.2% in 1993.

Crosstabulation of value by publication type revealed some schizophrenia. Compared with catalogs, viewbooks emphasized Compassionate Service (10.6%/14.6%), Joy (1.5%/5.4%), Beauty (1.5%/6.4%), Community (3.5%/6.8%), Family (1.6%/4.7%), Athletics (2.0%/8.0%), Spirituality (1.6%/3.0%) and Success (.1%/5.7%). Compared with catalogs, viewbooks de-emphasized Contemplation (3.8/1.6%), Converse of Peace (9.8/7.1%), Academic Excellence (20.9%/6.9%), Leadership (4.9%/.5%) and Management (1.2%/0%).

Campus leaders hold a vision of an institution that develops the student as a whole person, "holistic, or wholeness, is holiness." Although analysis by utterance fragments the findings, some reflection of that goal can be found by combining the values that represent personal qualities like Confidence, Decisiveness and Goodness for a total of 12.8% of utterances.

Spirituality as an element of holistic development receives short shrift. As one interviewee noted, "Campus Ministry is a stepchild to academic." Academic Excellence references rank at a high 17.3% compared with Spiritual utterances at only 2.0%.

Conclusions

Review of documents and discussion with opinion leaders reveals not only inconsistency between desired identity and image, but conflicting images. Redesign of publications should be the next step in St. Bonaventure's development of a graphic identity. A standardized set of display and body text type faces should be chosen using the three criteria of cognitive efficiency, message consistency and aesthetic appeal. Torino is a Roman type face suggesting dignity, stability, history, tradition and integrity that would meet these criteria for body text. A stronger sans serifed font like Helvetica would be appropriate for headlines with occasional use of Gothic and Old German fonts to emphasize the religious traditions of the university.

Photo selection will require tremendous care. Limited racial and gender diversity among faculty and students caused some photographs to be coded as lacking Respect for the Dignity of All. Yet contrived efforts to include diverse groups in photographs may misrepresent the nature of the university.

Affirmative efforts can and should be made to include representations of the arts in photo selections, perhaps at the expense of science and athletics. Activities involving the production of music, art and drama present photo opportunities in the way that a literature class does not and would more accurately represent the institution.

Again, as St. Bonaventure University re-invents and re-presents itself, obsessive attention must be paid to each descriptor phrase. First, the multiple values presented in the sales documents should be collapsed. The unrivaled beauty of the campus should be described, but it would strengthen the Franciscan identity of the institution if it were described as inviting contemplation and as a source of spiritual peace. Communication and community can both be discussed in terms of respect for the dignity of all. Some representations of academic excellence might be reframed as development of each individual to his or her fullest potential, thus again suggesting respect for the dignity of all rather than a sense of elitism.

Suggestions for Further Research. The research is ongoing, and examination of internal documents is expected to reveal greater evidence of a trend suggested by the decline in utterances projecting Compassionate Service. As the language of business and the technologies of assessment have pervaded universities, many individuals have lost sight of teaching as a helping profession. Value added products have replaced students. One cannot serve a product except for a meal. The habit of reflective, or contemplative service, is in danger of being lost as a result of just such documents as this.

Sources

Bins, B. (1989). *Better Type*. New York: Watson-Guptill Publications

Conover, T.E. (1985). *Graphic Communications Today*. St. Paul, MN: West Publishing Company.

Downey, S.M (Winter 1986-87). The relationship between corporate culture and corporate identity. *Public Relations Quarterly*, pp. 7-12.

Nelson, R.P. (1978). *Publication Design*. Dubuque, IA: W.C. Brown Publishers.

Nelson, R.P. (1989). *The Design of Advertising*. Dubuque, IA: W.C. Brown Publishers.
Craig, C. (1971). *Designing With Type*. New York: Watson-Guptill.

Reengineering the Academy: Is there a Role for Institutional Research?

Merrill R. Pritchett
Director, Institutional Research
University of Baltimore

The latest management technique to migrate from the corporate world to higher education is reengineering. Sometimes known as business process reengineering or business process redesign, reengineering has been cropping up on American college and university campuses for the last couple of years. Schools from California to New York, public and private, and at least one entire state-wide university system are busily engaged in it. What is reengineering? Why are campuses doing it? What are some of the results? What role might Institutional Research play in this new movement to change higher education?

What is Reengineering?

Michael Hammer and James Champy are the leading gurus of reengineering in business. In their book, Reengineering the Corporation: A Manifesto for Business Revolution, they define reengineering as "starting over," "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance , such as cost, quality service and speed"(Hammer p 32).

Four Little Words

The word "fundamental" in their definition of reengineering means going back to such basic questions as asking why do we do what we do. Before one can improve one must ask what is the purpose of the process we want to change. In institutional research we are very concerned with the accuracy of the demographic data that we collect from students and all of us work hard to improve this process. Hammer would argue that we should first ask why we collect this data. Is it because we are required to? The question then becomes why are we required to collect the data... so that state and federal government will have the data? Perhaps the question should be, if we were not required to report the data would we still collect it... all of it or just some of it? Asking these kinds of questions should lead us to realize that we collect demographic data on students for many reasons besides mandatory reporting, not the least of which is compiling baseline data about the institution's students for better management of the campus. How could one conduct student surveys, make marketing plans, conduct enrollment management without knowing the demographic characteristics of our students? First one must define the purpose of the process you want to reengineer.

The second key word is "radical," as in "radical redesign." Reengineering is not superficial change, it is not rearranging the deck chairs on the Titanic. Radical means asking how we reinvent the process to accomplish our purpose while dramatically improving cost, quality, service and speed. Do we really have to collect data from all of our students? What is wrong with sampling? Could not the federal government get the data it needs by using a sample as the Census Bureau would like to do with the ten-year census? Couldn't they just sample some schools? What if they contacted individual students through the mail, phone or internet? Would that be cheaper? Would the information be as valid? Would it be faster? Would it improve service? To get answers one must first ask the questions. Reengineering means "disregarding all existing structures and procedures and inventing complete new ways of accomplishing work"(Hammer p. 33).

Dramatic is the third key word in Hammer and Champy's definition. "Reengineering should be brought in only when a need exists for heavy blasting" (Hammer p.33). The goal is to hit a home run, not get a base hit (NACUBO p. 6). Reengineering is about radically changing the fundamental, core process of the institution. We might call it reengineering when we change the way paper mail is picked up and delivered on campus, but it wouldn't be. Neither would eliminating all paper mail by substituting imaging and e-mail, unless distributing mail was a core or fundamental process of the school. Does our institution exist to distribute mail? On most campuses the fundamental or core processes are teaching, research and public service. (Porter) Redesigning the way we deliver instruction, going from a faculty member delivering a lecture to physically present students to students learning at their convenience over the information superhighway at their home or office by a multimedia presentation prepared by that same faculty members, that would be reengineering.

"Process" is the last of the key words but it is the most important and most difficult to deal with. When thinking of change most of us focus on the job, the person or the organizational structure as the thing that needs improvement. Reengineering as conceived by Hammer and Champy requires a broader point of view. We need to take a holistic look at the work that needs to be done. We need to look at the system and redesign it to improve cost, quality, service or speed no matter what changes are required in the job, the organizational structure or the tasks required of the individual.

Many of our campuses are using or are about to use voice response technology for registration. If the registration of students is a core process of the institution, the redesign of the registration to improve student service, save money and speed up the process would be reengineering. To best use the technology, to go for the home run, one should redo the entire registration process. This means that the jobs of registration clerks change. Instead of standing at the counter handing out paper they become a resource person to deal with problems that voice response can't handle. This requires different tasks, different training, and maybe in some cases a different person if that clerk can't make the shift in method of operations required. Reengineering registration also means that academic folks have to realize that advising and registration are not the same thing and that they do not have to take place at the same time or in the same way. In reengineering, changing the process means that the job descriptions, tasks and organizational structure give way to improving quality, service, speed and reducing costs. In theory and in practice we adopt voice response without altering the process. That is not reengineering.

Customer Driven

Another key element of reengineering is the customer. Though it doesn't appear in Hammer and Champy's definition it is implicit throughout their writing. Who do we try to improve service for: The customer. Who do we try to lower the cost for? The customer. Who do we try speed up the process for? The customer. Who do we improve quality for? The customer. Customer is one of those words that many of us in higher education do not like. It is somehow demeaning to say we have customers. Higher education has students, not customers. We do public service, but we don't have clients. We conduct research to discover or create new knowledge, not to satisfy the criteria of a granting authority. It some how threatens the autonomy of higher education, its independence, to talk of customers. Without customers there can be no reengineering. Truly, one of the saddest statements to hear is that "we don't have customers." It is the feedback from customers, internal or external, that lets an institution know that it needs to reengineer. It is feedback from customers that lets a campus know if reengineering has succeeded.

Information Technology

Information technology also plays a key role in reengineering. It is in fact often over-emphasized to the point that we think reengineering means any implementation of information technology in administrative process. Some even think that is the purpose of reengineering, to substitute information technology for costly, inefficient and non-cooperative human beings. That is putting the cart before the horse, discovering some bright and shining technology like client server computing and then looking for a problem to which it is the answer. Information technology must be the means to the end, not the end itself. Almost all of the gurus agree that the reengineering must come first, then the information technology. The power of information technology can allow or make possible the radical redesign of core processes (Dolence p.2) but the reengineering must take place first. One reengineers keeping in mind the technology but one does not reengineer simply to use the technology (Dibble and Glenn). Technology must help the reengineered process deliver better service, at higher quality, at greater speed or at lower cost.

Data Intensive

There is a final characteristic of reengineering, one that should warm the cockles of an institutional researcher's heart: it is data intensive (NACUBO p.5). How does one identify processes to reengineer? Through customer satisfaction surveys. For any process to be reengineered there must be baseline data on volume, cost, and cycle time. The process must be flow-charted, so that each step in the process can be evaluated to determine whether or not it adds value to the process (NACUBO p.23). Ideally the process would be benchmarked, comparing it with other processes inside or outside the institution to see what level of performance is possible (Dibble, and Glenn). Could this be another full employment act for institutional research?

What Reengineering is Not

The above discussion of what reengineering is also suggests what reengineering is not. Reengineering is not TQM, though they share an emphasis on improving quality to increase customer satisfaction. TQM takes the existing process and relies on making incremental changes for continual improvement (Hammer p.49). In TQM the batter gets a walk, steals second and then comes in to home plate on a sacrifice fly. No home runs with TQM; they are not desirable nor are they really possible. TQM and reengineering come from philosophies that are poles apart, one yin the other yang. Nonetheless one could argue that first a process should be reengineered and then TQM should be used to keep the improvement going.

Reengineering is also not cheap, nor is it quick (Dibble and Glenn). The reasons most often given for doing reengineering are to cut costs and save money. The process itself is not cheap in either work hours or the technology to implement its solutions. Reengineering in fact may save nothing at all, but it should result in better service, quality, speed and customer satisfaction. Any reengineering project that simply saves money isn't reengineering at all; it may be restructuring, downsizing or rightsizing but it isn't reengineering.

Neither is reengineering easy if it is done right (Dibble and Glenn). Starting over, fundamental rethinking and radical redesign; and achieving dramatic improvements in cost, service quality and speed are not easily accomplished. Becoming customer oriented, to say nothing of customer driven, may be impossible for many individuals and institutions. And, lets face it in all too many places, including institutions of higher education, decisions drive the data, rather than driving the decisions. And who can resist the siren call of the latest technology; if only we could find some way to justify acquiring "cutting edge technology."

Business Process Reengineering: Not Reengineering

If reengineering is hard, if it is so daunting a task, why do it? My research has led me to believe that very few, inside or outside the business world, really do. I have seen examples of restructuring, downsizing, institutional reorganization but not reengineering in higher education. Maybe it is impossible, as Porter writes in his devastating critique, to do reengineering in higher education. Porter argues that institutions of higher education can't do reengineering as Hammer and Champy define it. At best, we can only do something that is much more limited. We can redesign administrative procedures (i.e. registration) but we can't start over and do fundamental rethinking and radical redesign because that would require a change in the culture and the governance structure of the university. No one is hitting any home runs.

Maybe doubles or even triples are possible. Even if we can't do reengineering in the purest sense maybe we can use reengineering methods to improve service, quality, speed and cost. No one would seriously propose that a campus give up teaching the process but perhaps the subprocess of registration could be improved by reengineering so that learning would be enhanced; that would be business process reengineering or business process redesign. In fact that is what most of the colleges and universities are doing in the name of reengineering: business process redesign, improvement of a sub process in hopes that it will improve the core process of which it is a part.

Business Process Reengineering at Work

Examples of business process reengineering abound. NACUBO's book, Business Process Redesign for Higher Education has six excellent case studies on reengineering procurement, managing facilities, admitting undergraduate students, creating a master course schedule, updating employee personnel records and disbursing financial aid awards. Dibble and Glenn in their seminar have two very powerful simulations on admissions and transfer credit evaluations. CAUSE has a library full of articles and documents dealing with reengineering that can be accessed by listerv or gopher. All of these are examples of reengineering administrative processes. Reengineering academic processes is largely in the discussion phase; an excellent dialogue of that possibility is contained in CAUSE Professional Paper # 10, edited by Robert Heterick: Reengineering Teaching and Learning in Higher Education: Sheltered Groves, Camelot, Windmills and Malls. Also relevant is a series of articles written by Carol Twigg of SUNY Empire State that have been appearing in recent issues of Educom Review.

Institutional Research and Business Process Reengineering

I believe I.R. should play a key role in business process reengineering (BPR). As a data intensive process it is obvious that I.R. will be a major source of existing or new data needed for the effort. We should do more than that, much more than that. I believe that I.R. should be in on the ground floor, an I.R. person should be on the committee that directs the BPR effort. This is the group that identifies targets for reengineering, designates the people to carry out the BPR and then evaluate the results. I.R. should be on the lead committee for a couple of reasons. First, BPR relies on accurately measuring the level of customer satisfaction with the existing process. This is survey research and unless done correctly it could doom BPR. Some one who knows the difference between a random and grab sample, someone who knows about statistical reliability and validity must be part of the group that decides what process is to be reengineered; that is, if the purpose of BPR is to improve service for the customer.

Secondly I.R. must be on the lead group to make sure that in reengineering a particular administrative process the larger system is not weakened. Ignoring the larger system while

reengineering a sub process is known as suboptimization (Markus). Suboptimization occurs when one narrowly focuses on one administrative subprocesses while downplaying or ignoring its connections to other processes or its relationship to the whole system. For instance admission of students is a process that could easily be reengineered, giving better service to students while at the same time degrading the system overall. Optimally the admissions process could be reengineered so that its only concern is the admit decision. Wouldn't admission be much faster, give better service to students and cost less if the admissions office did not have to collect all that demographic data from students on their sex, race, and age? "We don't need to know this stuff to admit students. Why should we collect? It is I.R. data. Let them collect it." This attitude, of course, overlooks that fact that this data is also needed for marketing, and enrollment management as well mandated state and federal reporting. I.R. should bring to bear its broader outlook on the university as a whole to the BPR process. Somebody has to look out for the flow of data throughout the entire institution. Who else but institutional research?

Lastly, I.R. should be on the BPR group because of the importance of the evaluation process. A common error of BPR is failure to follow up on the reengineered process, to see if it is still serving the customer better, to see if it is still delivering better quality and to see if it is still faster. Though this can be a criticism of most efforts to make improvements, reengineering, unlike TQM, is particularly susceptible to this malady. TQM is built on the axiom that the commitment to improving quality never ends, that there is no stopping point where one finally has enough quality. Reengineering or BPR doesn't address the need for continual improvement. It assumes, naively I think, that if the right process for reengineering is identified, if the proper procedure is followed and if the tools of reengineering are used then a near perfect and stable process will emerge. The unspoken assumption is that if reengineering or BPR is done right it won't have to be done again. A natural hubris underlies this idea but it is also understandable if one remembers how much time, effort and dollars are invested in reengineering. I.R. should be on the BPR committee to remind everyone that in today's world the only constant is change; what is perfect today may be fatally flawed next year.

Is Reengineering simply a Fad ?

In closing let me suggest that reengineering is more than a fad, the management technique of the month. Colleges and universities today are under tremendous pressures to change the way they operate. The recession of the early 1990's left most institutions financially weaker. For public institutions there is little hope of a return to the more prosperous times of the 1980's because even with a recovery the competing needs of prisons, welfare, and K to 12 schools seem to be getting more legislative attention. Private schools are tuition-dependent and the discounting of tuition through financial aid is a time bomb ticking away, ticking... The need to cut cost is real for everyone and business process reengineering advocates promise to do just that.

The cry for accountability won't go away either. Colleges and universities are continually asked to defend what they do and how well they do it. Legislatures reflecting widely held opinions are scrutinizing institutions as never before and without any let up in sight. We should reengineer, so its advocates argue, because it will demonstrate how business-like we are. Colleges and universities won't be called for inefficiency and ineffectiveness if they reengineer their administrative process. Whether being more "business-like" will satisfy the legislative and other critics is subject to question.

Nor will the rising consumerism from students and parents be expected to give way. Business process reengineering will cut cost, save money and thus keep down tuition increases. Can enough be saved to give college and universities the funds they need to improve existing programs and start new ones? How much fat is there to cut?

Reengineering can result in real improvements in quality, service, speed and cost, but it can't solve many of the pressing problems of higher education. Reengineering could make scheduling classes easier but it can't bring about the three year B.A. or B.S. that many are calling for. Surely the career planning and placement process could be reengineered to improve the of quality service to the students, but it won't bring about more jobs for history and English majors. These and other more intractable problems are beyond the scope of a limited model for change like business process reengineering. We still need to ask and answer the fundamental questions posed by Hammer and Champy in their definition of reengineering.

Bibliography

Dibble, Tom and Robert Glenn. "Fundamentals of Process Reengineering in Higher Education." seminar presented at the American Association for Higher Education Ninth Annual Conference on Assessment and Quality, Washington D.C. June 11, 1994.

Dougherty, Jennifer and Jillinda Kidwell, Donna Knight, Loren Hubbell, Sean Rush. Business Process Reengineering for Higher Education. National Association of College and University Business Officers, 1994.

Hammer, Michael and James Champy. Reengineering the Corporation: A Manifesto for Business Revolution. Harper Business, 1993.

Heterick, Robert, Editor. Reengineering Teaching and Learning in Higher Education: Sheltered Groves, Camelot, Windmills and Malls. CAUSE Professional paper # 10, 1994.

May, Linda. "Architecture and Re-Engineering: Partnership for Change at the University of Pennsylvania" CAUSE Document Exchange Library # CNC9313, 1993.

Markus, M. Lynne and Mark Keil. "If We Build IT, They Will Come." Sloan Management Review, Summer 1994.

Penrod, James and Michael Dolence. Reengineering: A Process for Transforming Higher Education. CAUSE Professional paper # 9, 1992.

Porter, James. "Business Reengineering in Higher Education: Promise and Reality." Cause Document Exchange Library # CEM934a, 1993.

Twigg, Carolyn. "Improving Productivity in Higher Education: The Need for a Paradigm Shift." CAUSE Document Exchange Library # CEM9227, 1992.

Twigg, Carolyn. "The Changing Definition of Learning." EDUCOM Review, July/August 1994.

Twigg,Carolyn. "The Need for a National Learning Infrastructure." EDUCOM Review, Sept./Oct., 1994

University of Maryland System Administration. "Reengineering Administrative Process." University of Maryland System, Sept. 1994.

Various. "Readers Respond to Reengineering." CAUSE Document Exchange Library # CEM923c, 1992.

A Note on Electronic Sources

The cause Document Exchange Library can be accessed by E-Mail or Gopher. For E-Mail send a message to Info@CAUSE.Colorado.EDU with words LIBSEARCH Reengineering in the first line of the message. Point your gopher at CAUSE.gopher.colorado.edu and choose the following menus. Search the CAUSE GOPHER Titles, specify reengineering. Or select the menu item CAUSE Publications.

Also quite fruitful is doing a VERONICA search or the words reengineering, business process reengineering or business process redesign.

SAT's, High School Percentile Rank, and High School Characteristics as Predictors of College Persistence

Joseph E. Revelt
Institutional Research
Shippensburg University

Abstract

This study incorporated both student and high school characteristics to predict which college freshmen would persist as sophomores of good academic standing. The high school characteristics for each student were exported from the College Board's Enrollment Planning Service software and matched to a student data base. The variables which were found to be statistically significant in predicting such persistence at Shippensburg University of Pennsylvania included a student's high school percentile rank, the percent of the student's high school senior class who had taken the SAT's, the percent of the high school senior class who had taken an Advanced Placement Exam, and high school control (public vs. private affiliation). Conversely, those predictors which were not statistically significant included the student's SAT scores and gender, the size of the student's high school senior class, the percent of seniors reported to have gone to college, and high school location (rural, city, etc.).

Introduction

Academia is under growing pressure for both fiscal and academic accountability. In part, these pressures translate to needs for improved enrollment management and a proven relationship between a student's academic credentials and collegiate success. Predicting student success is a vital component of both these needs.

Student characteristics and measures have been used frequently to predict student success. Cone (1991) reported on the success of a study skills and college adjustment course in reducing attrition among at–risk freshmen; Grosset (1991) investigated the effects of preentry attributes and different facets of commitment and environmental integration on persistence; and, Baron and Norman (1992) established that high–school class rank and average achievement score added significantly to GPA prediction while SAT's did not. More comprehensive models exist as well. Cabrera, Nora and Castañeda (1993) attempted to document the overlap between Tinto's Student Integration Model and Bean's Student Attrition Model, two of the most substantial, integrated theoretical frameworks dealing with the issues of retention and attrition. While this is far from an exhaustive list of studies on predicting student success, they are indicative of the range of studies which have been performed. The majority of such studies employ variables obtained via direct testing or some other intrusive measure. One goal of this study is to minimize labor– intensive measures by utilizing convenient, machine–readable data to predict persistence.

Before defining a model to predict persistence, an appropriate definition of persistence must first be determined. For the purposes of this study, a persister was defined as a regularly–admitted freshman who returned for their second fall semester in good academic standing – a 2.00

grade point average or better on a 4.00 scale. This definition obviously addresses the concern of short term persistence. While less obvious, this definition is related to the issue of long term persistence. The overall six year graduation rate for the Fall 1987 freshman cohort was found to be sixty–seven percent. But for those who met the above definition of persistence, the corresponding graduation rate was eighty–seven percent. In other words, nearly nine out of every ten regularly–admitted, 1987 freshmen who returned in the fall of 1988 with a 2.00 or better GPA graduated within six years.

The merit of this study lies not only in the statistical significance of the predictors but also in the ease with which new variables were incorporated. These variables were exported directly from the College Board's Enrollment Planning Service (EPS) software. An abundance of data in machine–readable form exists within this package. For the purposes of this study, the variables were restricted to those which were believed to reflect the overall, academic atmosphere of the high school. It was hypothesized that more scholarly high schools instill higher academic expectations in their alumni. The objectives of this study were to establish any relationship between these high school characteristics and a student's collegiate persistence, and to validate the utility of several of the more traditional predictors.

Method

Sample

Given the dynamic nature of the high school senior population, every effort was made to use the most recent data available. Allowing for a one–year period for the original freshman cohort to persist, the most recent cohort available was Fall, 1992. Although this cohort contained a total of 1,241 freshmen, this number was reduced to 1,088 due to the following reasons:

1. Sixty–six Act 101 students were excluded. This is an academic program for educationally or economically disadvantaged students; consequently, the graduation rate for this group is approximately half the rate for regularly–admitted freshmen. The main goal of this study was to relate high school characteristics to persistence, and it was believed that this group would interfere with the relevant factors.

2. Thirty–two students had not graduated from high school in the spring of 1992; therefore, the use of 1992 EPS high school data for this group was not appropriate.

3. Due to the method of analysis, complete data was necessary for each case. Consequently, an additional fifty–five students were eliminated due to missing data.

Of these 1,088 freshmen, 787 persisted, yielding a 72.3% persistence rate.

Procedure

This cohort and the corresponding student data were queried from the campus student data base. The high school data was then exported from the College Board's 1992 Enrollment Planning Service software and matched to the appropriate student using the high school code field as the key.

All variables were of two forms, the raw data or a value calculated from the raw data. There were two variables which were calculated directly from EPS data: the percentage of 1992 seniors who had taken the SAT's (PERCSAT) and the percentage of 1991 seniors who had taken at least one Advanced Placement Exam during the spring of 1991. Three additional variables, which were self–reported by the high schools to the College Board, were high school control

(HSCON), high school location (HSLOC), and percentage of seniors who go on to college (PERCCOL). HSCON originally had four categories: one for public, two for independent/not religiously affiliated, three for independent/Roman Catholic, and four for independent/other religious affiliation. However, due to the low number of cases whose control was independent/not religiously affiliated or independent/other religious affiliation, high school control was dichotomized with zero for private affiliation, one for public. HSLOC originally had six categories: one for metro area, two for large city, three for medium city, four for small city, five for suburban community, and six for rural area. However, it was statistically determined that this variable could be collapsed as well. It was recoded with zero for metro, large city, and medium city; one for small city and suburban community; and, two for rural. Finally, several more conventional variables were included as well. They included the math SAT score (MSAT), the verbal SAT score (VSAT), gender (GENDER), senior class size (HSSIZE), and high school percentile rank (PERCRANK). Gender was coded zero for female and one for male. The data is documented in Appendix A in two parts, case or record format and the data itself.

It should be noted that three additional variables were eliminated from the model early on. Total SAT score was dismissed due to concerns of multicollinearity. In the interest of streamlining the model, two other variables, which were suspected to make a negligible contribution, were removed. They included number of Advanced Placement Exams taken by the high school and number of Advanced Placement courses offered at the high school. This action was further vindicated when the latter two variables were found to be highly correlated to PERCAP (Pearson's rho > .74, $p < 0.000$) but demonstrated a weaker correlation to persistence, and at an inferior level of significance, than did PERCAP.

Results

Statistical Analysis

Although there were concerns of both heteroscadastic and autoregressive behavior, the fact that normality cannot be assumed about the predictors is sufficient cause to rule out both the classical linear regression and the discriminant analysis model. A nonlinear regression model which is appropriate is the probit model (Alrich and Nelson 1984, Gable, Hollon and Dangle 1984, Goldberger 1964). This model was computed through the use of a software package entitled Shazam (White 1981). It is quite similar in form to the classical linear regression formula in that it calculates coefficients for each predictor and follows the following format:

$$P = \beta_0 + \beta_1 \text{ GENDER} + \beta_2 \text{ MSAT} + \beta_3 \text{ VSAT} + \ldots + \beta_{10} \text{ PERCCOL} + \varepsilon_J$$

where P represents persistence. The values of P are in the interval [0,1]. If the above formula resulted in a value less than one–half, persistence was predicted as zero, and the student was predicted not to persist. If the value was greater than or equal to one–half, persistence was predicted as one and the student was predicted to persist.

The probit analysis was run using all the variables specified. Table 1 lists all the predictor variables utilized in this probit analysis with the corresponding coefficient and T ratio. Also listed are summary statistics which communicate the statistical success of this model.

Table 1. Summary Statistics and Probit Analysis for Comprehensive Model Predicting Student Persistence

Variable	Mean	Deviation	ß	T Ratio
GENDER	0.46	0.50	0.08879	0.937
MSAT	518.13	67.81	–0.00091	–1.281
VSAT	459.89	64.10	0.00091	1.317
HSSIZE	259.30	140.94	0.00033	1.005
PERCRANK	69.04	17.11	0.02573	8.773
PERCSAT	56.60	14.11	0.01823	3.821
PERCAP	7.27	6.87	–0.01231	–1.717
HSCON	0.91	0.28	0.61596	3.655
HSLOC	1.17	0.51	0.14055	1.443
PERCCOL	57.53	18.17	–0.00334	–0.903

Constant: –2.6695

The R–square for this equation was 0.119. With ten degrees of freedom the resulting chi–square value of 128.96 clearly indicated a significant relationship between the predictor variables and persistence. Referring to the table above and utilizing a two–tailed t test, three variables clearly were statistically significant, $p < 0.01$. They were high school percentile rank (PERCRANK), percent of senior class which took the SAT's (PERCSAT), and high school control (HSCON). This model correctly classified 810 freshmen, or 74.4%. This represents a modest 2.1% increase over the maximum chance criterion. However, accurately predicting persisters is not the only goal of this model. Academic accountability can translate to a need for properly categorizing students who fail to persist. Consequently, the proportional chance criterion (Hair, Anderson and Tatham 1987) was calculated to be 60.0%. This model correctly classified 14.4% more freshmen than would have occurred by chance. To further refine this model, analysis and holdout samples were created using a 75–25 split, respectively. Of the 272 students in the holdout sample, 195 or 71.7% persisted. Furthermore, 179 were correctly classified or 65.8%. This is 5.9% below the maximum chance criterion but 6.4% better than the proportional chance criterion of 59.4%.

In an effort to streamline this model and reduce interference by unrelated variables, a second probit analysis was conducted utilizing only those variables which had attained a level of significance of twenty percent or lower. Table 2 summarizes the results of this analysis.

Table 2. Summary Statistics and Probit Analysis for Restricted Model Predicting Student Persistence

Variable	Mean	Deviation	ß	T Ratio
VSAT	459.89	64.10	0.00077	1.138
PERCRANK	69.04	17.11	0.02479	8.961
PERCSAT	56.60	14.11	0.01568	3.924
PERCAP	7.27	6.87	–0.01486	–2.198
HSCON	0.91	0.28	0.65657	4.033
HSLOC	1.17	0.51	0.12994	1.440

Constant: –2.9396

The R–square for this equation was 0.115. With six degrees of freedom the resulting chi–square value of 125.48 once again indicated a significant relationship between the predictor variables and persistence. In addition to the previously significant variables of PERCRANK, PERCSAT, and HSCON remaining significant at the $p < 0.01$ level, PERCAP (percent of seniors with Advanced Placement Exams) was statistically significant at the $p < 0.05$ level and is negatively correlated to persistence. Again, the two–tailed t test was employed. This model correctly classified 811 freshmen, or 74.5%. This represents a 2.2% increase over the maximum chance criterion and a 14.5% increase over the proportional chance criterion. The ensuing analysis utilized the same analysis and holdout samples established earlier. The restricted model correctly classified 185 students or 68.0%. This is 3.7% below the maximum chance criterion but 8.6% better than the proportional chance criterion. The analyses suggested several surprising trends. Perhaps most obvious was that PERCAP was significantly and negatively related to persistence. This may be accounted for by comparing the statistics of students from private high schools with those from public ones. A series of t tests revealed that while the mean SATM and SATV for these two groups are statistically equivalent, the mean PERCRANK of the private group, at 58.58, was significantly less that the mean for the public alumni, at 70.04, at a level of $p < 0.000$. Additional probit analyses were run while gradually removing variables of inferior significance. This yielded no gain in terms of significance or of correctly classifying persisters.

Discussion

While the findings of this study reflected a significant relationship between persistence and several predictor variables, one must be cautious with both drawing conclusions and using the results in an admissions plan. Clearly, persistence is strongly related to the student's high school of origin, but most strongly related to the individual's academic performance in high school. Furthermore, the modest R–square values reflect the limited amount of variance accounted for. For lack of better information, the temptation would be strong to prioritize admission recruiting efforts according to these findings. This would be a serious error for two reasons. First, to blindly apply these exact findings could result in a mismatch between an institution's admissions market and the typical, successful student's profile for that particular university. Second, such practices could be viewed as discriminatory, particularly in view of the strength of individual achievement as a predictor of persistence and the modest R–square.

One suggested use of these results would be to integrate them into a more comprehensive model for predicting persistence. If these variables can be used as an indication of the academic atmosphere at a high school or some expectation of collegiate success learned during high school, they may make a substantial contribution to more extensive models. These in turn could be used in enrollment management efforts, not to target recruiting but to size expected attrition and, therefore, recruiting goals.

Another use of these findings may lie in expanding the present boundaries of other models involving student success such as predicting grade point averages. This approach may equate to a better measure of academic accountability. Once these variables were validated for a particular institution, PERCSAT and PERCAP may approximate a normal distribution to the extent that they could be used in a classical linear regression model to predict GPA's. Again, it is suspected that these variables have the potential to account for additional variance and increase the R–square for existing models.

As a final observation, it is ironic that while individual SAT scores are not a statistically significant predictor of persistence, the percent of seniors who took the SAT's at the individual's high school is. Building upon this observation, mean SAT scores for a high school may be valid indicators of the school's academic atmosphere. While they were not available during the course of this study, this approach may merit consideration in future studies.

References

Alrich, John H., and Nelson, Forrest D. (1984), *Linear Probability, Logit, and Probit Models*, Newbury Park, Ca.: SAGE Publications, Inc.

Baron, Johnathan, and Norman, M. Frank (1992), "SATs Achievement Tests, and High–School Class Rank as Predictors of College Performance," *Educational and Psychological Measurement*, **52**, 1047–1055.

Cabrera, Alberto F., Nora, Amaury, and Castañeda, Maria B (1993), "College Persistence – Structural Equations Modeling Test of an Integrated Model of Student Retention," *Journal of Higher Education*, **64**, 123–137.

Cone, Al L. (1991), "Sophomore Academic Retention Associated with a Freshman Study Skills and College Adjustment Course," *Psychological Reports*, **69**, 312–314.

Gable, Myron, Hollon, Charles J., and Dangle, Frank (1984), "Predicting Voluntary Managerial Turnover in a Large Retailing Organization from Information on an Employment Application Blank," *Journal of Retailing*, **60**, 43–63.

Goldberger, A. S. (1964), *Economic Theory*, New York: Wiley.

Grosset, Jane M. (1991), "Patterns of Integration, Commitment and Student Characteristics and Retention among Younger and Older Students," *Research in Higher Education*, **32**, 159–178.

Hair, Joseph F. Jr., Anderson, Rolph E., and Tatham, Ronald L. (1987), *Multivariate Data Analysis*, New York, Macmillan Publishing Company.

White, Kenneth (1981), *Shazam: An Econometrics Computer Program*, Vancouver: University of British Columbia.

Appendix A – Part I – Record Format

Variable	Starting Column	Ending Column	Description
GENDER	16	16	Student gender, 0 – female, 1 – male.
MSAT	17	19	Math SAT score.
VSAT	20	22	Verbal SAT score.
HSSIZE	23	26	Size of student's high school senior class, a student data base field. Reported on student's official transcripts.
PERCRANK	27	32	Student's high school percentile rank. Computed from student data base fields of high school rank and HSSIZE. Reported on student's official transcripts.
PERCSAT	33	38	Percent of senior class who took the SAT's, computed by dividing the College Board's number of SAT takers by HSSIZE.
PERCAP	39	44	Percent of seniors who took Advanced Placement Exams, computed by dividing the College Board's number of 1991 seniors who took at least one Advanced Placement Exam during Spring, 1991 and dividing this number by the number of 1992 seniors (HSSIZE).
HSCON	45	45	High school control or affiliation, 0 – private, 1 – public. Reported by high school to the College Board.
HSLOC	46	46	High school location, 0 – metro, large city, or medium city, 1 – small city or suburban community, 2 – rural. Reported by school to the College Board.
PERCCOL	47	48	Percent of senior class who go on to college. Reported by high school to college board.
PERSIST	49	49	Persistence, 0 – did not persist, 1 – did persist.

Evaluating the Effect of Technology in Improving Academic Programs

Barbara R. Sadowski
Director of Planning and Institutional Research
Marie T. Huester
Assistant Director for Institutional Research
Marywood College

Introduction

Colleges and universities are under increasing pressure to demonstrate outcomes. Educators are being called upon to provide evidence of the effects of college education on student academic learning and student development of 'transferable skills' (Farmer, 1988; National Center for Education Statistics, 1993; Middle States Association of Colleges and Schools, 1990). Nowhere is this more evident than in terms of technological innovation. Substantial expenditures are required to create and maintain computer technology, networking, and increasingly sophisticated multimedia applications. Administrators, boards of trustees, legislatures, students and their parents are all interested in evidence that such investments produce demonstrably better outcomes than would be achieved without such costs.

Much previous research with regard to technology implementation has focused on how best to provide access for faculty and students and how such access affects students' educational experience. The available research indicates that not only do students need access to computers, but faculty also must have time, equipment, and support to explore ways to enhance instruction with computer technology. The present research is based on a systematic and extensive outcomes assessment that was undertaken as part of a four-year grant that funded both faculty workstations and supporting computer labs for two departments, psychology and science.[1] A third department, education, received faculty workstations as part of the grant, along with interactive video production and playback capabilities.

The purpose of the grant was to demonstrate the effect of technology on specific academic programs. One aspect of the grant was to provide computers to faculty who submitted plans for integrating computers into at least two courses each semester. In the first year of the grant, ten faculty were awarded computer workstations and software. In both the second and third years, six faculty received awards, and in the fourth year three awards were made.

A second aspect of the grant was to enhance and network computer laboratories in two departments. In the first year of the grant the psychology research lab, which had already been established with college funds, was networked and thus became the first link in the campus fiber optic network. Over the 4 years of the grant, a multi-media science lab was established in 4 stages: computers and software in the first year, data-acquisition peripherals the second, a LAN the third and a campus network link in the fourth year.

---

1 The work described in this presentation was supported in part by a Title III Strengthening Institutions Program Grant (# P031A00199) to Marywood College.

Outcomes assessment was integral to the grant since the rationale was to document the specific impact that technological innovation would have on targeted departments. Common departmental goals involved increasing the information and computer literacy of majors. Specific goals were identified for each department. A specific goal in science was to increase the number of science majors and to enhance student learning in anatomy and physiology. A specific goal in psychology involved enhancing the quality of student learning in the department by increasing the number of students involved in honors research and conference presentations/publications.

Methods for Evaluating Outcomes

Evaluation of outcomes included five components. Self-report surveys assessed student utilization of computers. One survey was administered to students in classes of faculty who received computers (Classroom Technology Survey or CST) and the other was administered to all graduating seniors (Senior Technology Survey - STS). A third evaluation component involved use of a lab use tracking program (MacInUse) which unobtrusively monitored time spent using various software packages in each affected lab. A fourth evaluation component involved specific outcomes data in two departments, science and psychology. In science, a desired outcome that was evaluated involved increasing the number of science majors. In psychology, a desired outcome was to increase the quality of training of students, as reflected in the numbers of students completing honors research projects and presenting and/or publishing research studies in regional and national forums. A fifth evaluation component was data collected from the network software which monitored the number of messages sent across the network.

Two surveys evaluated student ratings of utilization of various aspects of computer technology. One survey was administered in classes taught by those faculty who received computers from the grant. Each faculty member selected two courses each semester which were the focus of development initiatives involving computer use. A second survey of technology utilization was administered by the Office of Institutional Research to graduating seniors. Student responses to survey items were scaled with 1 = not used, 2 = occasionally used, 3 = often used, and 4 = very often used. Data from both surveys were subjected to a factor analysis which revealed the presence of three large factors which involved ratings of the use of computers in: (1) writing, (2) information literacy (use of on-line library system, searching CD-ROM databases), and (3) advanced research use (statistics, spreadsheets, course-related tutorials, and simulations). Results presented will only include those items which loaded significantly ($\geq .40$) on one of these factors.

Results

A Student Opinion Survey was administered in 1990 during the semester prior to the start of the grant. It was re-administered in Spring 1994, close to the end of the grant. In 1994, computer use by all undergraduates had increased significantly to 74% ($c^2=27.4$, $df=1$, $p<.0001$). Of particular note is the fact that 89% of 1994 seniors reported using campus computing facilities. This externally-administered survey provides evidence that the grant had a substantial impact across all students regardless of major.

Indirectly, the use of computers across *all* departments can be inferred from the changes reported by students in classes taught by faculty receiving individual workstations. There are increases in both variety and frequency of use. For example, students are now using computers to do statistical analysis, run simulations and send messages to others on campus, in addition to word processing and searching the on-line catalog. The following table presents the percent of increase in use of technology among students in classes taught by faculty receiving individual workstations.

Table 1. Increases in Computer Use 1991-94

Used a computer to:	% of Increase
Used computers to assist in course learning.	104%
Solved problems using a spreadsheet.	297%
Ran computer simulations.	107%
Did statistical analysis on data.	130%
Conducted simulations with videodisc players.	126%
Conducted science experiments using computers.	70%

Figure 1 shows the results for increased use across the three factors of the CST. It is especially important to note that *student use* increased even in departments such as music, math, and other areas that had no support from grant funds. The fact that Marywood continued to upgrade and even add computer facilities during the grant accounts for the increases in student use.

Science Results

In Table 2 below, increases for both students in science classes and science and related majors are summarized. Students in classes taught by science faculty receiving individual workstations increased computer use dramatically. For example, the use of computers to conduct science experiments, simulations and statistical analysis increased over 100%. Figure 2 shows the science results for the three factors of the CST.

Table 2. Science and Related Majors Increase in Computer Use in 1991-94

Used a computer for:	Science	Related Majors
Word Processing	275%	220%
Spreadsheet	340%	280%
Simulations	625%	220%
Statistical Analysis	460%	390%
Science Experiments	171%	120%
Simulations w/Videodiscs	180%	108%
Electronic mail	875%	900%
Searching for abstracts (CD-ROM)	160%	160%
Searching on-line catalog	150%	170%

Usage Results

In order to measure actual use of software applications a tracking program MacInUse, was installed in the psychology and science labs. MacInUse data was gathered in fall '91 through spring '94 in the psychology lab and spring '92 through spring '94 in the science lab. When the MacInUse tracking program was installed in fall 1991 most students used word processing software and used computers to search the library frequently. By spring 1994 the variety of

applications had increased to include CD-ROM searching, spreadsheets, experiments, simulations, E-Mail and statistical analysis programs, results that validate the qualitative data collected from course syllabi. Of particular note is the fact that in 1994, computers in the science lab were in use on average of 3.5 hours for science simulations with videodiscs each week of the semester. In the psychology lab, spreadsheet, electronic mail and data analysis accounted for over 20 hours of use each week of the semester. Budget constraints prevented using MacInUse in all of the laboratories and the lack of coverage of all laboratories made it difficult to interpret results from this program.

Additional evidence of electronic mail use is provided by traffic data collected on the network host computer, showing that traffic to/from the science labs went from 250MB in November '93 to 1,600MB in March '94. Traffic between the psychology lab and the host computer averaged 2,500MB/month over the same period.

CST Results

Given the evidence that computer applications were actually used in support of instruction, t-tests were conducted to validate increased use of selected items related to grant goals. All items listed below (Table 3) were significantly different in 1994 when compared to 1991 ($p<.001$), when all students' responses were analyzed.

Table 3. Uses Significantly *Higher in 1994

Wrote a paper using the computer.
Solved problems or exercises using a spreadsheet.
Ran computer simulations.
Used a computer to do statistical analysis on data.
Conducted science simulations using computers with videodisc players.
Conducted science experiments using a computer.
Conducted psychology simulations using computers with videodisc player.
Used computers to send messages to others on campus.

*$p<.001$ for all items.

Figures 1-3 clearly show the differences across departments on the CST factors.

STS Results

The STS was developed in 1990 and data were first collected in May 1991. Majors were not identified the first year, so comparisons between majors is limited. STS items matched questions on the CST. Since only 26 of 135-40 faculty received workstations, the CST results represent a part of the total student population. In contrast, the STS is given to all graduating seniors with a response rate of 80%. Over time, real changes in use of computers as a function of additional resources made available to specified departments can be tracked and verified by STS data.

Overall differences in computer use from seniors graduating in 1991 to those graduating in 1994 were analyzed by a 2 X 2 Chi-square (Year vs. Use/Non-use). Items showing a significant difference are summarized in Table 4 below.

Table 4. STS Items and Level of Significance Increased Use 1991-94

Item	
Used word processing	<.0001
*Used a spreadsheet	<.01
*Ran simulations	<.01
*Ran statistical data analysis	<.05
*Sent electronic messages	<.0005
Searched for abstracts (CD-ROM)	<.00001
*Science experiments	<.005
*Science experiments with videodisc	<.005
*Psychology simulations	<.01
*Evaluating/critiquing software in field of study	<.01

* Items related to grant objectives.

Analysis of STS data to assess the effect of grant technology support on particular departments is limited to comparisons between 1992 and 1994. Levels of computer use for activities specific to grant objectives were analyzed in a 2 X 2 ANOVA. One independent variable was year (92 v. 94) and the second independent variable was major. Major was defined as one of the three grant supported departments as compared to all other majors. Results of the ANOVAs by major are summarized in the Tables below. Responses were coded so higher values reflect more use. The results for psychology majors are presented first since the computer enhancements (networking and psychophysiology peripherals) funded by the grant were completed by the end of Year II. Differences in computer activities should be greatest for psychology majors across the last two years of the grant. Table 5 below summarizes the results comparing psychology majors to majors not supported by grant funding.

Table 5

Used computers for:	Mean for Psychology	Mean for Other Majors	Diff.
Psychology experiments	3.2	1.1	2.1**
Psychology simulations	1.8	1.1	0.7*
Statistical analysis	3.3	1.4	1.9**
Electronic mail/data transfer	2.7	1.2	1.5**

* $p < .001$
** $p < .0001$

Significant differences in the use of e-mail were found between 1992-94 as well as a significant interaction. Thus, results clearly show that networking the psychology lab resulted in increased use of electronic mail by psychology majors over the two years that access was available.

References

Farmer, D. W. (1988). Enhancing Student Learning: Emphasizing Essential Competencies in Academic Programs. Wilkes-Barre, PA: King's College Press.

Middle States Association of Colleges and Schools (1990). Framework for Outcomes Assessment. Author.

National Center for Education Statistics (1993). National Assessment of College Student Learning: Getting Started. Washington, D.C.: U.S. Department of Education.

O'Brien, E. J. & O'Brien, J. P. (1992). Computer literacy in psychology: Curriculum, planning, and outcome assessment issues. Paper presented at the 100th Annual Convention of the American Psychological Association. Washington, D.C.

Figure 1. Non-Science/Psychology Classes: Mean Ratings of Computer Use

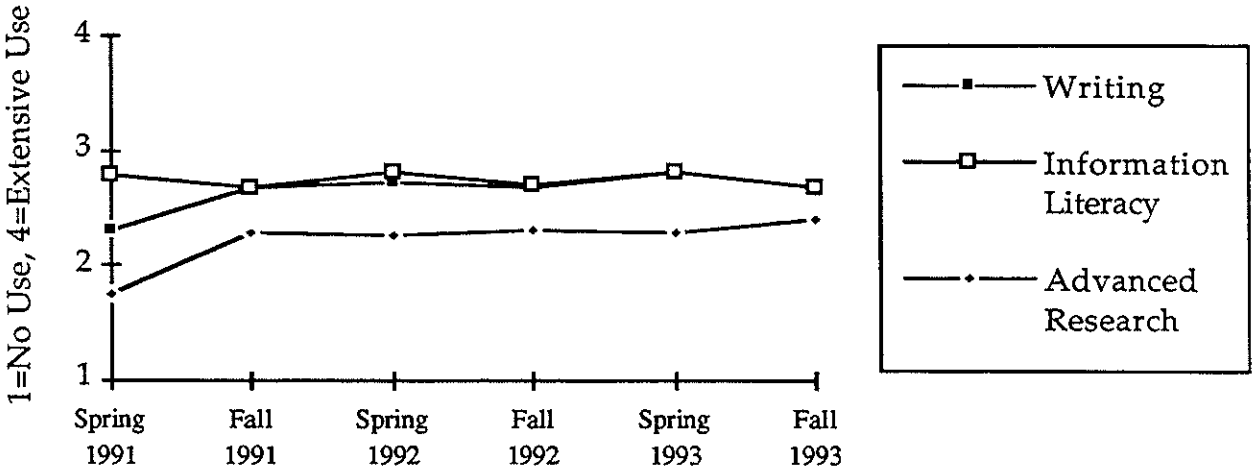


Figure 2. Science Classes: Mean Ratings of Computer Use

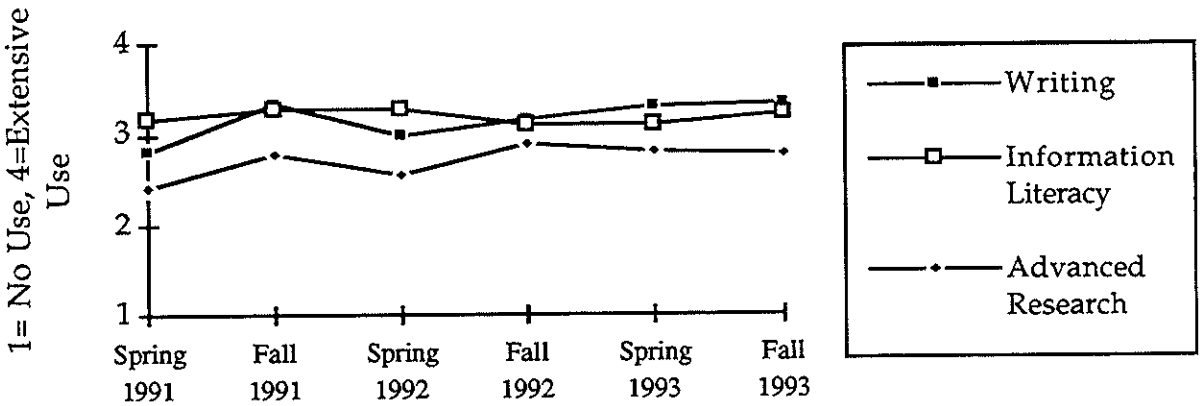
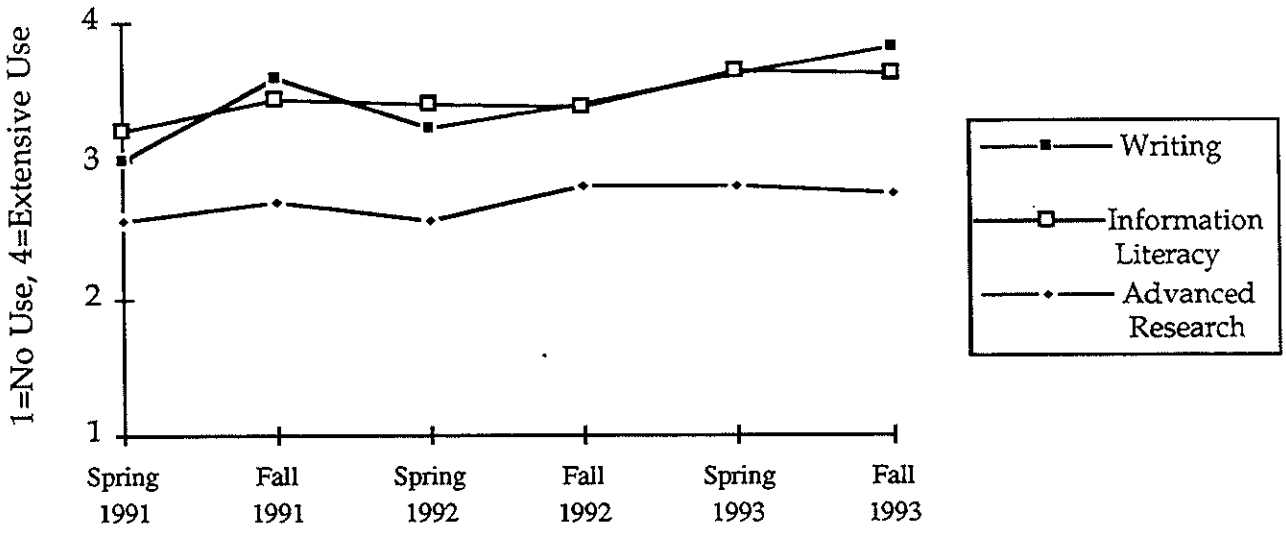


Figure 3. Psychology Classes Mean Ratings of Computer Use



The Use of Measurement Tools in Institutional Research

Charles Secolsky
Associate for Institutional Research
Rockland Community College

Increasingly, institutional researchers must conduct research in a number of different methodological areas in order to address the problems of their college and to complete the data requirements of their institution. These methodological areas include (1) descriptive statistics for completing internal and external forms on such characteristics as enrollment, demographics of students and faculty, and attrition and retention, (2) descriptive and correlational methods used for survey research to assess the different needs of the institution (e.g. new programs, faculty evaluation), and (3) theoretical applications and descriptive and inferential statistics used in more long range research projects that attempt to determine the factors that underlie problems of retention, transfer, and student learning and development. Depending on how an institution's administration is organized, the institutional researcher may also be called upon to serve in the role of psychometrician. Because of this and because there may be institutional researchers who lack training in measurement, this paper is devoted to an overview of four areas of measurement that may be useful to the practitioner of institutional research. These areas are developing new scales, establishing passing scores for tests, validating passing scores and equating tests. These methodological areas will be presented with applications to experiences at Rockland Community College.

Developing New Scales

When a new course is developed with the aim of achieving changes in students such as the Pluralism and Diversity course at Rockland, instruments are sometimes developed and administered to students to assess whether the intended changes have occurred. The instrument is oftentimes used in a pretest-posttest control group research design to determine whether the desired change in the construct in question is statistically significant. The question then arises as to what constructs the instrument is measuring. To know the answer to this question, it is necessary to develop the instrument using principles of psychometrics and scale development.

The first step in scale or instrument development is to construct items that will measure the intended construct(s) on which students are expected to change. Item construction can be theoretical or atheoretical. In other words, an existing theory can be used to generate the items, if such a theory exists, or the items can be written directly to correspond to the construct of interest. The items can also come from some pre-existing scale measuring the same constructs. The items are generated until a pool of items has been created that exhausts all conceivable facets of the construct.

Once the items are written, they are subjected to review by experts in the field. They are reviewed for technical quality, the degree to which the items measure the constructs they are intended to measure, and for the readability level for the respondents. At Rockland Community College, three scales were planned for development: Tolerance, Capacity for Intimacy, and Integrity. These constructs are based on Chickering and Reisser's (1993) model of student development. The Integrity Scale consisted of three subscales: Humanizing Values, Personalizing Values, and Developing Congruence. Linda Reisser and two institutional researchers wrote the items and thereby established an item pool for each construct. The items were not reviewed by an expert other than Linda Reisser.

After the item pool is created, the items are pilot tested and analyzed using exploratory factor analysis and Cronbach alpha reliability. If the items are written in correspondence to an existing theory with clearly differentiable constructs or are obviously different types of items (e.g. Listening Comprehension and Written Expression as in the Test of English as a Foreign Language), then the factor analysis would be confirmatory. Otherwise, it would be exploratory. At Rockland, considering how the items were developed and the fact that there were no other reviews, the factor analysis was exploratory.

Factor analysis is the process of uncovering the latent variable(s) measured by the items in the instrument. At Rockland, its purpose was to see if the variation of items in each scale could be explained by a smaller number of factors. When a subset of items correlate or load on a factor, the factors are interpreted and meaning is imputed from the way the items load on the factors. This can sometimes be a difficult task since factor analysis is not only an empirical process but is also dependent on the respondents' interpretations and readings of the items. Rogers (1974) has analyzed the stages underlying the process of responding to personality items. DeVellis (1991) has recommended the inclusion of validation items of a social desirability scale. This is done to insure that the responses and data are valid.

When the items do not neatly load on the first and subsequent factors, this does not mean that the instrument is not measuring the construct of interest; it may be measuring the construct, as in the case of Rockland, with many different items from a number of different factors with unidentified latent variables. It may be that the correlation of the items in the first and subsequent factors is low with very few items loading high (above .5) on these factors. In the Rockland example, the constructs could not be represented by more than a few items in the pool. Table 1 taken from DeVellis (1991) illustrates a two factor solution for a 12 item subtest. The latent variables are represented by those items that load high on each of the two factors respectively.

TABLE 1*
ROTATED FACTOR PATTERN

	Factor 1	Factor 2
ITEM 9	0.78612	-0.22093
ITEM 11	0.74807	-0.18546
ITEM 4	0.71880	-0.02282
ITEM 5	0.65897	-0.15802
ITEM 7	0.65814	0.01909
ITEM 1	0.59749	-0.14053
ITEM 8	0.51857	-0.07419
ITEM 6	-0.09218	0.82181
ITEM 10	-0.10873	0.78587
ITEM 3	-0.07773	0.75370
ITEM 12	-0.17298	0.73783
ITEM 2	-0.11609	0.63583

*Reprinted by permission of Sage Publications, Inc.

After exploratory factor analysis, things need to be reconsidered. Are the items with the small loadings in need of revision? Are the items with the small loadings measuring the construct? Is the wording for some of the items too difficult for the respondent group? All these factors need to be considered and carefully examined before confirmatory factor analysis is performed. Also, exploratory factor analysis provides an opportunity to delete items from the item pool. Confirmatory factor analysis is then performed hopefully to result in clearly interpretable factors or latent variables which can be easily interpreted. But this is not the end to the scale development process. One must now determine scale reliability.

If exploratory factor analysis is used or if factor analysis does not yield or identify latent variable(s), it is likely that the scale would have low internal consistency reliability. To assess internal consistency reliability, Cronbach's (1951) alpha is used. The general format for reliability is

reliability = 1 - (error variance/total variance).

Cronbach's (1951) alpha, which is used for polytomously scored items as with most personality and attitude scales is computed as

$$\text{alpha} = \left(\frac{k}{k-1}\right)\left(1-\sum_{i=1}^{k}\frac{s_i^2}{s_T^2}\right)$$

where k is the number of items;

s_i^2 is the variance for item i;

s_T^2 is the variance for the sum of the items.

A computer program in SAS or SPSS allows one to find alpha if an item is removed from the pool. The program is used in conjunction with factor analysis to produce the final scale. If alpha becomes higher when reducing the number of items by one via deletion, then the reduced item set should be retained. The program should then be rerun to see if alpha reliability can be improved with the deletion of additional items. This process should be continued until the scale is consistent and more parsimonious. Normally one uses the Spearman-Brown prophecy formula which says that reliability increases with increases in test length. This, however, is not always the case. The generalized formula for Spearman-Brown is

$$r_{kk} = \frac{kr_{11}}{[1 + (k - 1)]r_{11}}$$

where k is the number of items in the lengthened test divided by the number of items in the unit test;
r_{11} is the reliability of the unit test; and
r_{kk} is the reliability of the lengthened test.

The formula reduces to $r = \frac{2r_{12}}{(1 + r_{12})}$ for cases of double test length (Gulliksen, 1950). While these formulas increase reliability with increases in test length, low interitem correlations can cause increases in reliability with the removal of some items.

At Rockland, five items were removed from the Tolerance subscale based on the use of Cronbach's alpha which went from .7663 to .8212. Table 2 presents the alphas after the fifth item was deleted. Note that the reliability could increase even more if other items were deleted. The Capacity for Intimacy subscale was revised by removing fourteen items, increasing reliability

TABLE 2

	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha If Item Deleted
RELAT1	100.2500	99.4813	.4000	.3928	.8141
RELAT2	100.4527	96.9297	.5338	.5583	.8094
RELAT4	100.0608	100.9827	.3534	.4675	.8159
RELAT5	100.3378	98.9735	.4197	.4866	.8134
RELAT6	100.4595	101.2432	.2286	.3585	.8197
RELAT7	100.2635	100.8893	.2630	.4566	.8184
RELAT8	100.4865	100.8910	.2231	.3183	.8202
RELAT9	99.9865	100.3400	.3802	.5358	.8150
RELAT10	100.2973	100.5097	.2278	.3361	.8203
RELAT11	100.1149	103.6942	.1013	.2397	.8232
RELAT12	100.3176	101.5107	.2302	.3083	.8194
RELAT13	100.2365	99.3246	.3998	.5265	.8140
RELAT14	99.9730	101.2101	.3297	.4307	.8165
RELAT15	100.3986	98.8808	.3659	.4168	.8149
RELAT16	100.2770	98.2969	.4507	.4119	.8122
RELAT17	100.3581	99.4423	.3746	.3726	.8147
RELAT19	100.3378	97.8579	.4595	.4100	.8118
RELAT20	100.7500	100.2296	.2622	.3739	.8187
RELAT21	100.3919	97.4644	.4448	.4903	.8120
RELAT22	100.1892	100.1544	.4059	.4009	.8144
RELAT23	100.3311	102.6856	.1582	.3213	.8217
RELAT24	100.4257	105.1985	.0116	.2841	.8251
RELAT25	100.3041	99.4103	.3863	.4094	.8144
REL1	99.8784	99.6178	.3771	.4225	.8147
REL2	100.3986	99.1257	.3247	.4532	.8164
REL4	101.2432	101.6683	.1632	.4537	.8230
REL5	100.0135	102.2583	.2840	.3039	.8179
REL6	100.0203	98.9724	.4785	.4236	.8122
REL7	100.1149	98.2248	.4059	.3621	.8134
REL8	99.9932	102.1700	.2616	.2991	.8183
REL9	100.5811	100.2995	.3087	.4319	.8169
REL10	100.4324	98.8593	.3807	.5258	.8144
REL12	100.8446	101.0709	.2683	.4098	.8181
REL13	100.9797	102.4282	.1634	.3836	.8218
REL14	100.8378	102.6674	.1461	.3015	.8224

Alpha = .8212 35 items

from .8024 to .8576. The Integrity scale consisted of three subscales. The reliabilities of the three subscales before and after revision are listed in Table 3. The overall reliability for the Integrity scale increased from .7244 to .7547 after deleting thirty-one items.

TABLE 3

	First Draft		Revision	
	Number of Items	Alpha	Number of Items	Alpha
Humanizing Values	26	.5870	17	.6012
Personalizing Values	21	.5834	12	.5991
Developing Congruence	24	.5261	11	.6903

Following the generation of the final scales, the items are administered to the students before and after the course. Significance tests (e.g. pretest-posttest control group design) are then conducted to determine if changes have occurred.

Determining Passing Scores for Tests

Colleges often order tests from test publishers for the purpose of placing students into different levels of a subject. For example, upon admission to a college, the student takes a placement test which assigns them to Developmental Studies or regular freshman English. At Rockland Community College, the Descriptive Test of Language Skills (DTLS) places students into two levels of English and two levels of Developmental Skills. The first cut-off score is to decide from test scores whether or not the student should be placed into Eng. 101. A second cut is made for each group to decide on what level of Developmental Skills or ESL a student should be placed in. Some believe that the test publisher recommends a passing score. But, this is simply not the case. Each college must determine it's own passing score. This section of the paper deals with how to establish passing scores.

In the past and still in the present, passing scores are established using an external criterion. This is the case with Napoli and Wortman's (1994) paper presented at this conference. They use regression analysis with Psychology grades and GPA as the criteria, but do not incorporate judgments of items, only judgments of persons using a criterion that is measuring considerably more than reading (e.g. suppose a student gets a C in Psychology for not studying). Because of the problems with external criteria, three methods of standard setting will be introduced in this section: (1) the Angoff procedure, (2) the Ebel procedure and (3) the Contrasting Groups method which uses judgments of persons.

Using the Angoff (1971) procedure, a judge reads each item on a test and assigns a probability to it. The probability is the likelihood that a minimally competent test taker will answer an item correctly. Angoff (1971) suggested that the judges conceive of the proportion of the minimally qualified examinees that would get the item correct. These judgments are then summed to arrive at a passing score for the individual judge. An example of the Angoff (1971) method appears in Table 4 and is taken from Livingston and Zieky (1982). The judges passing scores are then averaged. The Jaeger (1978) approach is similar to the Angoff method but instead judges are asked to rate whether the

TABLE 4*
Example of calculations for Angoff's method applied to a test scored without correction for guessing

Question	Probability of Correct Answer
1	.95
2	.80
3	.90
4	.60
5	.75
6	.40
7	.50
8	.25
9	.25
10	.40
	Sum = 5.80

Expected total score = 5.80

*Reprinted by permission of Educational Testing Service, the copyright owner.

minimally qualifed student would get the item correct.

The Ebel method (Ebel, 1972) is a bit more complicated. It first requires judges to rate items in terms of difficulty for the students who typically take the test. The ratings are easy, medium and hard. They then rate the items in terms of relevance: relevant, important, acceptable and questionable. Then a difficulty by relevance grid is formed for each judge. At a second session, judges rate the proportion of items a borderline test taker would answer correctly. In Rockland's case, the borderline student would hypothetically be the students who are borderline between Developmental Skills

and Eng. 101. The grid and computation are shown in Tables 5 and 6 from Livingston and Zieky (1982).

TABLE 5

Relevance:	Difficulty: Easy	Medium	Hard
Essential	Questions: Judgment:	Questions: Judgment:	Questions: Judgment:
Important	Questions: Judgment:	Questions: Judgment:	Questions: Judgment:
Acceptable	Questions: Judgment:	Questions: Judgment:	Questions: Judgment:
Questionable	Questions: Judgment:	Questions: Judgment:	Questions: Judgment:

TABLE 6**
Example of calculations for Ebel's method applied to a test scored without correction for guessing

Percentage Correct	Number of Questions	Expected Score for Category	
Essential			
Easy	95	5	.95 X 5 = 4.75
Medium	85	3	.85 X 3 = 2.55
Hard	80	1	.80 x 1 = .80
Important			
Easy	90	3	.90 X 3 = 2.70
Medium	75	3	.75 X 3 = 2.25
Hard	60	2	.60 X 2 = 1.20
Acceptable			
Easy	80	1	.80 X 1 = .80
Medium	55	2	.55 X 2 = 1.10
Hard	35	2	.35 X 2 = .70
Questionable			
Easy	50	1	.50 X 1 = .50
Medium	*	0	.00
Hard	20	2	.20 X 2 = .40
			Sum = 17.75

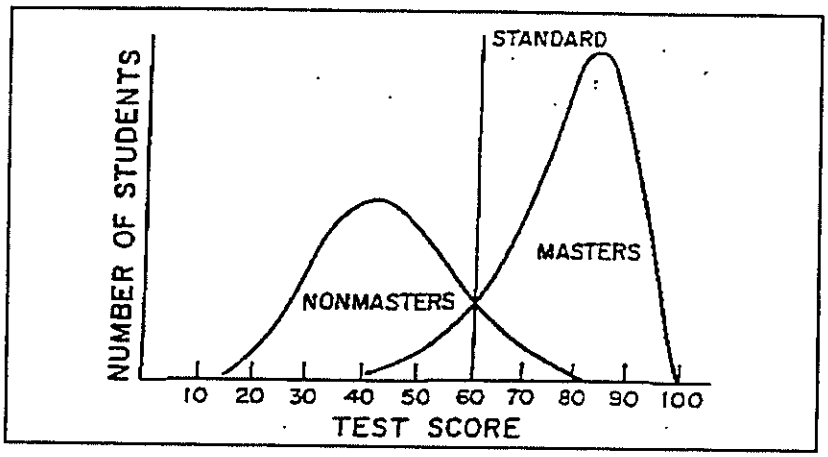
Expected total score = 17.75

*Information not needed-no questions classified into this category.

In the Contrasting Groups Method developed by Zieky and Livingston (1977), it is necessary for the teachers or experts to make judgments of examinees. Their judgment is based on greater familiarity with the students than test scores alone. Napoli and Wortman (1994) could have used GPA as one of a number of criteria to judge students into mastery or non-mastery statuses. After masters and non-masters have been identified apart from the test, a cut-off score is selected which best discriminates between these two groups (Shepard, 1984). See Figure 1 below.

FIGURE 1

Simple illustration of the contrasting groups standard-setting method with one sample, one judge, one rule for treating uncertain cases.



(Reprinted from Figure 7.1 on page 179 of "Setting Performance Standards" by Lorrie A. Shepard in R.A. Berk (Ed.), A guide to criterion referenced test construction. Baltimore: Johns Hopkins University Press, 1984, with permission of the author and editor.)

Validation of Passing Scores

Once passing scores have been determined, it becomes necessary to validate the passing scores by examining how the passing score(s) is functioning. If problems are found to exist with passing scores such as many inappropriate placements of students, then adjustments can be made.

The main approach to validating passing scores uses multiple regression analysis. The variables used in the regression analysis are, in Rockland's case, course grades, placement test score, midterm grade, and instructor satisfaction with placement. The dependent variable is course grade. The independent variables are placement test score, midterm grade, and instructor satisfaction with placement, which is obtained approximately one month into the semester. The placement test scores are then plugged into the multiple regression equation to obtain a distribution of predicted course grades. If the predicted course grades are too low, then one would consider raising the cut-off score.

Equating

The fourth measurement tool for institutional research that will be discussed is equating. Given that a new test (standardized or otherwise) is adopted for use by a department or the central administration, it may be useful to compare the results of the new test with the results of the old test. Also, when two forms of a test are used by a department or organization, they are often equated tests. Therefore, understanding the process of equating may be beneficial.

There are at least three major methods of equating that are used for different situations with respect to different data collection designs as

TABLE 7*

Different Data Collection Designs for Equating Tests

Sample	Test			
1. Single-group design	X		Y	
A1	•		•	
2. Counterbalanced Random-Groups Design	X		Y	
	1	2	1	2
A1	•			•
A2		•	•	
3. Equivalent-Groups Design	X		Y	
A1	•			
A2			•	
4. Anchor-Test-Random-Groups Design	X		Y	Y
A1	•			•
A2			•	•
5. Anchor-Test-Nonequivalent-Groups Design	X	Y	Y	
A1	•		•	
B1		•	•	

*Adapted from Table 6.6 of Peteren, Kolen and Hoover (1989).

shown in Table 7. The method most often used when the groups differ (i.e. no examinees in common for the two testings and there are no items in common)is equipercentile equating. "In equipercentile equating, a transformation is chosen such that raw scores on two tests are considered to be equated if they correspond to the same percentile rank in some group of examinees (Petersen, Kolen and Hoover, 1989; p. 247)."

To illustrate the equipercentile equating process, first the relative cumulative frequency distributions are tabulated for the forms to be equated. Then, equated scores (i.e. scores with identical cumulative frequencies) on the two forms are obtained from these relative cumulative frequency distributions (see Figure 2). (The figure is taken from Petersen, Kolen and Hoover, 1989: p. 248). Scores corresponding from one form to another form yield the equipercentile conversion (See Figure 3 from Petersen, Kolen and Hoover, 1989: p. 249).

FIGURE 2

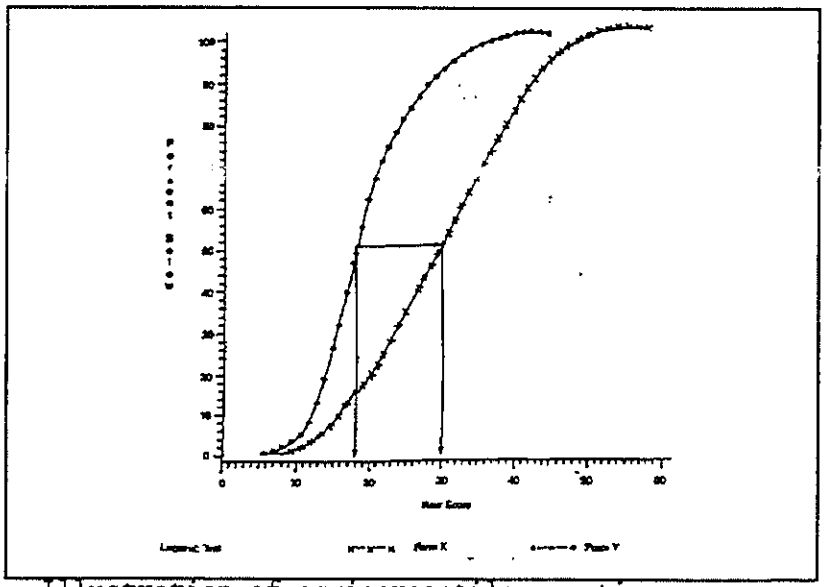
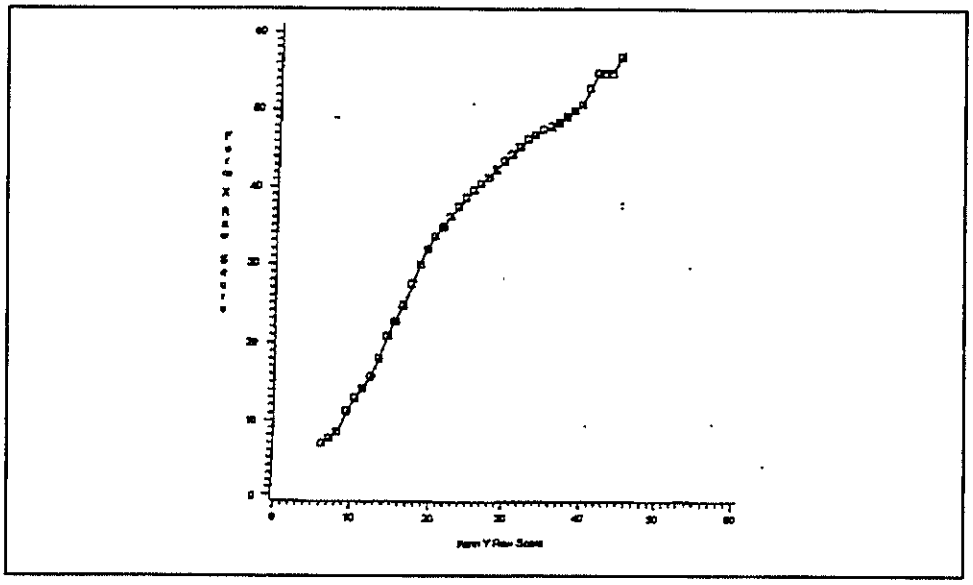


Illustration of equipercentile equating process.

Reprinted from Educational measurement, Third edition by Robert L. Linn. Used by permission of American Council on Education and The Oryx Press, 4041 N. Central Ave., Suite 700, Phoenix, AZ 85012, (800) 279-6799.

FIGURE 3



An equipercentile conversion.

Reprinted from Educational Measurement, Third Edition by Robert L. Lin. Used by permission of American Council on Education and The Oryx Press, 4041 N. Central Ave., Suite 700, Phoenix, AZ 85012, (800) 279-6799.

The equipercentile conversion between scores on two forms will usually be curvilinear. If form X is easier than form Y, the conversion line will tend to be concave downward. The conversion will tend to be S-shaped when the distribution on form X is more platykurtic than form Y. A linear conversion will result when the score distributions are the same (Petersen, Kolen and Hoover, 1989). Equipercentile equating can be carried out using a number of different data collection designs (i.e. single group, equivalent group, the counterbalanced random-groups design, the anchor test-random groups design, and anchor test non-equivalent groups design).

Linear Equating

The equating methods that can be performed under designs 1 through 4 are appropriate in situations which permit the assignment of students to random groups. However, it is often not possible to assign students to random groups and therefore adjustments must be made to account for differences between the groups for the purpose of equating the two tests.

> "If, for example, a new form of a test is introduced at, say the regular September administration in a testing program and it is desired to equate that form to an older form, even one given at a previous September administration where the examinees are similar to these in many respects, there would still be no assurance that the groups taking the two forms were drawn from the same population. Therefore, even when care has been taken, as it was in the present example, to choose the α and β groups in such a way as to minimize their differences, some means must be found to observe the differences that do exist between the two groups and to make adjustments for them." (Angoff, 1971; p. 109-10).

The method that shall be discussed for equating two tests with the anchor test non-equivalent groups design is the Tucker method. In this design form X is

administered to group α, form Y is administered to group β and form U, a synthetic test based on a set of items in addition to (or included among) those represented by forms X and Y is administered to both groups α and β and is used to adjust for differences between groups (Angoff, 1971).

Then, estimates of the mean and variance on both forms X and Y are made for the combined group, group t (α and β combined) and are used in the following equation:

$$\frac{(Y-M_y)}{s_y} = \frac{(X-M_x)}{s_x}$$

This becomes the mean-sigma linear conversion equation Y = AX+B, where $A = \hat{s}_{y_t}/\hat{s}_{x_t}$ and $B = \hat{M}_{y_t} - A\hat{M}_{x_t}$. The Tucker method which is based on univariate selection theory and developed originally by Lord (1955) is intended for groups that do not differ widely in ability. If the groups differ widely in ability the Levine (1955) method is used.

One method of determining whether the groups do or do not differ widely in ability is to evaluate the mean and standard deviation of raw scores for the new form group and old form group on the common items. An evaluation for a sample test appears in Table 8. To judge whether the groups differ widely in ability, $\bar{X}_{diff}$ and Var Ratio are computed. The formulas for these two indices are:

$$\bar{X}_{diff} = \frac{(\bar{X}_{yu} - \bar{X}_{xu})}{s_{tu}}$$

and

$$Var\ Ratio = \frac{s^2_{yu}}{s^2_{xu}}$$

The rule of thumb at Educational Testing Service is that if $\bar{X}_{diff}$ is greater than an absolute value of +/-.25 or if the Var Ratio falls outside the range .8 - 1.25, then the groups differ widely in ability and the Levine method is used. Otherwise, the Tucker method is used.

TABLE 8
Sample Data for Non-equivalent Groups Design
(One test administered to each group, common anchor test administered to both groups)

	New Form Group		Old Form Group		Combined Group	
	X	U	X	U	T	U
	Total	Common	Total	Common	Total	Common
Mean	51.4	19.7	54.3	20.4	52.9	20.1
S.D.	7.8	3.2	8.1	3.4	8.0	3.3

$$\bar{X}_{diff} = \frac{(\bar{X}_{yu} - \bar{X}_{xu})}{s_{tu}} = \frac{(19.7 - 20.4)}{3.3} = -.21$$

$$Var\ Ratio = \frac{s^2_{xu}}{s^2_{xu}} = \frac{(3.2)^2}{(3.4)^2} = \frac{10.24}{11.56} = .89$$

Decision: Groups do not differ widely in ability
Use Tucker method

The Tucker method is based on the following three assumptions:

(1) the intercept of X on U is the same for groups t and α. In other words,

$$M_{x_t} - b_{xu_t}M_{u_t} = M_{x_\alpha} - b_{xu_\alpha}M_{u_\alpha}$$

(2) the regression coefficient of S on U is the same for groups t and α.

$$b_{xu_t} = b_{xu_\alpha}$$

(3) the variance error of estimate of X from U is the same for groups t and α. Or,

$$s^2_{x_t}(1 - r^2_{xu_t}) = s^2_{x_\alpha}(1 - r^2_{xu_\alpha})$$

Substituting the equation from (2) into the equation from (1) and solving for $\hat{M}_{x_t}$, we get

$$\hat{M}_{x_t} = M_{x_\alpha} + b_{xu_\alpha}(M_{u_t} - M_{u_\alpha}).$$

Then substituting in the equation from (3) [$b_{xu_t}s_{u_t}$ for $r_{xu_t}s_{x_t}$ and $b_{xu_\alpha}s_{u_\alpha}$ for $r_{xu_\alpha}s_{x_\alpha}$ and solving for s_{x_t} we get

$$\hat{s}^2_{x_t} = s^2_{x_\alpha} + b^2_{xu_\alpha}(s^2_{u_t} - s^2_{u_\alpha})$$

This process is repeated for forms Y and U which results in $\hat{M}_{x_t}$ and $\hat{s}^2_{y_t}$.

These four equations are then substituted into $b_{xu_t} = b_{xu_\alpha}$ to produce the conversion equation $Y = AX + B$ where $A = \hat{s}_{y_t} / \hat{s}_{x_t}$ and $b = \hat{M}_{y_t} - A\hat{M}_{x_t}$ (Angoff, 1971). These equations "are applicable only when it may be assumed that the regression systems for Groups α and β would have been the same had the groups taken precisely the same tests " (Angoff, 1971; p. 111). A discussion of the Levine procedure for groups that differ widely in ability can be found in Angoff (1971) and Petersen Kolen and Hoover (1989).

The four measurement tools discussed: scale development, standard setting, validating passing scores and equating have use in offices of institutional research in colleges and universities where institutional research carries out assessment and placement responsibilities. Scale development is important in evaluating new programs and in assessing student attitudes. Setting passing scores and validating their use is important for placement decisions, and equating is presented to provide an understanding to test users of how different forms of a test can be used to make comparable decisions. Other aspects of testing such as that of bias are not discussed here, because they seem more unrelated to the work of the institutional researcher.

References

Angoff, W.H. (1971). Scales, norms and equivalent scores. In R.L. Thorndike (ed.) Educational measurement. Washington, D.C., American Council on Education, pp. 514-515.

Chickering,, A.W. and L. Reisser (1993). Education and identity. (2nd ed), San Francisco, CA, Jossey-Bass.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

DeVellis, R.F. (1991). Scale development: theory and applications. Newbury Park, CA, Sage Publications.

Ebel, R.L. (1972). Essentials of educational measurement. Englewood Cliffs, NJ: Prentice-Hall, pp. 492-494.

Gulliksen, H. (1950). Theory of mental tests. New York, John Wiley & Sons.

Jaeger, R.M. (1978). A proposal for setting a standard on the North Carolina high school competency test. Paper presented at the meeting of the North Carolina Association for Research in Education, Chapel Hill, NC.

Levine, R. (1955). Equating the score scales of alternate forms administered to samples of different abilities. (RB-55-23). Princeton, NJ: Educational Testing Service.

Livingston, S.A. and Zieky, M.J. (1982). Passing scores: A manual for setting standards of performance on educational and occupational tests. Princeton, NJ: Educational Testing Service.

Lord, F.M. (1955). Equating test scores: A maximum likelihood solution. Psychometrika, 20, 193-200.

Napoli, A. and Wortman, P.M. (1994). Validating college-level reading placement test standards. Paper presented at the annual meeting of the North East Association for Institutional Research, Baltimore, MD.

Petersen, N.S., Kolen, M.J. and Hoover, H.D. (1989). Scaling, norming, and equating. In R.L. Linn (Ed.), Educational measurement (3rd ed.), New York, American Council on Education and Macmillan Publishing Co., pp. 221-262.

Rogers, T.B. (1974). An analysis of the stages underlying the process of responding to personality items. Acta Psychologica. 38, pp. 205-213.

Shepard, L.A. (1984). Setting performance standards. In R.A. Berk (Ed.), A guide to criterion-referenced test construction (pp. 169-198). Baltimore: Johns Hopkins University Press.

Zieky, M.J. and Livingston, S.A. (1977). Manual for setting standards on the Basic Skills Assessment Tests. Princeton, NJ: Educational Testing Service.

Swimming Skills and Writing Skills: How Do We Assess Them?

William S. Stuart
Office of Planning and Institutional Research

Rita Malenczyk
Writing Program Director

Eastern Connecticut State University

In this paper we will evaluate the Writing Placement and outcomes system at Eastern Connecticut State University, focusing on the Competency Exam route to demonstrating writing proficiency. Assessment of the ECSU Writing Program can provide a model for the examination of writing assessment methods and assessment-based policy making.

The University Writing Program at Eastern is a writing-across-the-curriculum program in which students are required to complete a three-stage process after passing the initial Writing Placement Test. Depending on their performance on that test, students are placed into either GST 113 (a remedial writing course) or English 100 (the standard freshman composition course). They must either complete GST 113 and English 100 or simply English 100, depending on placement. After completing this one- or two-part freshman-level requirement, students then demonstrate writing competency in two additional ways. A year after passing English 100, they take the Writing Competency Exam, a four-hour exam in which they are required to develop an essay from sources. They then complete an upper-division (3- or 400-level) writing-intensive course in their major.

The Writing Competency Exam requirement can actually be completed in more than one way. Students may elect to submit a portfolio of papers written for courses beyond English 100, or they may complete other required courses which, if passed with a certain grade (at this writing, B or better), will exempt them from taking the exam. In a paper given last year at this conference and published in the conference proceedings, Stanley Jacobs and Mary Ann Ausetts (1993) gave a thorough review of the literature on writing assessment and indirectly acknowledged problems of which professionals in the fields of education and composition have long been aware: the difficulty of using essay testing as an index of writing ability. The present Writing Director also acknowledges this difficulty and in fact favors portfolio assessment as an index of writing competency. Nevertheless, a study of the relationship between students' scores on the Placement Test, the writing courses in which they were subsequently placed, and their performance on the Competency Exam is still useful for evaluating Writing Program policy and might provide a model for other institutions.

Both the Writing Placement Test and the Writing Competency Exam require that students demonstrate skill not only in writing but in a particular kind of writing--the academic essay that requires an ability to read, interpret and then write about texts. In the Writing Placement Test, students are given a fable and asked to write a short essay interpreting and analyzing the fable in light of a similar situation they might be familiar with. In the Writing Competency Exam, students are given three articles all dealing with one issue--e.g., college athletics, multiculturalism and diversity on campus--and are asked to develop a thesis from the readings, write an essay of their own, and properly acknowledge their sources. The task assigned by the Writing Competency Exam is admittedly more sophisticated than that of the Placement Test--the essay must be more fully developed; students must know how to acknowledge sources and differentiate between their

own ideas and those of others; students must know how to use a style sheet and compile a bibliography. However, there is continuity between the two tests. Teachers of English 100 generally build on the skills exhibited by students in the Placement Test and introduce them to the conventions of citation; those skills are then expected to be reinforced in subsequent courses taken prior to the Competency Exam.

The Writing Placement Test is scored in controlled readings by faculty members using a six-item holistic scoring guide. Each exam is read by two readers who each score it on a scale from one to six based on how many of the six items the exam satisfies. (A copy of the scoring guide is included in an appendix.) If the two readers do not agree on the placement, the exam is passed by the Writing Director to a third reader to break the tie. If there is still doubt about which writing course the student should be placed in, the Writing Director makes that determination based on supporting information from the student's SAT verbal and TSWE scores, as well as class rank.

The Writing Competency Exam is customarily read by the Writing Director and scored as either "pass" or "fail." The exams are judged on their use and citation of sources, clarity and strength of thesis, support of thesis, organization, clarity of style, appropriateness of word choice, and mechanics. Exams the Writing Director judges to be failing or borderline are passed then to a second (and if necessary a third) reader culled from the pool of Placement Test readers.

Methods

The population studied consists of 144 students who took both the freshman Writing Placement Test and the junior year Writing Competency Exam; the data set consists of Writing Placement and Competency Exam scores and selected demographic and placement information extracted from computerized student records. The extracted information includes gender, race, semester first registered, grade point average, high school rank, SAT Verbal and TSWE scores, and grades in basic writing courses.

To analyze the data, pass rates for the Competency Exam were crosstabulated by Placement Test score and other variables for the whole group and for subgroups. Possible correlations between Placement Test and Competency Exam scores and other data, such as SAT and TSWE scores, were also investigated in order to help establish validity. As a test of reliability of the Placement Test, the difference between the scores of the two raters was computed and a frequency table generated. Also, using the gamma statistic, a correlation measure for ordinal data, the interrater reliability coefficient for the population was computed.

Results

About 86% of the students passed the Writing Competency Exam on the first attempt. (Only students' first attempts are evaluated, since this is a clearer indicator of the unremediated effect of the Writing Program.) In Table 1, crosstabulation of the Competency Exam and Placement Test scores show that students with Placement Test scores of 5 and 6 had the highest failure rate for the Competency Exam. Figure 1 shows the failure rates for the Competency Exam by Placement Test score. Of those who received 5 and 6 on the Placement Test, 50% and 37%, respectively, failed the Competency Exam. This is the most significant finding--that 5's and 6's are somehow not learning to write.

Although the 5's and 6's performed poorly on the Competency Exam, the 4's did very well--8 of 9 passed, which suggests that the placement system works to help them achieve competence. Drawing conclusions on such small populations as this one can be dangerous; further

study with more robust population sizes is needed. What can be fairly certainly determined, however, is that the Writing Program has failed to prepare many of those who score 5 or 6 on the Placement Test.

Table 1. Writing Placement Test Score by Writing Competency Exam Score

Writing Placement Test Score	Writing Competency Exam Score			
	Pass		**Fail**	
	Number	Row Percent	Number	Row Percent
4	8	88.9%	1	11.1%
5	5	50.0%	5	50.0%
6	15	62.5%	9	37.5%
7	26	96.3%	1	3.7%
8	41	95.3%	2	4.7%
9	20	95.2%	1	4.8%
10	7	100.0%	0	0.0%
11	2	66.7%	1	33.3%
Total	124	86.1%	20	13.9%

Table 2 shows that pass rates for those who scored 5 and 6 on the Placement Test were very similar whether they were placed in the remedial writing course (GST 113) or not. When the 4's were added in with the 5's and 6's, however, the pass rate for those placed in the remedial course improves such that it is about 10% points higher (71% to 60%) than the pass rate for those placed in ENG 100. The high pass rate of the 4's, who were all placed in the remedial course, indicates that the remedial course is probably effective in helping students learn to write, and that the low pass rate may be a product of some other factor or factors, such as writing weaknesses which may not be addressed in coursework after the remedial class or the standard freshman composition course.

Table 2. Placement by Writing Competency Exam Score For those scoring 5 or 6 on the Placement Test

	Writing Competency Exam Score			
	Pass		**Fail**	
Placement	Number	Row Percent	Number	Row Percent
ENG 100	10	55.6%	8	44.4%
GST 113	7	58.3%	5	41.7%

Table 3. Placement by Writing Competency Exam Score For those scoring 4, 5 or 6 on the Placement Test

	Writing Competency Exam Score			
	Pass		**Fail**	
Placement	Number	Row Percent	Number	Row Percent
ENG 100	12	60.0%	8	40.0%
GST 113	12	70.6%	5	29.4%

During the scoring of the Placement Test and Competency Exam, there were no provisions for systematically measuring the reliability of the instruments using the test-retest method, and to rescore any of them for this study is not feasible. However, the Placement Test score is composed

Table 4. Distribution of Differences Between Placement Test Scorers

Difference	Frequency	Percent
0	53	36.8%
1	64	44.4%
2	21	14.6%
3	2	1.4%

Interrater reliability coefficient: .42

of the sub-scores of two raters added together, so interrater reliability can be measured. Table 4 shows the frequencies of the absolute values of the differences between the two subscores for the whole population. About 80% of all the pairs of subscores were within one point of each other. An interrater reliability coefficient of .43 shows a moderate level of reliability between raters.

To help establish the concurrent and predictive validity of the Placement Test and Competency Exam, the correlation statistic gamma was generated for the Placement Test, Competency Exam scores, SATV, TSWE, grade point average, grade in English 100, and high school class rank. Note that there are no significance levels indicated because this is population data and, thus, there is no potential for sampling error. The results are shown in Table 5.

Table 5. Correlation Coefficients for Writing Placement Test Score and Other Variables

Variable	Gamma*
Writing Competency Exam Score	.53
TSWE	.36
SAT Verbal	.25
Grade in ENG 100	.17
GPA	.13
High School Class Rank	.11

*Gamma is a measure of correlation between ordinal variables.

Weak correlations exist between the Placement Test score and SAT Verbal, TSWE and GPA. Note the fairly strong (.53) correlation between Placement Test and Competency Exam scores. Though this argues for the predictive validity of the Placement Test, it may, as White (1985) suggests, indicate that the writing program may not be effective in helping students who score poorly on the Placement Test to improve their writing: "[A] remedial writing course is specifically designed to lower the predictive validity of the placement test that forecasts failure for its students" (p. 186).

Discussion

Validity Issues

Content validity, as White (1985) points out, "is a particularly critical issue in instructional program research, where the customary short test cannot possibly include all that has been covered in instruction" (p. 186). Further assessment activities at Eastern could be turned toward a comparison of students' impromptu writing with other types of writing produced by the same students--in effect, a comparison of writing produced in timed exam situations with writing produced in response to other assignments.

This leads to a consideration of construct validity. The consensus in the field of composition is that writing ability is best measured by types of assessment that ask students to perform a range of tasks over a period of time, rather than simply by a one-shot examination situation in which students who do poorly on timed writings may not show themselves to their best advantage (Belanoff and Dickson, 1991; Greenberg, 1992).

Concurrent validity and predictive validity were assessed through the correlation of Placement Test scores with the other placement variables (e.g. SAT Verbal, TSWE). The results indicate a weak to moderate (.39) correlation between the Placement Test and the TSWE, and weaker correlations between the Placement Test and the rest of the placement variables. The strongest indication of predictive validity, however, is the moderate to strong (.53) correlation between the Placement Test and Competency Exam scores. The relatively strong correlation argues for the validity of both tests.

Conclusions and Recommendations

The results of this study suggest that students who score 5 or 6 on the Writing Placement Test perform poorly on the Competency Exam. Though the study does strongly suggest that the writing program needs to provide better support for these students in the interim between English 100 and the Competency Exam (which they take at least a full year after English 100), further study is needed to determine of what, precisely, that support should consist.

Some possibilities for further research, and three policy recommendations:

1. Find out if the results are borne out by adding more cases to the database.
2. Examine whether the 5's and 6's are different in any other ways from other entering freshmen using secondary analysis of existing freshman self-assessment surveys and other survey data.
3. Run focus groups with students who are currently in the Writing Program, especially those who scored 5's and 6's.
4. Run focus groups with professors who teach writing-intensive classes.
5. Examine the Competency Exam texts produced by the 5's and 6's to see if there are any similarities.

Policy Recommendations:

1. Improve the validity of the competency instrument, perhaps with a move away from timed testing situations and toward portfolio analysis, which has greater content and construct validity.

2. Work with faculty to develop strategies to improve the writing of students in courses taken beyond English 100 and prior to the Competency Exam (i.e., courses taken by second-semester freshmen and sophomores and first-semester juniors).

3. Develop a Writing Program database to better manage the program data and make all program data available for regular assessment by the Writing Director.

References

Belanoff, P., Dickson, M. (1991). Portfolios: process and product. Portsmouth, NH: Boynton/Cook.

Greenberg, K. L. (1992). Validity and reliability issues in the direct assessment of writing. WPA: Writing Program Administration, 16:1-2, 7-21.

Jacobs, S. S., Ausetts, M. A. (1993). A review of reliability, validity and useability considerations in the use of the writing sample as an indicator of program effect. North East Association of Institutional Research 20th Annual Conference Proceedings, 1993, 97-121.

White, E.M. (1985). Teaching and assessing writing. San Francisco: Jossey-Bass.

Appendix

GRADING SHEET FOR ECSU PLACEMENT ESSAY TEST DATE _____

Grader's initials ____

Student's name _____ ___ ESL

Social Security # _____ _____ _____

SCORE _____ (1-3 = GST 113, 4-5 = ENG 100, 6 = ENG 200)

Course recommendation:

___GST 113 Basic Wrt.

___ENG 100 College Wrt.

___ENG 200 Expository

___ 0 (Off the subject)
___ 0 (Too brief for scoring)

(Students given 0 for these two reasons may retake the test.)

CRITERIA:

THESIS/FOCUS:
Stated or clearly implied thesis that focuses essay +
No clear thesis or focus –

SUPPORT:
Support mainly relevant and specific +
Support mainly irrelevant and/or extremely general –

ORGANIZATION AND PARAGRAPHING:
Logical order, paragraphs as needed +
No logic to order or paragraphs –

SENTENCE STRUCTURE:
Mature sentences, connections between ideas clear +
Undeveloped sentences, connections between ideas unclear –

DICTION AND GRAMMAR:
Word choice adequate, mainly correct case, tense, agreement +
Word choice limited or inaccurate, frequent syntactic errors –

MECHANICS:
Few errors in spelling, punctuation, capitalization, etc. +
Many errors in spelling, punctuation, capitalization, etc. –

An Unexplored Segment: Decisions, Processes, and Choices of Transfer Students

Dawn Geronimo Terkla Ed.D. & Walter Liss
Tufts University

Introduction

Baccalaureate transfer students have been virtually ignored in the college choice literature. Very little research has been documented about what influences students' selection of a transfer institution. In 1990, Karen Twede wrote, "Rarely have baccalaureate transfers been the focus of higher education research, especially when considering experiences in higher education that occur after leaving the initial institution" (p. 1). In her study of 203 students, she identified four factors that influenced second institution choice: 1) effects from attendance at the initial institution, 2) academic performance, 3) college finances, and 4) academic climate (Twede, 1990).

The primary objective of this paper is to describe what one institution has done to learn more about its transfer population and to identify differences between the college choice selection process of first-time students and transfers. The motivation for this inquiry was to examine another viable admissions market.

Data Sources

Focus Groups

Three focus group sessions with Tufts transfer students were conducted in December of 1992. Students who had transferred to Tufts within the past 12 months were invited by the Dean of Admissions to participate in the focus group sessions. Twenty-seven students participated, two of the groups had six students, the other had fifteen. In order to save time during the session, a brief intake questionnaire was administered to learn some basics about the focus group participants. The sessions were conducted early in the evening during the week, and were moderated by the authors of this paper. The sessions were video and audio taped, and refreshments were served.

An interview protocol was developed jointly by the offices of Institutional Research and Undergraduate Admissions (appendix A). Our primary objective was to learn more about the transfer process. Specifically group members were queried as to why they left their previous institution, what difficulties were encountered in transferring (timing, paper work, credit transfer etc.), and what information was needed by the students to make transfer decisions.

Inquiry Survey

In April of 1993, we surveyed students who had inquired about transferring to Tufts during the past year but never applied. The goals of this instrument were to find out if the student had left the institution they were attending when they originally inquired about Tufts, and if so, their reasons for leaving, which college they transferred to, and their reasons for not applying to Tufts. A 12% response rate was realized for this survey.

Accepted Applicant Surveys

In the spring of 1993 accepted applicant surveys were administered to both first-time students and to transfer accepted applicants. Four populations were queried: first-time matriculants, first-time non-matriculants, transfer matriculants and transfer non-matriculants. This

data collection effort yielded a 32% response rate for transfer students and over an 80% response rate for accepted applicants .

While the survey instruments administered to first-time students and transfer students were not identical, they were both designed to gather the following information: the colleges and universities to which individuals applied, individual's choice preferences of specific institutions, the institutions' admissions decisions, financial aid information, the institution of matriculation, and how influential specific individuals and specific attributes of the institution were in the final college choice decision.

Findings

Why do students decide to leave the institution they are currently attending?

Many of our focus group participants cited school size (either too large or too small), the geographic location, lack of a particular major, and social life as reasons for leaving their former institution. These same factors were also cited by many of the respondents from the transfer inquiry survey. In addition, about 25% of respondents from the transfer inquiry survey indicated that they wanted to transfer to a more prestigious institution. Similar sentiments were echoed by the transfer accepted applicant population. When asked to list up to three reasons for leaving the college or university they were attending, academic, social , and geographic reasons were cited. While a plethora of reasons were cited, in summary, they all pointed to the conclusion that for some reason the institutional fit was not quite right and students were looking for a new place where they would be happy.

How did the students learn about potential transfer institutions?

We were particularly interested in learning how students found out about colleges and universities for possible transfer. The focus group participants, and respondents from both the transfer inquiry survey and transfer accepted applicant survey indicated contact with students at the potential transfer institutions, guidebooks, and searches based on geographic location as the main sources for finding out about potential transfer schools (see Table 1).

Table 1. Transfer Inquiry Survey and Transfer Accepted Applicant Sources for Finding Potential Transfer Institutions

	Inquiry	Accepted Applicants
College guidebooks	76.7%	72.2%
Looked for schools in a certain geographic location	49.7%	62.9%
Contact with students at potential transfer institution	28.5%	70.1%
Know person affiliated with potential transfer institution	24.3%	39.2%
Computer search	10.1%	5.2%
Personnel at present or former institution	7.3%	16.5%
Services of an educational consultant	3.8%	8.2%
High school counselor	na	19.6%
Other	17.7%	23.7%

After finding potential transfer schools, we wondered what kind of information the students needed in order to decide where to apply. When we posed this question to our focus group participants, one student summed up the groups' sentiments with, "I just wanted to know if people were happy there."

Utilization of Guidebooks

The question of applicants' reliance on college guidebooks in deciding where to make applications has become a growing interest. Both transfer and first-time applicants were queried to determine what guidebooks and publications they used in making their college application decisions. A slightly higher percentage of transfers did not use guidebooks (13% vs. 10%).

Of those who did use guidebooks, *Barron's* was used most frequently and relied upon most. Over 50% of both transfer and first-time applicants indicated that they used *Barron's* in order to help them decide where to apply. Approximately 30% of both populations indicated that they relied on *Barron's* the most. From our focus group sessions, we learned that transfer students were consulting the *Index of Majors & Graduate Degrees*. Pursuing this a little further we found that first-time applicants were also consulting this publication.

Important aspects of a college

To help us determine what's really important to students, we asked both first-time freshmen and transfer students to rate the importance of 26 college characteristics. The scale ranged from "not important" to "essential." Our analysis indicated that there are real differences in the college choice decision-making process of first-time students and transfer students.

The five items that both populations viewed as important were accessibility of faculty, employment opportunities after graduation, diversity of academic offerings, academic reputation, and curriculum depth (number of offerings). Table 2 highlights the percentage of transfer and first-time applicants that identified the top college characteristics as essential. For transfer students the most essential characteristic was the institution's academic reputation. For first-time students the diversity of academic offerings was most essential.

Table 2. College Characteristics rated Essential by both Transfer and Freshmen Accepted Applicants

	Transfer	Freshmen
Academic reputation	64.5%	48.5%
Diverse academic offerings	62.1%	55.4%
Accessibility of faculty	60.6%	47.4%
Employment opportunities after graduation	58.7%	53.5%
Curriculum depth	52.7%	45.7%

There were significant differences between the levels of importance transfer accepted applicants and first-time applicants placed on the following items: 1) campus appearance, 2) availability of campus housing, 3) internship opportunities, 4) quality of intellectual life, 5) faculty reputation, 6) reputation of graduate programs, and 7) diverse students. Transfer accepted applicants placed a higher level of importance on internship opportunities, quality of intellectual life, faculty reputation, reputation of graduate programs, and a diverse student body compared to first-time applicants. The mean scores for each group are presented in Table 3.

Table 3. Rating of College Characteristics
Transfer & Freshmen Accepted Applicant Surveys

	Transfer	Freshmen
	Mean	Mean
Campus appearance *	2.50	2.70
Quality of campus housing	2.70	2.70
Availability of campus housing*	2.80	3.10
Internship opportunities*	2.80	2.50
Accessibility of faculty	3.50	3.40
Athletic facilities	2.40	2.30
Computer facilities	2.80	2.70
Research opportunities	2.90	2.70
Employment opportunities	3.40	3.40
Social awareness of students	3.30	3.20
Acceptance to graduate school	3.40	3.20
Diverse academic offerings	3.50	3.50
Quality of social life	3.20	3.20
Quality of intellectual life*	3.50	3.30
Availability of financial aid	2.60	2.40
Location	3.30	3.10
Academic reputation	3.50	3.40
Curriculum depth	3.50	3.40
Faculty Reputation*	3.30	3.00
General education req.	2.60	2.60
Cultural opportunities	3.10	2.90
Surrounding neighborhood	2.60	2.70
Reputation of graduate programs*	2.70	2.40
Racial/Ethnic balance	2.80	2.70
Presence of frats/sororities	1.40	1.50
Diverse students*	3.10	2.90

Scale: 1 Not Important, 2 Moderately Important, 3 Very Important, 4 Essential
* significant group differences at the .01 level

Application Patterns

Once the decisions to apply to schools have been made, there are definite differences among transfer applicants and first-time applicants with regard to the number of schools that they visit and submit an application to. On average, the transfer accepted applicants visited two colleges or universities as compared to the first-time accepted applicants who visited about six institutions.

Transfer students in our study applied to far fewer institutions than first-time students. On average, transfer students applied to three institutions as compared to seven institutions for first-time students.

Impact of Events on Students' Matriculation Decisions

College and universities expend substantial resources in attempting to influence candidates to accept an offer of admission. Both transfer and first-time accepted applicants were queried to determine what types of activities they participated in and the impact various events had on their decision to accept Tufts' offer of admission.

Table 4 highlights the percentage of transfer and freshmen accepted applicants who indicated that they did not participate in a particular event. Transfer students did not rely on formal campus tours and guidebooks as much as first-time students. Approximately 40% of the transfer accepted applicants took a campus tour sponsored by the admissions office as compared to over 60% of freshmen applicants. Moreover, 70% of the transfer applicants indicated that they had taken an informal campus tour. Transfer applicants had more contact by telephone with the admissions office than freshmen. In addition, transfer applicants appeared to obtain more information about the university and the Boston area from the press than freshmen applicants.

Table 4. Influence of Events on Decision to Accept Admission Offer Percentage of Transfer & Freshmen Accepted Applicants Who *Did Not* Participate in the Event

	Transfer	Freshmen
Tour of campus by admissions guide	60%	37%
Informal tour of campus	29%	33%
Tour with university self-guided tour booklet	73%	78%
Visit to class(es)	77%	67%
Meeting students on campus (excluding tour guides and those known previously)	40%	47%
Group information sessions on campus	64%	43%
Contact with faculty or coaches	61%	62%
Reading accepted applicant newsletter (written by students)	46%	30%
Overnight stay on campus (arranged informally)	68%	76%
Fall meeting in local area	84%	82%
Informal alumni contact	57%	56%
Contact by mail from admissions	11%	6%
Contact by telephone with admissions	25%	54%
Information about university in local or national news	20%	44%
Information about Boston in local or national news	10%	21%

Both transfer and first-time matriculants were asked if during any of the events listed in Table 4 they became convinced that Tufts was a good match for them. Transfer students became

convinced that Tufts was the right place for them during an informal tour of campus. First-time students became convinced during a guided campus tour.

These findings have implications for the strategies developed by admissions offices to recruit transfer students. It appears that strategies typically employed for first-time students may not be as effective for transfer students. Transfer students rely more heavily on telephone communications with the admissions office than first-time students. In addition, it seems that informal activities, those that are out of the control of the admissions office had a bigger impact on transfer students regarding their decisions to attend or not attend Tufts. Thus, it is important that the formal contact that the transfer population has with the institution be specific in addressing their needs.

Conclusions

Differences definitely exist between transfer and first-time applicants. On average, the transfer accepted applicant visited fewer and applied to far fewer institutions than first-time applicants.

Different factors influence the college choice decisions of transfer and first-time students. Transfer students are generally in search of a "better institutional fit." They place a higher level of importance on internship opportunities, quality of intellectual life, faculty reputation, reputation of graduate programs, and a diverse student body than first-time applicants.

Transfer students and first-time applicants rely on different sources of information to find out about the colleges and universities they are interested in applying to and attending. From our research it appears that informal activities, those that are out of the control of the institution, have the biggest impact on transfer students regarding their matriculation decisions. However, given that we have found that differences do exist it seems that it would be a worthwhile activity for institutions that are interested in targeting a transfer student population to modify their admissions materials to include information that is most important to these students.

References

Astin, Alexander W. What Matters in College? Four Critical Years Revisited. San Francisco: Jossey-Bass Publisher, 1993.

Klitgaand, Robert. Choosing Elites. New York: Basic Books Inc., 1985.

Manski, Charles F. and Wise, David A. College Choice in America. Cambridge: Harvard University Press, 1983.

Twede, Karen. "Baccalaureate Transfers: An Exploration of Factors that Influence Second Institution Choice." ASHE Annual Meeting Paper (Portland, OR, November 1-4, 1990).

Appendix A

Focus Group Protocol:

1) What were the major reasons influencing your decision to apply for transfer to another college or university?

2) What was the primary factor in your decision to actually transfer to Tufts?

3) Was deciding to leave your original institution an easy decision?

4) How did you go about looking for institutions to which to apply?

5) What information was most important in deciding whether to apply for transfer?

6) What information was most important in deciding whether to enroll?

7) What were the most difficult aspects of the transfer admissions process?

8) What did you like about the transfer admissions process?

9) How were your needs different in the transfer admissions process than they were when you applied as a freshmen?

Administrator Evaluation in the Small, Private College Environment

Stephen W. Thorpe
Director of Institutional Research
La Salle University

The spiraling cost of higher education, declining government support, and increased competition for college–aged students are issues requiring new managerial approaches in higher education. A critical aspect inherent in these managerial processes is the evaluation of administrative effectiveness. Administrator evaluation can serve a multitude of purposes, including facilitating individual and organizational performance improvement; increasing institutional communication; providing a basis for personnel decisions; and responding to demands for accountability (Munitz, 1980; Nordvall, 1979).

Whereas faculty evaluation models are frequently based on research, teaching, and service criteria, an administrator evaluation process requires a very different set of criteria. Ambiguous goals, the difficulties of assessing outcomes, and the vague definition of administrative functions within higher education are some of the issues that make evaluating administrative performance problematic (Farmer, 1979; McGowan, 1990). Nevertheless, the need for administrative evaluation is especially acute in the increasingly complex environment facing institutions of higher education today (Seldin, 1988).

The board of trustees of a small, private, liberal arts college mandated the creation of a merit pay system for all administrators, faculty, and staff. For a merit pay system to reward outstanding performance effectively, a formal evaluation process was necessary. To describe the state of administrator evaluation in comparable institutions, a survey was conducted in 1992 of 100 institutions in the Middle States region.

The purpose of this paper is to present the major findings from this research. The findings include the percentage of surveyed institutions with formal programs to evaluate administrators, the types of evaluation programs used, the stated purposes for evaluation, and the criteria used for evaluation. In addition, the criteria for assessing outcomes of the processes will be discussed.

Review of Literature

The topic of administrator evaluation has emerged in the higher education literature since the mid–1970's. The literature can be organized into several sections which describe the related aspects of administrator evaluation: (a) purposes for formal administrator evaluation; (b) criteria for evaluation; (c) evaluation methods; (d) determination of the evaluators to conduct administrator evaluation; and (e) assessment of the evaluation process.

Purposes for administrator evaluation have been grouped in the literature into three general categories. The first purpose involves pressure and demands for accountability from internal and external constituencies. External sources include the government, trustees, and the public at–large, while internal sources often include administrators who request performance evaluation and faculty (Seldin, 1988).

Improvement of the performance of individual administrators is frequently cited as one of the principal purposes for evaluation. An administrative evaluation process can provide a basis for a program of professional development (Nordvall, 1979) as well as clarify the definition of the administrator's role (McGowan, 1990).

The third general purpose for the evaluation of administrators is the ultimate improvement of the institution. An administrator evaluation process has been promoted as an integral part of an overall institutional effectiveness and assessment program (Nichols, 1989). Moreover, administrator evaluation can lead to improved communication, teamwork and management; assist in ensuring that individual objectives are congruent with organizational objectives; and validate the selection, retention, salary, and promotion processes.

The identification of appropriate criteria for administrator evaluation is a major topic of debate in the literature. While participants in the debate agree that evaluation should focus on important criteria, little agreement exists on which specific criteria are important in the evaluation process (Clewis & Panting, 1985). Instead, specific criteria have been grouped under three general categories: (a) results or goal achievement criteria; (b) skills and abilities criteria; and (c) traits criteria. Criteria selected for evaluation should provide measurements which support the purpose(s) for administrator evaluation, be clearly articulated to the administrator and agreed upon in advance, and reflect the uniqueness of each administrative role (Farmer, 1979; Munitz, 1980). While seemingly obvious, the careful selection of appropriate criteria is apparently often overlooked, thereby diminishing the effectiveness of the administrator evaluation process (Duronio, 1985).

Methods for administrator evaluation are numerous; Berquist and Tenbrink (1978) identified six methods of administrator evaluation employed in institutions of higher education: (a) unstructured narration; (b) unstructured documentation; (c) structured narration; (d) rating scale instruments; (e) structured documentation; and (f) management–by–objectives (MBO). The limitations of any one method for evaluating administrators have led many institutions to combine different methods (Clewis & Panting, 1985), such as MBO with rating scale instruments.

Who participates in the evaluation of administrators is also an issue of considerable interest and debate. The use of multiple evaluators is generally viewed as a positive feature of the evaluation process since it can provide the supervisor with additional information regarding an administrator's performance. Successful implementation requires that all evaluators are able to provide meaningful input to the evaluation process, possess adequate knowledge of and opportunities to observe the administrator's performance, and utilize criteria for evaluation that are clearly defined and assessable (Farmer, 1979, Seldin, 1988). Perhaps because of the cost involved in time and training of other evaluators and the potential for the process to become cumbersome, the implementation of administrator evaluation processes which include multiple evaluators is rare (Duronio, 1985).

Regarding assessment of the evaluation process, the literature is replete with strong advice that the effectiveness of an administrator evaluation process should be constantly monitored (Farmer, 1979; Seldin, 1988). Nevertheless, very few institutions provide for the regular and systematic assessment of their administrator evaluation programs (Duronio, 1985). As a result, McGowan (1990) concluded that a compelling need exists "for new research addressing the issues of evaluation program processes and associated institutional outcomes" (p. 106).

Table 1. Number of Institutions with Administrator Evaluation Programs

Kind of Institution	Number Responding	Number (%) with Program	Number (%) with Materials	Number (%) Sending Materials
Type				
Comprehensive	23	17 (73.9)	11 (47.8)	8 (72.7)
Liberal Arts	59	39 (66.1)	20 (33.9)	18 (94.7)
Total	82	56 (68.3)	31 (37.8)	26 (86.6)
Size (No. of Students)				
500 – 999	18	14 (77.7)	7 (38.9)	7 (100.0)
1000 – 1499	24	15 (62.5)	8 (33.3)	6 (85.7)
1500 – 1999	21	15 (71.4)	7 (33.3)	5 (71.4)
2000 – 2500	19	12 (63.2)	9 (47.4)	8 (88.9)
Total	82	56 (68.3)	31 (37.8)	26 (86.6)

Survey of Small, Private Colleges

A survey of 100 small (less than 2,500 students), private colleges in the Middle States region was conducted to determine the purposes, criteria, and methods of existing administrator evaluation programs. Responses were received from 82 of the 100 institutions surveyed. Of the 82 responding institutions, 56 (68.3%) indicated that they were regularly evaluating administrators (see Table 1). Only 31 (37.8%), however, reported that written materials were available which described their evaluation programs. Documents were ultimately received from 26 institutions. A content analysis was performed on the administrator evaluation documents and appraisal instruments to describe the types of evaluation programs.

Purposes for administrator evaluation were identified from the documents and appraisal instruments in 24 of the 26 responding institutions. "Improving individual performance," "personal/career development," and "personnel decisions" were the most frequently stated purposes by the respondents. The majority of institutions (87.5%) reported more than one purpose for administrator evaluation. For example, of the 11 institutions that listed "personnel decisions" as a reason for administrator evaluation, 10 also indicated "improvement of individual performance" to be a purpose for evaluation, and 8 of the 11 institutions reported "personal/career development" to be another purpose for evaluation of administrators.

Table 2. Frequency of Reported Purposes for Evaluation

Purpose	Frequency	% Total
Improve individual performance	17	70.8
Personal/career development	16	66.7
Personnel decisions	11	45.8
Salary decisions	7	29.2
Reappointment	7	29.2
Promotion	5	20.8
Training	4	16.7
Increase communication between inst and indiv	7	29.2
Set/measure/achieve individual work goals	7	29.2
Set/measure/achieve department/inst'l goals	6	25.0
Improve institutional performance	5	20.8
Improve institutional management	1	4.2
Increase participation in the management process	1	4.2

Total institutions reporting purposes = 24

Criteria for administrator evaluation were grouped into three categories: (a) abilities and skills criteria, (b) results or goal–achievement criteria, and (c) personal traits criteria. Of the 19 institutions that provided written documents enumerating evaluation procedures, criteria were discussed by only 12 institutions. Of the 26 responding institutions, then, over half (53.8%) either did not include documents or did not describe the criteria used to evaluate administrators in the documents provided.

Table 3 compares the types of evaluation criteria described in institutional documents with the types of criteria listed on actual appraisal instruments. Of the 12 institutions that specified criteria in their documents, 5 (26.3%) institutions indicated a combination of abilities and results criteria for evaluation, while 4 (21.0%) specified only results criteria for evaluation. The institutional documents of one institution specified that all types of criteria were evaluated. The overwhelming majority of evaluation instruments, on the other hand, demonstrated combined evaluation criteria, with the combination of all criteria types utilized most frequently (80.0%).

Table 3. Frequencies of Criteria Specification on All Materials

	Type of Material			
	Documents		Instruments	
Criteria Specified As	#	%	#	%
Abilities	0	0.0	0	0.0
Results and/or goal achievement	4	21.0	1	4.0
Traits	1	5.3	0	0.0
Abilities & Traits	1	5.3	2	8.0
Abilities & Results	5	26.3	2	8.0
Abilities, Results, and Traits	1	5.3	20	80.0
Unspecified	7	36.8	0	0.0
Total	19	100.0	25	100.0

In addition to determining the types of criteria evaluated, the appraisal instruments were also analyzed to ascertain the specific abilities/skills and personal traits that were evaluated. The

abilities/skills most often evaluated were "planning," "communication," "specific job knowledge," "leadership," and "professional development." A much wider variation was found in personal traits criteria than in skills criteria. The traits most often evaluated were "initiative," "attitude," and "dependability." Several institutions also included the job description and/or pre–set performance objectives as criteria for evaluation.

The research literature enumerates several methods for the evaluation of administrators. Table 4 outlines various evaluation methods practiced by the 26 responding institutions. Rating scale instruments were the single most frequently reported method for evaluating administrator performance (46.2%), while the MBO method was reported by just 2 (7.7%) of the institutions.

Over 40% of the responding institutions used a combination of methods to evaluate administrators. Rating scales were coupled with an MBO approach by nearly 27% of the institutions. These institutions used a rating scale for the assessment of certain factors (such as job skills or personal traits), and the MBO approach for developing performance and/or professional development objectives. The objectives were written jointly by the administrator and the supervisor after the rating scale instrument was completed, thereby incorporating the evaluation results in the objective–setting process.

Six of the 26 programs reviewed used multiple raters to evaluate administrators; for the remaining 20 institutions, the supervisor was the sole evaluator. Eleven of these 20 institutions, however, also utilized data provided by the administrator, which were often self– evaluations of annual performance objectives.

Table 4. Frequency of Evaluation Methods Utilized

Method of Evaluation	Frequency	Percentage
Rating Scale	12	46.2
MBO	2	7.7
Unstructured Narration	1	3.8
Combinations:		
Rating Scale & MBO	7	26.9
Structured Narration & Rating Scale	1	3.8
Structured Narration & MBO	1	3.8
Unstructured Narration & Rating Scale	1	3.8
Unstructured Documentation & Rating Scale	1	3.8

Total institutions reporting = 26

In the 6 multi–source programs, the raters included peers, subordinates, faculty members, and students. The raters were chosen in one of three ways: (1) by the supervisor in conjunction with the administrator, (2) by a committee, or (3) as prescribed by the design of the process. All raters, including the supervisor, used the same appraisal instrument to evaluate administrators at 4 of the 6 institutions. For the remaining two cases, the non–supervisory raters assessed essentially personal traits criteria (e.g., "approachability," "professionalism," or "institutional commitment") while the supervisor assessed job–related criteria. At one institution, the supervisor's evaluation was based solely on the functions listed in the administrator's job description.

Assessment procedures for the administrator evaluation programs were provided by just 2 (7.7%) of the 26 responding institutions. The procedures consisted of questionnaires which solicited the level of administrator satisfaction with the evaluation process and the appraisal

instrument. One institutional survey asked each administrator to assess (a) the clarity of the goals and objectives of the process, (b) the introductory session for staff, (c) the training sessions, (d) the video tape for staff use, (e) evaluation forms, (f) the interview with their supervisor, and (g) the time–line for the evaluation process. The other institution asked each administrator to assess (a) the performance review form, (b) the review process, (c) the description of expected future developments, and (d) the utility of the appraisal interview and discussion. In both cases, the questionnaires were returned to the administrative office responsible for monitoring the evaluation process.

Discussion

With nearly 70% of the institutions surveyed in this study reporting administrator evaluation programs, the practice of administrator evaluation at small, private colleges has been established. The question of whether such processes are effective, however, remains unanswered since virtually all of the responding institutions lacked assessment procedures for their evaluation programs.

The sensitive nature of evaluation supports the need to clearly articulate the purposes, criteria, and method for evaluation. The majority of institutions surveyed neglected to develop such documents, even though written documents can diminish confusion as to the program purposes, criteria, and timing. Moreover, written documents provide an excellent starting place for assessment of whether or not the stated purposes for evaluation are being achieved.

Administrator evaluation programs have been instituted for the broad purposes of individual and institutional improvement. These two purposes for evaluation, however, should be viewed separately inasmuch as one method cannot necessarily accomplish both. The former focuses on the needs of the administrator while the latter focuses on performance in the administrative position. A process designed for professional development of administrators, for example, requires different evaluation criteria than a process to aid in making personnel decisions.

Criteria for evaluation should provide measures that support the purpose for administrator evaluation, be agreed upon in advance, and clearly specified. If the purpose for evaluation is to make personnel decisions, then the criteria should be job– or outcomes–oriented. Personal traits criteria, although utilized by the vast majority of institutions surveyed, should be discouraged (Clewis & Panting, 1985). Moreover, evaluation criteria should provide flexibility to enable the recognition of the uniqueness of each administrative role. Incorporating the responsibilities articulated in a job description as criteria provides one method to achieve flexibility.

The literature review and the results of this survey show that the purposes, criteria, and methods for evaluation vary widely even within the small, private college environment. While rating scale instruments were frequently utilized, the literature questions the effectiveness of such instruments (Clewis & Panting, 1985; Fisher, 1978). The achievement of pre–set objectives which are specific to each administrator appears to have a greater impact on individual and institutional performance (Thorpe, 1992).

Administrator evaluation, as with any organizational process, must be routinely reviewed to determine effectiveness and facilitate improvement. Although a few institutions in this survey reported modifications in their evaluation programs, formal mechanisms supporting such improvements were generally not found. The importance of ensuring that evaluation processes are effective in achieving their stated purposes demands nothing less than formal mechanisms that insure continual assessment.

Conclusion

An effective administrator evaluation process provides an excellent vehicle for institutional focus and improvement. The spiraling cost of higher education, declining governmental support, and the increasing competition for college–age students are just a few of the issues requiring new managerial approaches in higher education, including the evaluation of administrator effectiveness. Successful institutions are those which develop and implement meaningful and effective processes which respond to these realities. Institutional researchers can play an active role in supporting the development of policies and processes that lead to effective assessment of administrator performance.

References

Bergquist, W. H., & Tenbrink, G. J. (1978). Evaluation of administrators. In S. A. Knowles (Ed.), The international encyclopedia of higher education (pp. 1493–1498). San Francisco: Jossey–Bass.

Clewis, J. E., & Panting, J. I. (1985). Performance appraisal: An investment in human capital. Washington, D.C., College and University Personnel Assoc.

Duronio, M. A. (1985). Programs to evaluate administrators in higher education (Doctoral dissertation, University of Pittsburgh, 1985). Dissertation Abstracts International, 47, 05A.

Farmer, C. H. (Ed.) (1979). Administrator evaluation: Concepts, methods, cases in higher education. Richmond, VA: Higher Education Leadership and Management Society.

Fisher, C. F. (1978). The evaluation and development of college and university administrators. In J. A. Shtogren (Ed.), Administrator development in higher education. (pp. 1–19). Richmond, Richmond, VA: Higher Education Leadership and Management Society.

McGowan, R. (1990). Perceptions of administrator evaluation program processes and outcomes (Doctoral dissertation, University of Pittsburgh, 1990). Dissertation Abstracts International, 51, 05A.

Munitz, B. (1980). Examining administrative performance. In P. Jedamus & M. W. Peterson and Assoc (Eds.), Improving academic management: A handbook of planning and institutional research (pp. 478–494). San Francisco: Jossey–Bass.

Nichols, J. O. (1989). Institutional effectiveness and outcomes assessment implementation on campus: A practitioner's handbook. New York: Agathon Press.

Nordvall, R. C. (1979). Evaluation and development of administrators. AAHE–ERIC/ Higher Education Research Report No. 6, Washington, D.C.: The George Washington University.

Seldin, P. (1988). Evaluating and developing administrative performance: A practical guide for academic leaders. San Francisco: Jossey–Bass.

Thorpe, S. W. (1992). The development of an administrator evaluation program at a small, private, liberal arts college (Doctoral dissertation, University of Delaware, 1992). Dissertation Abstracts International.

Factors Associated with Student Loan Default among Different Racial and Ethnic Groups

J. Fredericks Volkwein, Alberto F. Cabrera,
Bruce P. Szelest, Michelle R. Napierski

University at Albany

Introduction

For three decades, public investment in higher education has been directed at removing economic barriers to attend and to persist in college. This commitment to educational opportunity produced growth in student financial aid from $557 million in 1963-64 to an astonishing $42 billion in 1993-94 (College Board, 1994). Federal financial aid to college students has increasingly taken the form of publicly subsidized loans (Lewis, 1989). Since 1980, approximately half of all students who attend four year colleges and more than sixty percent of students at proprietary schools borrowed at one point in their education (College Board, 1992). These loans must be repaid, and there is public concern about the alarming trend in default rates. Knapp and Seaks (1992) have estimated that whereas federal loan volume grew by 58 percent during the 1980s, the dollar value of default claims grew by about 1200 percent, accounting for over a fifth of total program costs.

Student loan delinquency rates, averaging above 20 percent since 1980, compare unfavorably with other types of consumer loans where the delinquency rates since 1980 have ranged from 1.5 percent to 3.6 percent for various types of personal consumer credit and automobile loans (American Bankers Association, 1994), and from 4.6 percent to 5.8 percent for various types of home mortgages (Mortgage Bankers Association of America, 1994).

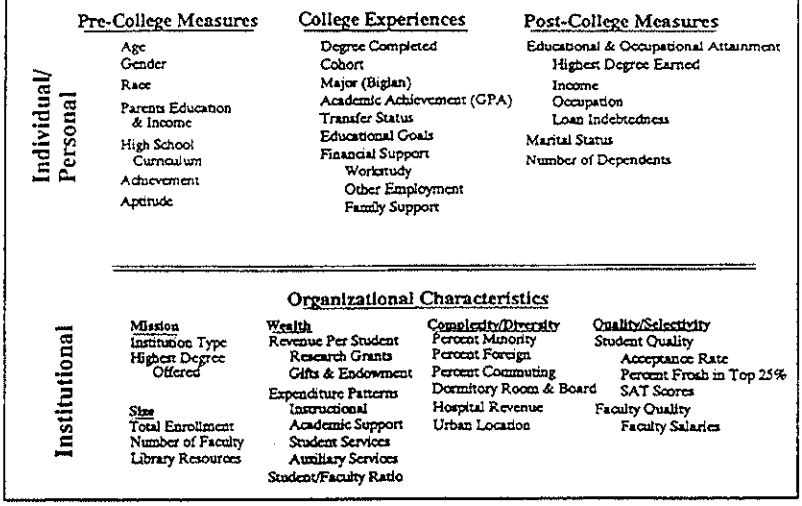
Concomitant with the growth in student borrower default, is the commonly held perception that the institutions themselves contribute substantially to this problem. Public policy, reflected in federal legislation, holds campuses accountable for the default behavior of students, even though default occurs after students have left the institution. Despite the demise of *in loco parentis*, colleges and universities are widely believed to exert considerable influence on the personal actions of their students. The debate about using default rates to penalize campuses continues. Research evidence to support public policy, however, is sparse.

Theoretical Framework and Model Development

We developed a conceptual framework (shown in Figure One) to guide our variable development and analysis. This framework draws heavily upon the literature on economic behavior (Manski and Wise, 1983), the literature on organizations (Hall, 1991), and the college outcomes literature (Pascarella and Terenzini, 1991). The conceptual frameworks guiding our model development and variable selection incorporate three perspectives from the research literature. The first perspective reflects theories of human capital and public subsidy; the second rests on the borrower's ability to pay; and the third incorporates student-institution fit models from the literature on college outcomes.

Figure 1

CONCEPTUAL MODEL



Human capital theory encourages researchers to attend to those variables that reflect a person's willingness to invest in educational credentials and training that yield a greater return or higher financial compensation (Becker, 1964; Freeman, 1976).

The theory underlying public subsidies is that academically able but low-income citizens are motivated to pursue post-secondary credentials and training when the benefits outweigh the costs (Cabrera, Stampen and Hansen, 1990). Demonstrated financial need is the mechanism assuring that the subsidy reaches the target population (Stampen and Cabrera, 1986). The student loan program is one mechanism of lowering the effective costs of schooling, relative to the benefits, thus increasing access to post-secondary education for those who stand to enhance their future earnings. Those who do not complete their educational programs still have the loan obligations, but generally are not able to enjoy the expected earnings enhancement. Thus, we expect those who do not complete their degree programs to default more frequently than those who do. A human capital perspective would also lead us to expect differences by major field of study.

Additionally, those who complete more years of schooling are also likely to see higher rates of return on their investment which can offset the additional costs of acquiring the additional years of schooling. Thus, we would expect lower default rates among those with bachelors and masters degrees compared to those with proprietary school certificates or two-year college associate degrees, even though those with higher level degrees may have greater loan indebtedness (Berger 1992).

A second economic perspective, related to the first, is the **ability to pay model** (Cabrera, Nora and Castaneda, 1992; Cabrera, Stampen, and Hansen, 1990). This model assumes that the income levels of students and their families exert substantial influences not only on college attendance, but also on loan repayment behavior. This perspective causes us to pay research attention not only to the borrower's earnings, marital status, and family size, but also to parental income on the grounds that those who find themselves in financial difficulty may be able to rely on their parents for financial assistance.

The college outcomes literature in the past 20 years has provided a productive stream of theory development and research (Pascarella and Terenzini, 1991). **Student-institution fit models and research on retention and persistence** have illuminated the role of institutional and individual characteristics which can be incorporated to explain a variety of student outcomes. Scholarship in this area has been dominated by two models (Bean's and Tinto's) that have recently been combined to form a third more comprehensive model (Cabrera's).

Cabrera's integrated model of student retention (1992, 1993), while relying heavily upon Tinto's concepts of integration and goal commitment (1975, 1987), also gives prominence to concepts from Bean's student attrition model (1980, 1985), from the ability to pay model (Cabrera,

et.al., 1990), and from Nora's models that address the role of friends and parents (Nora 1987; Nora et.al., 1990). Cabrera's new model is especially valuable for increasing our understanding of the relationship among financial aid, family support, educational goals, academic integration, and academic achievement as influences on retention and persistence.

Several authors have demonstrated that the concepts and measures in such student-institution fit models can be applied to other college outcomes as well. Pascarella & Terenzini (1982), Terenzini, *et.al.* (1984, 1987), Volkwein, *et.al.* (1986), and Volkwein (1991) are among the researchers finding a variety of cognitive and non-cognitive outcomes influenced by measures of student academic and social integration. It is reasonable at least to hypothesize that these factors also play a role on a behavior such as loan delinquency.

Other Research on Student Loan Default

Despite the importance of this national problem, the literature contains few empirical studies. We found only six refereed journal articles and a handful of unpublished research reports and doctoral dissertations that describe the characteristics of defaulters. In the aggregate, these sources provide valuable information about the characteristics of loan defaulters, but each of the published studies is limited to a particular state or particular type of institution, or has other data limitations. Greene (1989) studied only 161 individuals who received Perkins Loans from a school in North Carolina. A case study of 100 vocational education and proprietary school students in the state of Texas (Lein, Rickards, and Webster, 1993) compared 50 defaulters with 50 repayers. A study by Knapp and Seaks (1992) consisted entirely of borrowers in the state of Pennsylvania at 26 public and private two and four year institutions. Wilms, Moore, and Bolus (1987) limited their study to a population of borrowers at proprietary schools and two-year colleges in the state of California. Mortenson (1989) examines national survey data, summarizes American attitudes toward borrowing, and reviews the findings from these other studies, but does not himself present new analysis of defaulters. Only two studies use national databases of defaulters (Dynarski, 1991; Volkwein & Szelest, 1995, in press). The Dynarski study employs a limited definition of default that removes over half the defaulters from the sample, and fails to include the rich array of organizational variables we have assembled for this analysis. The Volkwein and Szelest study limits their analysis to pre-1984 out-of-school borrowers but stops short of analyzing the default profiles of various racial or institution type sub-populations. No study has used the conceptual framework we have constructed to address this topic and no researchers have attempted to merge the NPSAS, IPEDS, and College Board databases. In particular, previous studies generally failed to include the rich array of organizational variables we have assembled for this analysis.

The higher education literature also suggests the importance of examining the determinants of default behavior among ethnic groups. Astin (1982) found that indicators of socio-economic status were significantly related to various educational outcomes. In particular, he found that the lower the family income, the lower the opportunities for minority students to perform well in college and to persist. Olivas (1985) found that Hispanics are more reluctant to go into debt to finance their college education. Mortenson (1989) reports that Hispanics, women, and students from lower economic backgrounds are less likely to have positive attitudes towards borrowing. Several of the loan default studies, one in California and one in Pennsylvania, produced results that are consistent with Astin, Mortenson, and Olivas. Wilms, Moore and Bolus (1987), while studying a population of California proprietary and two-year college borrowers, found race to be significantly related to differences in default rates. Knapp and Seaks (1992) in Pennsylvania also found that race was significantly associated with loan default. Volkwein and Szelest (1995, in press) found that even after controlling for institutional, organizational, and personal characteristics, the ethnicity of the student is one of the main predictors of default and repayment behavior. These various studies suggest the need for assessing the effects of personal, institutional, and socio-economic characteristics on default behavior among different ethnic groups.

Design of the Study and Methodology

Using cross-sectional databases, and both bivariate and multivariate analyses, this study examines the correlates of student loan default and repayment behavior. The research has proceeded in four phases, model development, database building, variable reduction, and analysis.

The logistic regression models in this study are based on the loan default model advanced by Volkwein and Szelest (1995, in press). Accordingly, default behavior is presumed to be the product of various pre-college, college, and post-college characteristics and experiences. (See Figure 1.) Regarding the information on individual borrowers, the model incorporates measures of age, race, gender, parent's education and income, financial need (reflected in multiple aid sources), high school preparation, college major and grades, institutions attended (transfer), educational degrees completed, post-college occupational attainment and income, loan indebtedness, marital status and number of dependent children. The framework also includes organizational mission measures of institution type and highest degree offered to account for the effect of the institution attended on default and repayment behaviors. This is consistent with the studies by Astin (1993) and others (e.g., Mow & Nettles, 1990) suggesting that student outcomes are associated with type of institution attended.

Database Building and Sample Population

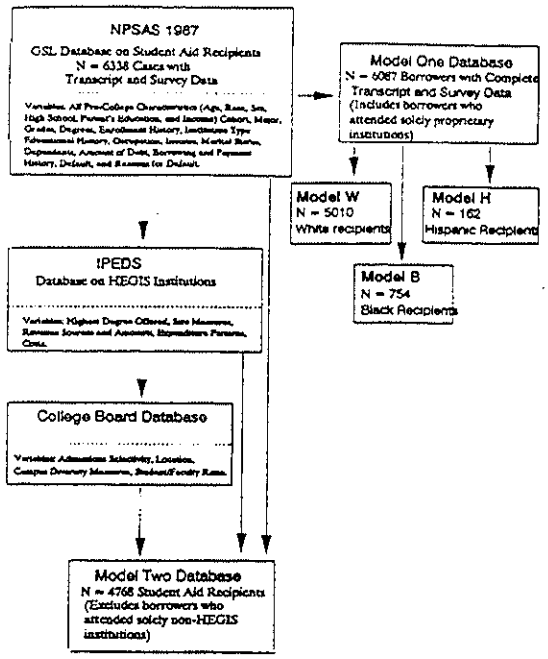
Figure 2 portrays the three national databases we merged for this study in order to construct the data sets for **Model One** (which includes non-HEGIS, proprietary school borrowers), and for **Model Two** (which includes only those borrowers for whom IPEDS and College Board Survey data are available). The 1987 NPSAS database includes over 11,000 persons who began attending a higher education institution between 1973 and 1986 and who participated in the Guaranteed Student Loan (now Stafford) program. [A more complete description of the NPSAS 1987 population and methodology is available in the Users Manual (NCES, 1989).] Relatively complete transcript and survey data exists in NPSAS on 6,338 individual student aid recipients. This database includes information about student personal, demographic and family characteristics, data reflecting financial and occupational information, and academic records from college transcripts. The borrowers attended over 1,400 different institutions of higher education ranging from private for-profit institutions and community colleges to professional schools and research universities. Of the 6,338 former students in our Model One data set, 1,219 (19.24%) defaulted and 5,119 either paid in full or were in repayment with their loans in good standing. To carryout the race-specific analyses for this study, we use the Model One data set to create separate models for Whites (Model W), for Blacks (Model B), and for Hispanics (Model H).

Variable Reduction

Merging the NPSAS, IPEDS, and College Board data supplied several hundred institutional and borrower variables as potential correlates of loan repayment and default. In phase two of the study, we reduced the independent variables in both data sets down to a manageable number. Variables are selected on the basis of having relevance to the model (in Figure 1), a large number of cases, and lacking colinearity. Assisted by principal components analysis, the merged data set of predictors has been reduced to about four dozen variables: two dozen measures of institutional characteristics, and two dozen characteristics of the individual student aid recipients. Each variable relates to at least one of the four branches of the research literature discussed above.

Figure 2

Database and Model Development



The result of this data building and variable reduction process produces two data sets, and this paper draws upon the first Model One data set of 6,087 out of school borrowers. This Model One database allows us to test the hypothesis that institution type has an impact on default behavior, and allows us to examine the impact on default of a variety of other pre-college, college, and post-college measures. The weakness of this data set is that it contains no information on the measures for organizational size, complexity/diversity, wealth, and selectivity/quality, because these particular organizational measures are obtained from the IPEDS and College Board databases and are not available for proprietary schools.

Bivariate Results for Default Behavior

Tables 1 - 3 summarize some of the results of our bivariate analysis, and display the default profiles of selected populations of borrowers. Females are significantly less likely to default than males. Other pre-college characteristics associated with low levels of loan default include being Asian American, having a college-educated parent, and coming from a family with income above $30,000. On the other hand, being African American or American Indian, coming from a family of little education, and having a GED or no high school diploma are characteristics that have default rates ranging from 33 percent to 56 percent, as shown in Table 1.

Regarding the Table 2 default rates for selected measures of the borrowers' college experience, the lowest default rates are associated with academic performance above 3.0, a major in one of the Biglan pure/hard/non-life subjects like chemistry, geology or mathematics, and attending a doctoral university or specialized institution such as a business college, engineering school, or seminary. Attending a proprietary institution or earning low grades are characteristics that have default percents in the upper 20s to mid 30s. Those who attend more than one institution and receive transfer credit have a significantly lower default rate than those who do not.

Regarding the default rates for selected post-college variables in Table 3, the highest default rates are among those borrowers with no degree or certificate, with earnings under $10,000, and with dependent children. Having dependent children combined with being single or separated/divorced produces default rates above 40 percent. The lowest default rates occur among those with bachelors or graduate degrees, those with higher loan amounts (perhaps indicating more years of schooling and borrowing), and those with earnings above $25,000. Borrowers with a graduate degree combined with earnings above $30,000 are especially unlikely to default. These results are consistent with human capital and ability to pay theories.

Table 1. Default Rates For Selected Pre-College Characteristics Of Borrowers

Borrower Category		Default Rate	Borrower Category		Default Rate
Sex	Male	20.0	**Parent Education**		
	Female	18.2		GED or No HS Diploma	33.1
				High School Graduate	22.2
Race				Some College	16.1
	African American	55.7		College Graduate	14.4
	American Indian	45.7		Graduate Degree	10.9
	Asian American	16.7			
	Hispanic & Other	19.1	**High School Graduation**		
	White	13.4		H.S. Diploma	17.0
	Data Missing	6.5		GED or No H.S. Diploma	45.3
Parent Income					
	$10,999 or less	23.8			
	$11,000 - 16,999	22.2			
	$17,000 - 22,999	20.1			
	$23,000 - 29,999	14.6			
	$30,000 or more	10.4			

Table 2. Default Rates For Selected College Characteristics Of Borrowers

Borrower Category		Default Rate	Borrower Category		Default Rate
Institution Attended			**Science/Technology Major**		
	Proprietary (Non-Hegis)	29.1		Science/Technology	18.7
	2 Year	25.5		Other	19.3
	4 Year	15.9			
	Doctoral University	13.7	**Transfer Status**		
				U.G. Transfer Credit	13.9
Cumulative GPA				No U.G. Transfer Credit	21.3
	0.0-1.9	36.8			
	2.0-2.4	29.8			
	2.5-2.9	13.7			
	3.0-3.4	10.6			
	3.5 and above	7.9			

In the bivariate analysis we also explored the interaction between institution type and race as a factor in default. Based on the literature, we expected to find that proprietary institutions and two- year colleges would account for most of the differences in default among the racial/ethnic populations in the study. Some default differences between these groups were evident at different institution types, but their magnitude was not as large as expected. The majority of defaulters among Whites, Asians, and Hispanics are located at proprietary and two-year institutions, but African and Native Americans have high default rates at four-year colleges and universities, as well as two-year and proprietary schools. At any rate, it is evident that default rates vary significantly both by institution type and by race, thus suggesting the need for research on each.

Table 3. Default Rates For Selected Post-College Variables

Borrower Category	Default Rate	Borrower Category	Default Rate
Highest Earned Degree		**Loan Indebtedness** (adjusted to 1973 $)	
No Degree/Certificate	32.4	Below $1,000	24.5
Certificate/License	23.0	$1,000 - 1,999	17.5
Associate	11.8	$2,000 & above	11.2
Bachelors	9.4		
Graduate	7.3	**1986 Earnings**	
		Below $5,000	24.9
Family Status		$ 5,000 - 9,999	29.9
Single & never married		$10,000 - 14,999	24.0
No dependents	16.6	$15,000 - 19,999	22.8
With 1 dependent	42.1	$20,000 - 24,999	18.1
With 2 or more	47.4	$25,000 - 29,999	13.9
Married		$30,000 - 34,999	12.2
No dependents	6.2	$35,000 - 44,999	11.6
With 1 dependent	13.8	$45,000 or more	15.7
With 2 or more	23.3		
Separated/Divorced/Widowed			
No dependents	17.3		
With 1 dependent	44.4		
With 2 or more	45.6		

Multivariate Results for Whites, Blacks, and Hispanics

Because race and ethnicity exert such a strong effect on these initial findings, we wanted to explore the possibility of differences in the patterns of default for each racial group. Moreover, the higher education literature noted above suggests the need for investigating default behavior among different ethnic groups. We are limited by the low number of borrowers in the data set for Asians and Native Americans. However, as shown in Figure 2, we are able to capture enough cases to carryout separate logistic regressions for Whites (Model W), African Americans (Model B), and Hispanics (Model H), although this latter population is below the recommended standard of 10 cases per variable. Table 4 shows the results of the three separate logistic regressions.

The first of the two data columns for each racial group in Table 4 indicates the standardized beta-weights (representing the relative importance of each variable, controlling for all others, on the logit). The second column displays the more interpretable Delta-p values (showing the change in the probability of default that each significant variable makes, controlling for all others). Delta-p values for the other conceptually relevant variables are not shown because they are not significant and do not improve model fit. These include transfer status, various sources of non-loan financial aid, and amount borrowed.

Since **Model W** contains more than 80 percent of the cases in Model One, we expected and found similar findings to those reported by Volkwein and Szelest (1995, in press). The significant Delta-p values for Model W in Table 4 show that the effects of four-year college attendance, gender, parent education and income, a high school diploma, science major, college grades, earned degrees, dependent children, marital status, and 1986 income all effect default in the same direction and in roughly the same magnitude as in the Volkwein and Szelest study (1995, in press).

Table 4. Logistic Regression Results

	Model W (Whites = 5010)		Model B (Blacks = 754)		Model H (Hispanics = 162)	
Measures	**Beta**	**Delta-P**	**Beta**	**Delta-P**	**Beta**	**Delta-P**
Institution Type						
2-Yr College	-.171		-.294		.160	
4-Yr College	-.339**	- .035	-.157		.065	
Doctoral Univ	-.293**	-.031	.029		.790	
Borrower: Pre-College						
Female	-.466****	- .046	-.518***	-.129	-1.327**	-.132
Parents' Education						
High School Graduate	-.014		-.106		-1.573*	-.144
Less than 2 yrs	-.330*	- .034	-1.175****	-.277	-.458	
2 yrs College	.231		-.494*	-.123	1.635	
Completed College	.113		-.208		.328	
Masters or Ph.D	-.186		.019		-.868	
Parents' Income						
$11,000-$16,999	.387**	.052	-.148		-9.002	
$17,000-$22,999	.133		.356		.290	
$23,000-$29,999	-.055		.007		-.691	
$30,000-$49,999	- .326**	- .034	-.003		-1.402	
$50,000 or more	- .193		-.545		.802	
High School Diploma	-.978****	- .079	-.197		-1.696**	-.150
Borrower: College						
Family Support	- .217**	- .023	.279		-1.551	
Grants/Scholarships	.002		.224		.348	
Work Study	-.075		-.382		.338	
Work	.071		-.253		-.516	
Transfer Status	.013		-.194		-1.427	
Science/Technol Major	- .348****	- .036	.109		-.228	
College GPA	- .400****	- .040	-.114		-.861	
Earned Degrees						
License/Certificate	-.523***	-.050	-.732***	-.180	1.325	
Associates	-.994****	-.080	-.739*	-.182	-8.521	
Bachelors	- .993****	- .080	-.568**	-.141	-.749	
Masters or Ph.D.	-1.463****	- .099	.187		-8.873	
Amount Borrowed	-.000	.000			.000	
Borrower: Post-College						
Dependent Children	.281****	.036	.204**	.050	.369	
Married	-.407***	-.041	-.558**	- .139	-1.795*	-.153
Separated/Divorced/Wid	.635****	.092	.105		-.498	
1986 Gross Income	.000**	- .000	-.000		.000	
Constant	1.1436		1.4352		3.3368	
Average Default Rate		**.134**		**.557**		**.191**
*Significant at .10 level	PCP = 86.7%		PCP = 63.7%		PCP = 86.3%	
**Significant at .05 level	X2,df = 547.615,31****		X2,df = 75.298,31****		X2,df = 65.158,31****	
***Significant at .01 level						
****Significant at .001 level						

The beta weights and Delta-p values in **Model W** indicate that attending **a four-year college or doctoral university lowers the default probability** by over three percent, but attending a two-year college has no significant effect, controlling for all other variables. Second, there are **three types** of variables that generate sizable **increases** in the probability of loan default: **race, dependent children, and being separated, divorced or widowed.** Third, significant **decreases** in default probability are produced **by being female, by having parents who attended at least two years of college and who have incomes above $17,000, by earning a high school diploma, by majoring in the sciences, by attaining high college grades, by completing a college degree or professional license, and by current earnings (1986 income).**

Consistent with the Model One bivariate analysis, being **separated, divorced, or widowed** increases the probability of default by almost 9 percent, controlling for all other variables, and having **dependent children** increases default probability by 3.6 percent per child.

The Delta-p values in **Model W** indicate that **females** are 4.6 percent less likely to default than males. Having a **parent who attends college** lowers the default probability by 3.4 percent. **Parental income below $17,000** increases the default probability by 5.2 percent and **parents' income above $30,000** lowers the default probability by 3.4 percent. Those who receive **high school diplomas** have a 7.9 percent lower default probability. A major in a **scientific or technological field** is associated with a 3.6 percent lower default probability, and each one point increase in the **college GPA** (e.g., from 2.0 to 3.0) decreases the probability of default by four percent. The data also suggest the importance of completing one's program of study, regardless of degree level. The impact of **degree completion** on lowering default ranges from five percent for a license or certificate to ten percent for a graduate degree. Being **married** lowers the probability of default by 4.1 percent.

The average default rate for the **Model W** population is 13.4 percent. While the model developed for the White sample population correctly predicts 86.7 percent of repayment and default behavior, the prediction success is bimodal. This model correctly predicts 98.6 percent of repayment, but only 10.8 percent of default.

The regression results for the **Model B** data set are also shown in Table 4. Fewer Beta and Delta-p values are significant for the African American population (than for Whites), but the magnitudes are much greater. Black females (compared to males) have almost a 13 percent lower default probability-- three times the effect for White females. Having a parent who attended college is associated with 27.7 percent lower default for Blacks -- eight times the size of the effect on Whites, and having a parent who completed two years of college lowers default probability by 12.3 percent among African Americans.

For both Whites and Blacks, **degree completion has a dramatic influence on lowering the probability of loan default**, but the impact of each credential through bachelors degree attainment is much greater for Black borrowers. Completing a license/certificate or associate degree by Blacks lowers their default probability by about 18 percent, while completing a bachelors degree lowers the probability of default by 14.1 percent. Comparing the Delta-p values in Models W and B reveals that earning a license, associates, or bachelors degree is two to three times more important for Black borrowers than for Whites.

In **Model B**, married borrowers exhibit a default probability that is almost 14 percent **lower** than those who are single -- an effect that is three times the size as for Whites. Among African American borrowers each dependent child **increases** the probability of default by about 5 percent. Again this is substantially greater than the 3.6 percent increase for **Model W** borrowers with dependent children.

The average default rate for the **Model B** population is 55.7 percent. Model B correctly predicts 63.7 percent of overall borrower behavior, but (unlike Model W) this model correctly predicts a greater amount of default (75.9%) and only 48.1 percent of repayment.

Turning to **Model H** in Table 4, we see that the average default rate is 19.1 percent. Only four variables attain statistical significance, and they each serve to lower the probability of default by similar amounts. Graduating with a high school diploma and having a parent who did also, being female, and being married all reduce the probability of default by amounts ranging from 13.2 to 15.3 percent. This model is responsible for 86.3 percent of the cases correctly predicted (93.9% of repayers and 54.8% of defaulters).

For all three populations, being female and being married substantially lowers the probability of default, especially among Black and Hispanic borrowers. While Models W and H correctly predict over 90 percent of repayment behavior, Model B is the best predictor of loan default itself.

Conclusion and Discussion

We find only modest evidence that institutional type has an impact on student loan default. Rather, **student loan repayment and default behavior can be substantially predicted by the pre-college, college, and post-college characteristics of individual borrowers.** Moreover, the observed differences in the patterns of **default among Whites, African Americans, and Hispanics differ more in degree than in kind.** However, **our separate models for Whites and Hispanics are more accurate predictors of repayment, whereas the model for Blacks is better at predicting default.** These findings have rich implications for national policy makers, campus managers, researchers, parents, and students alike.

Examining the Model One data set, we find that default rates range from greater than 29 percent at proprietary schools to below 14 percent at most doctoral granting universities and specialized professional schools (like business, engineering, theology). However, once the individual borrower characteristics are examined via logistic regression, these significant differences across institutions are greatly reduced for four-year institutions and disappear completely for two-year schools. Indeed, the impact of institution type appears important only for White borrowers, but not for Blacks or Hispanics -- suggesting that these default rate differences are based upon the nature of the borrowers, rather than upon the type of institution.

In all three populations, we find that two measures (gender and marital status) exert consistent influences on default behavior, but **being female and being married lowers the default rate even more dramatically for Black and Hispanic borrowers than it does for Whites.** Overall, loan repayment and default behavior appears to be less a function of the institutions themselves and more a function of the nature of the students, their performance in college, their choice of major, and their subsequent post-college achievement and behavior. While having a parent who attended college, completing a degree, being married, and not having dependent children are all factors that lower the likelihood of default and increase the likelihood of repayment, **these effects are strongest for the population with the highest default rates -- African American borrowers.** The magnitude of the effect of significant variables (reflected in Delta-p values) is consistently larger for the Black and Hispanic populations than for Whites in this study. This suggests the power of public and personal investment in the education of minority groups and is consistent with the research literature on people of color.

In particular, we find that being Black or Native American (in Model One), having dependent children (in Models One, W, & B) and being separated or divorced (in Models One & W) **increase** the probability of default enormously. Conversely, being female and married (all models), earning good grades (in Models One & W) and completing a degree program (Models

One, W & B) significantly **decrease** the probability of default. Institutions obviously have more influence upon the academic achievement and degree attainment of their borrowers than they do upon their race or family size or marriages. To the extent that colleges and universities can foster behavior that leads to student persistence in college, to student learning and skill attainment (reflected in good grades), and to student degree completion, they are likely to observe higher repayment and lower default rates among their former students. This may require campuses to strengthen academic degree programs and support services, including child care, that are responsive to the labor market and that give students needed skills (Volkwein & Szelest, 1995, in press).

We began this study by merging three theoretical perspectives and found support for the relevance of all three, although in different models. **Human capital theory and the value of public subsidy** is demonstrated by the significant linkage between earned degrees and lower default rates (in Models One, W & B). The **ability to pay model** is supported by the role of family support and income (in Models One & W) and by marital status and dependent children in several models. The relevance of **student-institution fit perspectives** is reflected by the importance of college grades and college major, especially among White borrowers.

The empirical literature on this topic is sparse. There are only four other published research studies comparing the characteristics of defaulters with the characteristics of institutions they attend, and none of them employ our comprehensive, conceptually-based framework on a national population of borrowers. Despite these limitations, two of these studies, one in California and one in Pennsylvania, produced results that are in some important respects consistent with our own. Wilms, Moore and Bolus (1987) studied a population of California proprietary and two-year college borrowers in selected fields of study and found that race, high school completion, annual income, and graduating with a degree or credential were significantly related to differences in default rates. Institution type contributed little to their model, once student characteristics were taken into account. Knapp and Seaks (1992) examined a population of borrowers at 26 Pennsylvania two-year and four-year campuses and also found that a group of institutional variables (including size, cost, highest degree, and institution type) had no impact on default rates compared to important borrower characteristics (such as race, parent income, and graduating with a degree). Our larger national database, containing borrowers from over a thousand institutions, strengthens their conclusions considerably. **Like the other studies, we find little support for the hypothesis that institutional characteristics have a direct impact on student loan default among ethnic minorities.**

None of these other studies include a measure of college academic performance, but we find that College GPA is a strong predictor of loan default and repayment behavior, especially among Whites. We use college grades as a measure of student-institution fit, but it may serve also as a proxy for student ability and motivation -- traits associated with success in later life, as well as in college. We also find that a college major in a scientific, engineering, or agricultural discipline lowers the default probability by over four percent among White borrowers but not among Blacks or Hispanics. By earning good grades and majoring in a scientific or technological field, white students generally can lower the probability of default substantially. Also, students, parents, and faculty should not ignore the likelihood that loan repayment and default behavior is a proxy for post-college financial and social success, a significant portion of which results from the personal investments --energy, discipline, work habits-- that students make during the college years.

While parent education is associated with lower default rates for all three populations, parent income and family support while in college are **not** significant predictors of default behavior among African American nor Hispanic borrowers. Moreover, we are puzzled by the non-effect of 1986 income on the default rates for Blacks and Hispanics, as well as its weak effect for Whites. An ability to pay perspective suggests that personal and family income levels would be highly significant for minority groups, as well as for Whites, but they are not. A clue to this puzzle is

seen in the fact that **Blacks and Hispanics, compared to Whites in the study, have lower levels of degree attainment, lower levels of academic achievement, almost twice the number of dependent children, and almost twice the rate of separation and divorce.** These factors outweigh the effects of personal **and** parental income and play a strong role in default and repayment behavior. Our findings suggest that those in similar circumstances with respect to education, marital status, and dependent children exhibit similar levels of income and loan default, regardless of ethnic group.

Several variables are significant for Whites but not for Blacks and Hispanics. One explanation for these results may relate to the smaller sample sizes of African Americans and Hispanics which are a fraction of the number of Whites in the study. As shown by Pedhazur (1982), the larger the sample size, the higher the number of potentially significant predictors. But other explanations seem likely as well.

We believe that at least some of the difference among Models W, B, and H is a statistical artifact created by minority borrowers having both lower average parental incomes and smaller standard deviations in income compared to Whites. Nearly three-fourths of the Black and Hispanic borrowers in this study come from families at the two lowest levels of income, compared to less than 50 percent of white borrowers. These significant differences suppress the mediating influence of parental income in Models B and H, especially with the smaller sample sizes. Another problem with parent income is that it may not be reported accurately by students. For example, there is some evidence that low income Hispanics and other disadvantaged minorities are least likely to report parent income accurately (Olivas, 1986).

The literature also suggests that parent income, especially for minorities and others in poverty, does not sufficiently capture significant differences in family wealth and access to beneficial social and occupational networks. For example, Blau and Graham (1990) found that young Black families hold only about 18 percent of the wealth of young White families, even controlling for current income and other demographic variables. In addition, Coleman (1988) indicates that occupational and economic attainment is also a function of the cultural and social capital of the family. A healthy family support system provides the student with an advantage in educational and occupational attainment, and Black, Hispanic, and American Indian families may lack these connections to a greater extent than Whites and Asians. The research evidence suggests that prejudice and segregation and separatism, both inside and outside minority group communities, act to reduce the cultural and information networks that provide access to occupational opportunities (Coleman, 1988). With networks that are less rich and diverse, African American and Hispanic (and for that matter Native American) borrowers may have constricted early career opportunities and, therefore, a higher propensity to default, regardless of ability and parent income. Thus, colleges and universities that serve these students should consider the need for additional career counseling and placement services to fill gaps in their social and occupational networks, as well as to lower their default rates.

The policy implications of our study are complex. Our Models provide evidence that at least some aspects of the current system are functioning as they were designed. Students from low income families are able to borrow, and if they earn good grades and stay in school to degree completion, the models suggest that they are likely to repay their loans and avoid default. Students with limited aspiration and poor records of prior achievement are not good risks for public investment and should not be saddled with the obligations that accompany these loans.

Our models demonstrate that educational institutions, especially proprietary schools and two-year colleges, serving high-risk student borrowers and offering them lower levels of training and degrees can expect to observe relatively high default rates. More importantly, much default behavior results from factors that are clearly beyond campus control, like broken marriages and

dependent children. Individual borrowers rather than institutions should be held accountable for these.

The proposed federal legislation establishing State Post-secondary Review Entities (SPREs) contains criteria that will "trigger" elaborate external audits of campuses, one outcome of which may be terminating federal and student aid funding to a campus, probably producing institutional closure. One of the "triggers" is the rate of loan defaults by former students. The danger is that campuses, in response, will begin to search for simplistic admissions indicators, like race, that may predict and screen out likely loan defaulters. Such understandable campus action would **not** be justified by the results of our study, and would diminish educational opportunity for deserving students.

Our study suggests that borrower behaviors influence repayment and default at least as much as borrower backgrounds. In other words, family circumstance and ethnicity have less impact on loan default than degree completion, marital status, and dependent children. Campuses can best assist their student borrowers by creating a climate that promotes good academic performance, encourages study in both pure and applied scientific disciplines, and ensures student degree completion. Public concern and government policy should be directed at providing the resources needed to carry out this important responsibility.

A Statewide Community College Model For Measuring Faculty Workload

Dr. Richard Yankosky
Frederick Community College

Ms. Amy Coveyou
Maryland Association of Community College

Ms. Gohar Farahani
Charles County Community College

Mr. Jim Darr
Montgomery College

Introduction

Many public colleges and universities are being asked by state legislators and the public to explain how faculty spend their time. The amount of time full-time faculty spend in actual classroom instruction is currently an issue in approximately half of the states. This national concern about faculty teaching load stems from the recent recession and concern about the rising cost of higher education and greater emphasis on accountability and quality of instruction.

In Maryland, state lawmakers have mandated that public higher education institutions design a system for reporting the teaching load of full-time faculty. Many questions have been raised by members of the Maryland General Assembly concerning this issue during the recent budget appropriation hearings.

The lawmakers are specifically seeking answers to a number of faculty teaching load and productivity related questions. Several of the major questions are: (1) How many undergraduate classes are taught by full-time faculty? (2) How much release time for administrative duties is given to full-time faculty? (3) How many overload classes for extra pay are taught by full-time faculty? (4) How many student credit hours do full-time faculty generate annually? and (5) What is the student/faculty ratio of full-time faculty?

To answer these and other related questions, the Maryland Community College Research Group (MCCRG), in cooperation with the Maryland Association of Community Colleges (MACC), designed a state-wide system of reporting faculty workload for the 18 state community colleges.

The purpose of this study was two fold: (1) to satisfy the legislative mandate and (2) to provide the management teams of each college comparative information about how they were using their faculty resources.

The second section of this paper describes the MCCRG/MACC research design, data collection, and analysis methods. The third section includes a summary and discussion of the major study findings as they relate to the research questions. This information includes the average credit hour teaching load of full-time faculty, the average number of credits of release time given to full-time faculty, the number of courses taught for overload pay for full-time faculty, the average

number of course sections taught by full-time faculty, the average number of student credit hours generated by full-time faculty, and the average student/faculty ratios by institution.

The information in section three is presented for individual colleges and for cohorts of peer institutions as measured by size. State-wide and peer totals and averages for the various variables are also presented.

The last section describes the reaction of state lawmakers, college officials, Maryland Higher Education Commission officials, and faculty members concerning the results of this study. This section also describes future research efforts that are planned by MCCRG and MACC related to faculty workload and productivity.

Design and Methods

The target population for this study is full-time tenured teaching faculty and full-time teaching faculty on continuous contract. Division chairpersons who are required to teach as part of their contract and hold faculty rank are included. Full-time faculty who are on sabbatical leave during the study term (academic year) or who did not work a complete academic year are reported but not included in the analyses. The term of this study is the 1992-93 academic year; summer and winter sessions are not included unless part of the full-time faculty members ten month contract. Overload credit hours are reported but not included in base contractual teaching load. It should be noted that for the purpose of this study one course is equal to three contractual teaching hours.

To gather the data for this study each college submitted an electronic spreadsheet according to the format on page four to the Maryland Association of Community Colleges (MACC). The spreadsheets contained the teaching load detail for each faculty member meeting the study criteria and explanations for why certain faculty members were not included (i.e., sabbatical, etc.).

The reported information was then validated by the MCCRG by comparing the number of full-time faculty reported by each college in the spreadsheets to the number of full-time faculty reported by each college in the Fall 1992 to the Maryland Higher Education Commission. This comparison showed a variance of less than one percent for each college. The teaching load information for each college also was reviewed by members of MCCRG for inconsistency.

Format for Faculty Workload Report

A	B	C	D	E	F	G	H	I	J	K
Contractual Teaching Hours	Released Time Hours	Contractual Workload Hours	Teaching Overload Hours	Total Workload Hours	Contractual Sections Taught	Overload Sections Taught	Total Sections Taught	Total Students Taught	Average Section Size	Student Credit Hours
n	*n*	A + B	*n*	C + D	A/3	D/3	F + G	*n*	H/I	A x J

Definitions:

Contractual Teaching Hours

The total workload hours that a full-time faculty member is required to teach, excluding overload and released time. Workload hours are equated credits, not published credits.

Released Time Hours

The total workload hours a full-time faculty member is released from teaching duties to perform administrative tasks. Workload hours are equated credits, not published credits.

Contractual Workload Hours

The total workload that a full-time faculty member contracts to perform. (A + B)

Teaching Overload Hours

The total workload hours taught by a full-time faculty member as an overload for extra compensation. Workload hours are equated credits, not published credits.

Total Workload Hours

The sum of contractual teaching, released time, and teaching overload hours for a full-time faculty member. (C + D)

Contractual Sections Taught

The number of sections that a full-time faculty member is teaching under contract. One section = 3 hours. (A/3)

Overload Sections Taught

The number of sections that a full-time faculty member is teaching on overload. One section = 3 hours. (D/3)

Total Sections Taught

The sum of contractual and overload sections taught. (F + G)

Total Students Taught

All registrations as of the 20% date in all sections taught by a full-time faculty member, both on contract and on overload.

Average Section Size

Total students taught divided by total sections taught. (H/I)

Student Credit Hours

Contractual teaching hours of a full-time faculty member, multiplied by average section size. (A x J)

Major Findings and Discussion

The summary data for all Maryland community colleges looks remarkably similar, due to the fact that the structure of the 18 community colleges is similar. The community college full-time instructional faculty demonstrate a high productivity level, particularly in the number of classes taught annually, the average class size, and the number of student credit hours generated.

Eighty-nine percent of the typical full-time faculty member's contractual workload is spent in formal classroom instruction. The state-wide average for released time is three hours annually per faculty member (approximately one class). Faculty members are released to perform activities such as departmental and committee activities, administrative duties, and special projects and assignments.

Credit hour assignments for full-time faculty do not include office hours and advising; these are a required component of each faculty member's responsibilities. Inherent in each faculty member's workload assignment is classroom preparation time and the associated classroom duties, such as grading papers, course development, etc. The major state-wide findings of this study are:

- 83 percent of full-time faculty teach eight or more classes annually. The percent for large colleges is 85, medium colleges is 81 and small colleges is 80.
- A typical full-time faculty member generates an average of 547 student credit hours annually. The student credit hours at large colleges is 567, at medium colleges is 505, and at small colleges is 517.
- A typical full-time faculty member teaches nine classes on load annually. This number is the same for large, medium and small colleges.
- A typical full-time faculty member teaches one course on overload annually. This number is the same for large, medium and small colleges.
- A typical full-time faculty member teaches an average of 21 students per class. The average class size at large colleges is 21, at medium and small colleges is 19.

MARYLAND COMMUNITY COLLEGES
FACULTY WORKLOAD REPORT - FALL 1992/SPRING 1993
Table 1-A - Summary Data - Totals

College	No. of Faculty	Contractual Teaching Hours	Released Time Hours	Contractual Workload Hours	Teaching Overload Hours	Total Workload Hours	Contractual Sections Taught	Overload Sections Taught	Total Sections Taught	Total Students Taught	Average Section Size	Student Credit Hours
Large												
Anne Arundel	187	5,055.00	555.00	5,610.00	383.19	5,993.19	1,685	128	1,813	39,922	22	111,327
Baltimore	117	3,153.00	357.00	3,510.00	535.56	4,045.56	1,051	179	1,230	26,411	21	66,943
Catonsville	150	4,077.00	371.00	4,448.00	102.00	4,550.00	1,359	34	1,393	32,691	23	95,684
Essex	157	4,208.00	502.00	4,710.00	174.62	4,884.62	1,403	58	1,461	29,164	20	83,841
Montgomery	355	9,580.51	1,069.49	10,650.00	214.18	10,864.18	3,194	71	3,265	69,685	21	204,340
Prince George's	184	4,892.45	607.25	5,499.70	817.65	6,317.35	1,633	276	1,909	35,007	19	90,035
Large-Size Total	1,150	30,965.96	3,461.74	34,427.70	2,227.20	36,654.90	10,322	742	11,064	232,880	21	651,762
Medium												
Allegany	76	2,066.00	208.00	2,274.00	324.00	2,598.00	689	108	797	15,765	20	40,887
Charles	67	1,798.00	212.00	2,010.00	114.66	2,124.66	599	38	637	12,457	20	35,293
Dundalk	43	1,088.57	201.43	1,290.00	146.49	1,436.49	363	49	412	7,423	18	19,946
Frederick	59	1,484.30	243.60	1,727.90	264.25	1,992.15	495	88	583	11,628	21	29,636
Hagerstown	54	1,464.00	156.00	1,620.00	206.00	1,826.00	488	69	557	11,624	21	30,245
Harford	68	1,718.00	272.00	1,990.00	316.00	2,306.00	574	106	680	12,625	20	32,660
Howard	64	1,572.75	355.75	1,928.50	63.00	1,991.50	524	21	545	10,316	20	29,678
Medium-Size Total	431	11,191.62	1,648.78	12,840.40	1,434.40	14,274.80	3,731	478	4,209	81,838	19	217,598
Small												
Carroll	30	792.00	108.00	900.00	20.75	920.75	265	6	271	6,781	25	19,749
Cecil	33	890.00	98.00	988.00	78.25	1,066.25	296	28	324	5,315	16	14,518
Chesapeake	35	925.00	126.00	1,051.00	87.50	1,138.50	308	29	338	6,789	19	18,353
Garrett	13	325.00	65.00	390.00	4.00	394.00	109	1	110	2,189	19	6,496
Wor-Wic	28	755.00	85.00	840.00	26.00	866.00	252	9	261	4,284	17	12,370
Small-Size Total	139	3,687.00	482.00	4,169.00	216.50	4,385.50	1,229	72	1,301	25,358	19	71,855
Systemwide Totals	1,720	45,844.58	5,592.52	51,437.10	3,878.10	55,315.20	15,282	1,293	16,575	340,076	21	940,629

MARYLAND COMMUNITY COLLEGES
FACULTY WORKLOAD REPORT - FALL 1992/SPRING 1993
Table 1-B - Summary Data - Averages

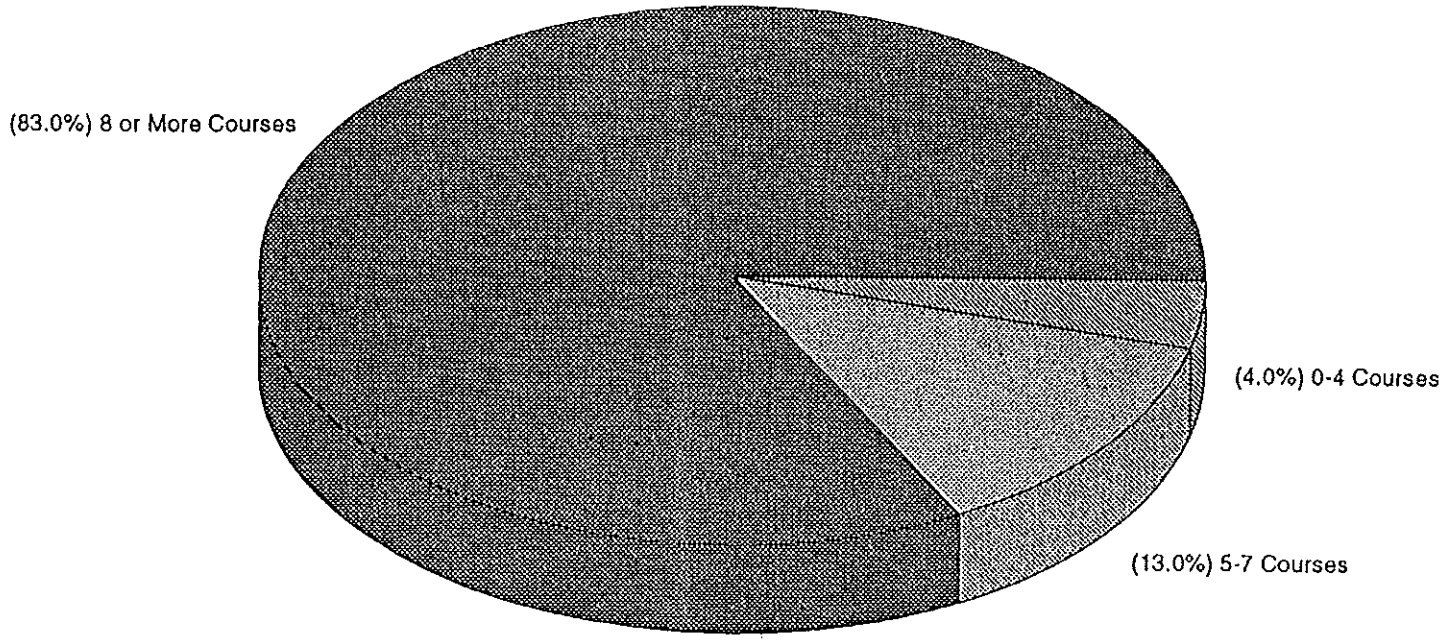
College	No. of Faculty	Contractual Teaching Hours	Released Time Hours	Contractual Workload Hours	Teaching Overload Hours	Total Workload Hours	Contractual Sections Taught	Overload Sections Taught	Total Sections Taught	Total Students Taught	Average Section Size	Student Credit Hours
Large												
Anne Arundel	188	26.97	2.95	29.92	2.04	31.96	9	1	10	213	22	593
Baltimore	117	26.95	3.05	30.00	4.58	34.58	9	2	11	226	21	578
Catonsville	150	27.18	2.47	29.65	0.68	30.33	9	0	9	218	24	642
Essex	157	26.80	3.83	30.64	1.11	31.75	9	0	9	186	20	531
Montgomery	355	26.99	3.01	30.00	0.60	30.60	9	0	9	196	21	576
Prince George's	191	25.46	1.75	27.21	6.49	33.71	8	2	10	164	16	411
Large-Size Avg.	1,158	26.73	2.84	29.57	2.29	31.86	9	1	10	198	20	542
Medium												
Allegany	76	27.18	2.74	29.92	4.26	34.18	9	1	10	207	20	541
Charles	67	26.84	3.16	30.00	1.71	31.71	9	1	10	186	19	521
Dundalk	53	23.73	6.27	30.00	9.92	39.92	8	3	11	138	12	289
Frederick	59	25.16	4.13	29.29	4.48	33.77	8	1	9	197	21	522
Hagerstown	54	27.67	3.48	31.15	3.82	34.96	9	1	10	215	21	580
Harford	68	25.26	4.00	29.26	4.65	33.91	8	2	10	186	19	491
Howard	64	24.57	5.56	30.13	0.98	31.12	8	0	8	161	19	476
Medium-Size Avg.	441	25.83	4.11	29.94	4.11	34.05	9	1	10	185	18	462
Small												
Carroll	30	26.40	3.60	30.00	0.69	30.69	9	0	9	226	24	646
Cecil	33	26.97	2.97	29.94	2.37	32.31	9	1	10	161	16	444
Chesapeake	35	26.43	3.60	30.03	2.50	32.53	9	1	10	194	20	521
Garrett	15	22.47	7.53	30.00	0.67	30.67	7	0	7	151	21	468
Wor-Wic	29	26.59	4.24	30.83	1.90	32.72	9	1	10	156	16	430
Small-Size Avg.	142	26.16	4.00	30.16	1.77	31.93	9	1	10	181	19	493
Systemwide Total/%	1,741	26.45	3.26	29.71	2.71	32.42	9	1	10	193	20	517

MARYLAND COMMUNITY COLLEGES
FACULTY WORKLOAD REPORT - FALL 1992/SPRING 1993
Table 2 - Frequencies of On-Load Courses Taught

College	No. of Faculty	0-4 Courses Taught No.	0-4 Courses Taught Percent	5-7 Courses Taught No.	5-7 Courses Taught Percent	8 or More Courses Taught No.	8 or More Courses Taught Percent
Large							
Anne Arundel	187	10	5.3%	19	10.2%	158	84.5%
Baltimore	117	4	3.4%	13	11.1%	100	85.5%
Catonsville	150	5	3.3%	18	12.0%	127	84.7%
Essex	157	9	5.7%	17	10.8%	131	83.4%
Montgomery	355	0	0.0%	46	13.0%	309	87.0%
Prince George's	184	13	7.1%	22	12.0%	149	81.0%
Large-Size Total/Percent	1,150	41	3.6%	135	11.7%	974	84.7%
Medium							
Allegany	76	1	1.3%	6	7.9%	69	90.8%
Charles	67	8	11.9%	2	3.0%	57	85.1%
Dundalk	43	0	0.0%	9	20.9%	34	79.1%
Frederick	59	2	3.4%	10	16.9%	47	79.7%
Hagerstown	54	6	11.1%	0	0.0%	48	88.9%
Harford	68	3	4.4%	17	25.0%	48	70.6%
Howard	64	8	12.5%	8	12.5%	48	75.0%
Medium-Size Total/Percent	431	28	6.5%	52	12.1%	351	81.4%
Small							
Carroll	30	1	3.3%	5	16.7%	24	80.0%
Cecil	33	2	6.1%	4	12.1%	27	81.8%
Chesapeake	35	2	5.7%	5	14.3%	28	80.0%
Garrett	13	1	7.7%	3	23.1%	9	69.2%
Wor-Wic	28	2	7.1%	3	10.7%	23	82.1%
Small-Size Total/Percent	139	8	5.8%	20	14.4%	111	79.9%
Systemwide Totals/Percent	1,720	77	4.5%	207	12.0%	1,436	83.5%

Workload of Full-Time Faculty

Maryland Community Colleges



Courses Taught On Load Fall 1992 and Spring 1993
Number of Full-Time Faculty=1720

Implications and Future Research

The final workload report was presented to the President's Council of the 18 Maryland community colleges in June, 1994. Generally, they felt that the study accurately described the teaching loads of full-time faculty and they unanimously endorsed the study. On October 12, the report was presented to the Maryland Higher Education Commission, Education Policy Committee. The Committee complemented the community colleges for being forthcoming about the teaching loads of faculty. The workload report will be presented next to the full Higher Education Commission and eventually to the State Budget and Taxation committees during the 1995 legislative session.

During the next year MCCRG and MACC plan to design and publish another study that measures faculty teaching loads by academic discipline (i.e., English, Computer Science, etc.). This study will provide valuable baseline information to each of the community colleges.

1994 NEAIR Conference Attendees

P = 1994 Conference Attendee

F = First-time Conference Attendee at the Baltimore conference

C. Jane Akers
Asst Dir, IR
Towson State University
7800 York Rd 2nd Fl
Towson, MD 21204
410-830-2636
410-830-2328
D7IR004@TOA.TOWSON.EDU
P

Hershel Alexander
Rsch/Plng Analyst
Prince George's Comm College
301 Largo Rd K-231
Largo, MD 20772
410-322-0741
410-808-0960
HERSHEL_J_ALEXANDER@UMAIL.UMD.EDU
F

Catherine Alvord
Data Analyst
Cornell University
440 Day Hall
Ithaca, NY 14853-2801
607-255-7546
607-255-2990
CJA2@CORNELL.EDU
P

Marlene Arno
Director, IR
Erie Community College
6205 Main St
Williamsville, NY 14221-7095
716-851-1431
716-851-1429
P

Sister Virginia Assumpta
Director, IR & Planning
Immaculata College
P.O. Box 702
Immaculata, PA 19345-0702
215-647-4400 X3147
215-251-1668
P

Lynn Atkinson
Sr Rsch Analyst & Enr Coord
Binghamton University
Office of Inst. Rsch.
PO Box 6000
Binghamton, NY 13902-6000
607-777-2365
607-777-6453
LATKINSO@BINGVAXA
P

Nehama Babin
Senior Rsch Analyst
Univ Maryland-College Park
2132 Main Administration
College Park, MD 20742
301-405-5598
301-314-9443
NBABIN@UMDACC.UMD.EDU
F

Brenda Bailey
Coordinator, IR
Edinboro University of PA
Comp & Comm Ctr
Edinboro, PA 16444
814-732-2931
814-732-2880
BAILEY@EDINBORO.EDU
P

Karen Bauer
Asst Director, IR
University of Delaware
325 Hullihen Hall
Newark, DE 19716
302-831-2021
302-831-8530
KAREN.BAUER@MVS.UDEL.EDU
P

Bayard Baylis
Associate Dean
Messiah College
Grantham, PA 17027
717-766-2511
717-691-6002
BAYLIS@MCIS.MESSIAH.EDU
P

Allen Berger
ACE Fellow
Franklin & Marshall College
PO Box 3003
Lancaster, PA 17604-3003
717-291-4300
717-291-4160
A_BERGER@ACAD.FANDM.EDU
F

John Biter
Director, IR
St. Bonaventure Univ
Box T
St. Bonaventure, NY 14778
716-375-2262
716-375-2670
JBITER@SBU.EDU
P

Peter Blanchfield
Asst Director, IR
Hamilton College
198 College Hill Rd
Clinton, NY 13323
315-859-4045
315-859-4185
PBLANCHF@ITSMAIL1.EDU
P

Karl Boughan
Supervisor, IR
Prince George's Comm College
301 Largo Rd
Kent #231
Largo, MD 20772
301-322-0722
301-808-0960
KB71@UMAIL.UMD.EDU
P

Lawrence E. Braziel
Director, MIS/IR
University of Southern Maine
96 Falmouth Street
Portland, ME 04103
207-780-4431
207-780-4607
LARRY@USM.MAINE.EDU
P

David Breen
Director, IR & Plng
Merrimack College
315 Turnpike St
North Andover, MA 01845
508-837-5223
508-837-5222
DBREEN@MERRIMACK.EDU
P

Sister Mary Rosita Brennan
Assistant Professor
Felician College
260 South Main St
Lodi, NJ 07644
201-778-1199 X6074
201-778-4111
F

Rebecca Brodigan
Director, IR/Plng
Bentley College
175 Forest St
Waltham, MA 02154-4705
617-891-3431
617-891-2569
RBRODIGAN@BENTLEY.EDU
P

Robert J. Brodnick
Director, IR/Plng
Shippensburg University
1871 Old Main Dr
Shippensburg, PA 17257
717-532-1154
717-532-1273
RJBROD@ARK.SHIP.EDU
F

Linda Broker
Dean
Quinnipiac College
275 Mt Carmel Ave
Hamden, CT 06518
203-281-8646
203-248-4703
P

Jennifer A. Brown
Director, IR
Connecticut State University
PO Box 2008
New Britain, CT 06050
203-832-0074
203-832-0080
BROWNJ@BOT.CTSTATEU.EDU
P

Darryl E. Bullock
Director, Plng & IR
Mercy College
555 Broadway
Dobbs Ferry, NY 10522
914-674-7378
914-693-4133
P

Terrance J. Carroll
Asst to the President
Fitchburg State College
160 Pearl St
Fitchburg, MA 01420
508-665-3697
508-345-5096
TCARROLL@FSC.VAX.MASS.EDU
P

John Casey
Director, IR
Georgian Court College
900 Lakewood Ave
Lakewood, NJ 08701-2697
908-364-2200 X238
908-367-3920
P

Salvatore Ciolino
Director, Instl Analysis
Gettysburg College
N. Washington St
Gettysburg, PA 17325
717-337-6582
717-337-6666
SCIOLINO@GETTYSBURG.EDU
P

Craig A. Clagett
Director, IR & Analysis
Prince George's Comm College
301 Largo Road, K-231
Largo, MD 20772
301-322-0723
301-808-0960
CRAIG_A_CLAGETT@UMAIL.UMD.EDU
P

Thomas Cleary
Director, IR
Herkimer County CC
100 Reservoir Rd
Herkimer, NY 13350
315-866-0300 X265
315-866-7253
P

H. Susan Cloninger
Coordiantor, Rsch Systems
Univ Maryland-College Park
2132 Main Administration
College Park, MD 20742
301-405-5599
301-314-9443
HCLONING@UMDACC.UMD.EDU
F

Fredric L. Cohen
Dir, Enrlmt Rsch/Analysis
New York University
Room 334
25 West 4th Street
New York, NY 10012-1119
212-998-4415
212-995-4095
JAFLC@UCCVM.NYU.EDU
P

Margaret K. Cohen
Asst VP for Instl Rsch
George Washington University
2121 "I" St, NW #809
Washington, DC 20052
202-994-6509
202-994-0709
SISMKC@GWUNIX5.GWU.EDU
P

Judith P. Condict
Director, IR
Colby-Sawyer College
100 Main St
New London, NH 03257
603-526-3648
603-526-2135
F

John D. Cotnam
Asst VP Research
Monroe Community College
1000 E Henrietta Rd
Rochester, NY 14625-5780
716-292-3031
716-292-3060
COTNAM@ECKERT.ACADCOMP.MONROECC.EDU
P

Mary Ann Coughlin
Professor, Rsch/Stats
Springfield College
263 Alden St
Springfield, MA 01109
413-748-3038
P

Amy Coveyou
Research Director
Maryland Assoc of Comm Colleges
60 West Street, Suite 200
Annapolis, MD 21401
410-974-8117
410-263-6425
F

Diane Cuneo
Director, IR
Smith College
Office of Instl Res
Northampton, MA 01063
413-585-3022
413-585-2123
DCUNEO@SMITH.SMITH.EDU
P

Cherry Danielson
Rsch/Tech Assistance Coord
Southwest State University
SS 103B
Marshall, MN 56258
507-537-6083
507-537-7154
CHERRY@SSU.SOUTHWEST.MSUS.EDU
F

Paul A. Davalli
Director, IR
Univ Maryland, Balt Co
511 West Lombard Street
Baltimore, MD 21201
410-706-1853
410-706-0234
PDAVALI@UMAB.EDU
F

Anne Marie DeLaney
Director, Program Research
Boston College
Campion Hall 336A
Chestnut Hill, MA 02167
617-552-0682
617-552-8419
DELANEYA@HERMES.BC.EDU
P

Gordon DeVries
Research Associate
SUNY-Plattsburgh
Office of Analysis & Assessment
Kehoe 710
Plattsburgh, NY 12901
518-564-4107
518-564-4602
DEVRIEGG@SPLAVB.CC.PLATTSBURGH.EDU
P

Pat Diehl
Research Technician
Prince George's Comm College
301 Largo Rd
K-231
Upper Marlboro, MD 20772
301-322-0721
301-808-0960
P

John DiElsi
Associate Professor
Mercy College
555 Broadway
Dobbs Ferry, NY 10522
914-674-7521
914-674-7518
DIELSI@AURORA.LIUNET.EDU
F

Anita Dubey
Director, IR
Worcester State College
486 Chandler St
Worcester, MA 01602-2597
508-793-8000 X8588
508-793-8191
P

Mark A. Eckstein
Dir, Assess & IR
Genesee Comm College
One College Road
Batavia, NY 14020
716-343-0055 X6549
716-343-4541
MARKOBEAR@AOL.COM
P

Martha Eppley
Assoc Dean & Registrar
Elizabethtown College
1 Alpha Drive
Elizabethtown, PA 17022-2298
717-361-1421
P

Barbara Erdsneker
Asst Director, IR
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
201-447-9207
201-447-9042
ERDSNEK@PILOT.NJIN.NET
P

Gohar Farahani
Director, Assessment/IR
Charles Co Comm College
PO Box 910
La Plata, MD 20646-0910
301-870-2309 X620
301-934-5260
P

Kathy Farnsworth
Director, IR
Hood College
Rosemont Avenue
Frederick, MD 21701
(301)663-3131 x394
P

Marilyn Feingold
Asst Dean, Plng/Rsch/Dev
Camden County College
PO Box 200
Blackwood, NJ 08012
609-227-7200 X352
609-227-0396
P

James C. Fergerson
Director, IR
Bates College
2 Andrews Road
Lewiston, ME 04240
207-786-8210
207-786-6123
JFERGERS@ABACUS.BATES.EDU
P

Laura Filipp
Coord, Enrlmt Rsch
Johns Hopkins University
Shriver Terrace
3400 N. Charles St
Baltimore, MD 21213
410-516-5121
410-516-4495
FILIPP@JHUVM.EDU
P

Phyllis A. Fitzpatrick
Director, Mgmt Info
Fairfield University
North Benson Rd
Fairfield, CT 06430-7524
203-254-4000 x2774
203-254-4007
PFITZPATRICK@FAIR1.FAIRFIELD.EDU
P

Thomas Flaherty
Director, Planning & IR
Central CT State Univ
1615 Stanley Street
New Britain, CT 06050
203-832-1780
203-832-1781
FLAHERTY@CCSU.CTSTATEU.EDU
P

Jean Frank
Research Analyst
Howard Community College
10901 Little Patxent Pkwy
Columbia, MD 21045
410-964-4907
410-964-4964
JEAN_FRANK/HOWARD/L@MAINHP.HOWEARDC
C.EDU
F

Eleanor Fujita
Director, IR
Hudson County Comm College
155 Calhoun Ave
New Rochelle NY 10801
201-714-2190
201-656-9278
FUJITA@PILOT.NJIN.NET
P

LiAnne C. Gabe
Director, IR
Stockton College of NJ
Jimmie Leeds Rd, Rm D-116
Pomona, NJ 08240
609-652-4729
609-652-4958
IAPROD134@VAX003.STOCKTON.EDU
P

Arnold J Gelfman
Director, Plng/Assess/Rsch
Brookdale Comm. College
765 Newman Springs Road
Lincroft, NJ 07738
908-224-2208
908-224-2787
P

Bridget Galdes
Coordinator, IR
Caldwell College
9 Ryerson Ave
Caldwell, NJ 07006
201-228-4424 X228
F

Darrell Glenn
Coordinator, IR Projects
Providence College
River Avenue
Providence Colleg, RI 02918
401-865-2882
401-865-1222
DGLENN@BROWNUM.BROWN.EDU
F

Mario Gonzalez Jr
Instl Rsch Analyst
Wentworth Inst Technology
550 Huntington Ave
Boston, MA 02115
617-442-9010 X515
617-427-2852
ADMIT@WIT.EDU
P

Indira Govindan
Director, IR
Drew University
36 Madison Ave
Madison, NJ 07940
201-408-3636
201-408-3080
IGOVINDA@DREW.DREW.EDU
P

Rosalinda Graham
Sr. Research Analyst
University of Delaware
334 Hullihen Hall
Newark, DE 19711
302-831-6283
302-831-8530
ROSALINDA.GRAHAM@MVS.UDEL.EDU
P

Heather Haberaecker
VP Finance & Admin
Clarion Univ of PA
218 Carrier Hall
Clarion, PA 16214
814-226-2240
814-226-1826
HHABERAE@VAXA.CLARION.EDU
F

Michael Haines
Director, IR/Plng
Dominican College
470 Western Hwy
Orangeburg, NY 10962
914-359-7800 X323
914-359-2313
F

Laurie Tripp Heacock
Asst Director, Plng/Rsch
Anne Arundel Comm College
101 College Parkway
Arnold, MD 21012
410-541-2741
410-541-2245
ZLAT@AACC.BITNET
F

Ronald C. Heacock
Director, Plng/Eval
Howard Community College
10901 Little Patuxent Pkwy
Columbia, MD 21045
410-964-4907
410-964-4964
RON_HEACOCK/HOWARD/L@MAINHP.HOWARDC
C.EDU
P

Richard C. Heck
Instl Planner & Researcher
Colgate University
13 Oak Drive
308 James B Colgate Hall
Hamilton, NY 13346
315-824-7455
315-824-7798
RHECK@COLGATE.EDU
P

Samuel T. Helms
Director, IR
Towson State University
York Rd
Towson, MD 21204
410-830-2620
410-830-2328
D7IR001@TOA.TOWSON.EDU
P

David Hemenway
Director, Plng & IR
Eastern CT State Univ
83 Windham St
Willimantic, CT 06226
203-465-5306
203-465-4485
HEMENWAYD@ECSUC.CTSATEU.EDU
P

Joyce K. Hill
Research Associate
Essex Community College
7201 Rossville Blvd
Baltimore, MD 21237
410-780-6468
410-574-2172
JKH0@ECC.BITNET
F

Terry Hirsch
Research Associate
Essex Community College
7201 Rossville Blvd
Baltimore, MD 21237
410-780-6622
410-547-2172
TAH0@ECC.BITNET
F

Susan Hopkins
Computer Specialist
University of New Hampshire
Palmer House
Durham, NH 03801
603-862-2410
603-862-3853
UNHN::S_HOPKINS@UNH.EDU
F

Kyland Howard
Research Analyst
Univ Maryland-College Park
2132 Main Administration
College Park, MD 20742
301-405-5593
301-314-9443
KHOWARD@UMD.EDU
F

Marie Huester
Asst Director, IR
Marywood College
2300 Adams Ave
Scranton, PA 18509-1598
717-348-6203
717-348-1899
P

Tracy Hunt-White
Asst Director, Plng/IR
Catholic Univ of America
620 Michigan Ave, NE
Washington, DC 20064
202-319-5212
202-319-5214
HUNTT@CUA.EDU
F

Robin Huntington
Assoc Director, IR
Univ Maryland, Balt Co
5401 Wilkens Ave
Baltimore, MD 21228
410-455-2111
410-455-1126
HUNTINGTON@UMBC2.UMBC.EDU
P

Sherrill Ison
Manager, Research Services
Monroe Community College
1000 E. Henrietta Rd.
Rochester, NY 14623
716-292-3032
716-292-3060
SISON@ECKERT.ACADCOMP.MONROECC.EDU
P

Stanley S. Jacobs
Office of Plng/IR
Villanova University
Alumni House
Villanova, PA 19085
215-519-4559
215-519-7162
P

John P. Jacobsen
Data and Info. Manager
PA State System of Higher Ed.
2986 N. Second St.
Harrisburg, PA 17110
717-720-4222
717-720-4211
JJACOBSE@MAILGATE.SSHECHAN.EDU
P

Thomas P. Judd
Director, IR
Rockland Community College
145 College Road
Suffern, NY 10901
914-574-4466
914-574-4425
TPJUDD@SUNYROCKLAND.EDU
P

Ellen Armstrong Kanarek
Program Director
Applied Educational Research, Inc.
100 Thanet Circle
Princeton, NJ 08540
609-924-0464
609-924-2025
KANAREK@PUCC.PRINCETON.EDU
P

Michael J. Keller
Director, Policy/Rsch
MD Higher Education Comm
16 Francis Street
Annapolis, MD 21401-1781
410-974-2971
410-974-5376
F

John Kelley
Director, Plng/IR
Villanova University
800 Lancaster Ave
Villanova, PA 19085-1699
610-519-4835
610-519-7162
P

Matthew Kelly
Instl Rsch
Frederick Community College
7932 Opossumtown Pike
Frederick, MD 21702
301-846-2451
301-846-2498
F

Helen S. Kerr
Dir, Rsch/Analysis
MD Ind College & Univ Assoc
60 West Street College
Suite 201
Annapolis, MD 21401
410-269-0306
410-269-5905
P

Nasir Khan
Asst Director, Plng/IR
Columbia University
211 Low Memorial Library
New York, NY 10027
212-854-3073
212-932-0418
NHK1@COLUMBIA.EDU
P

Robyn Dickinson-Kiefer
IR & Planning Officer
Lehigh Carbon Co Coll
4525 Education Park Dr
Schnecksville, PA 18078
610-799-1592
610-799-1527
P

Yun K. Kim
Director, IR
Goucher College
1021 Dulaney Valley Rd
Baltimore, MD 21204
410-337-6145
410-337-6123
YKIM@UMAB.BITNET
P

Christine Kirker
Research Assistant
Univ Maryland, Balt Co
5401 Wilkens Ave
Baltimore, MD 21228
410-455-2111
410-455-1126
CBOYCE1@UMBC2.UMBC.EDU
F

Richard L. Kline
Director, IR
California Univ of PA
250 University Ave
California, PA 15419-1394
412-938-4265
412-938-4265
KLINE@CUP.EDU
P

Denise A. Krallman
Instl Rsch Analyst
Miami University
Budgeting/Planning/Analysis
205 Roudebush Hall
Oxford, OH 45056
513-529-7095
513-529-2121
KRALLMAN@MIAMIU.ACS.MUOHIO.EDU
P

Arthur Kramer
Director, IR
Passaic County Comm Coll
1 College Boulevard
Paterson, NJ 07509-1179
201-684-6741
201-684-5843
P

John Kraus
Director, IR
Univ. of New Hampshire
Palmer House
20 Rosemary Lane
Durham, NH 03824
603-862-2410
603-862-3853
J_KRAUS@UNHN.UNH.EDU
P

Oyebanjo A. Lajubutu
Director, IR
Harford Community College
401 Thomas Run Rd
Bel Air, MD 21015
410-836-4344
410-836-4197
F

David Lasky
Coordinator, IR
Lebanon Valley College
Annville, PA 17003
717-867-6193
717-867-6075
LASKY@ACAD.LVC.EDU
F

William LeBlanc
Director, IR/Plng
Comm. College of RI
400 East Avenue
Warwick, RI 02886-1807
401-825-2225
401-825-2418
LEBLANC@CCRI.CC.RI.US
P

Marcia M. Lee
Director, IR
Westchester Community College
75 Grasslands Road
Valhalla, NY 10595
914-785-6589
914-285-6565
P

Bogdan T. Leja
Research Coordinator
Columbia University
211 Low Memorial Library
New York, NY 10027
212-854-3036
212-932-0418
BTL4@COLUMBIA.EDU
F

John Lewis
Research Associate
Georgetown University
303 Maguire Hall
Washington, DC 20057
202-687-3416
202-687-3935
LEWIS@GUNET.GEORGETOWN.EDU
F

Barbara Livieratos
Mktg Rsch Analyst
Howard Community College
10901 Little Patuxent Pkwy
Columbia, MD 21045
410-964-4907
410-964-4964
BARBARA_LIVIERATOS/HOWARD/L@MAINHP.
HOWARDCC.EDU
F

Wendell G. Lorang
Assoc. Dir. IR
SUNY-Albany
1400 Washington Avenue
Albany, NY 12222
518-442-5410
518-442-5418
WGL55@ALBANY.EDU
P

Nancy Ludwig
Asst Director, IR
Northeastern University
401 Churchill Hall
Boston, MA 02155
617-373-5100
617-373-5106
NLUDWIG@NEU.EDU
F

Ronald P. Maggiore
Asst VP-Enrlmt Mgmt & IR
Bridgewater State College
Boyden Hall
Bridgewater, MA 02325
508-697-1262
508-697-1707
RMAGGIORE@FRED.BSC.MASS.EDU
P

Rita Malenczyk
Director, Writing Program
Eastern CT State Univ
83 Windham St
Willimantic, CT 06226
203-465-4573
203-465-4580
MALENCZYKR@ECSUC.CTSTATEU.EDU
F

Kathleen McCarty
Research Analyst
Univ Maryland-College Park
2132 Main Administration
College Park, MD 20742
301-405-5608
F

Daniel D. McConochie
Driector, Rsch/Plng
Chesapeake College
P O Box 8
Wye Mill, MD 21679-0008
410-827-5859
410-827-9466
F

Sara McGlinchy
Assistant Professor
Mercy College
555 Broadway
Dobbs Ferry, NY 10522
914-674-7219
914-674-7518
F

Mary McGuinness
Assistant Professor
Mercy College
555 Broadway
Dobbs Ferry, NY 10522
914-693-7987
F

Michael McGuire
Director, IR
Franklin & Marshall College
P.O. Box 3003
Lancaster, PA 17604-3003
717-291-3978
717-291-4183
M_MCGUIRE@ACAD.FANDM.EDU
P

Robert W. McManus
Director, IR
Dowling College
Idle Hour Blvd
Oakdale, NY 11769
516-244-3458
516-563-7834
MCMANUSR@DOWLING.EDU
F

Michael Middaugh
Dir, IR & Planning
University of Delaware
325 Hullihen Hall
Newark, DE 19716
302-831-2021
302-831-8530
Michael.Middaugh@MVS.UDEL.EDU
P

Richard A. Miller
Director, Research
PA Ind Coll & Univ Rsch Ctr
800 North Third st, Suite 404
Harrisburg, PA 17102
717-232-8649
717-233-8574
DICK.A.MILLER@CYBER.WIDENER.EDU
F

Alice A. Mitchell
Doctoral Candidate
Univ Maryland, College Park
3214 Benjamin Bldg
College Park, MD 20742
301-927-5929
301-314-9206
AM90@UMAIL.UMD.EDU
F

Eugene Muller
Director of Assessment
Bloomfield College
467 Franklin St
Bloomfield, NJ 07003
201-748-9000 X227
F

Peter J. Murray
Director, Plng & IR
Catholic Univ of America
620 Michigan Ave, NE
Washington, DC 20064
202-319-5212
202-319-5214
MURRAYP@CUA.EDU
P

Eva Nance
Director, IR
University of Notre Dame
422 Main Building
Notre Dame, IN 46556
219-631-7572
219-631-9235
EVA.E.NANCE.1@ND.EDU
P

Anthony Napoli
Director, IR
Suffolk Community College
533 College Rd
South Building
Selden, NY 11784
516-451-4842
516-451-4216
P

Elizabeth B. Nolan
Director, Instl Plng/Rsch
Siena College
515 Loudon Road
Loudonville, NY 12054
518-783-2380
518-783-4293
ENOLAN@SIENA.BITNET
P

Nancy L. Ochsner
Director, IR
Univ Maryland, Balt Co
5401 Wilkens Avenue
Baltimore, MD 21228
410-455-2111
410-455-1126
OCHSNER@UMBC2.UMBC.EDU
P

Carol Orts
Vice President, Plng
Wheeling Jesuit College
316 Sashington Ave
Wheeling, WV 26003
304-243-2332
304-243-2243
F

Marian F. Pagano
Associate Provost
Columbia University
211 Low Memorial Library
New York, NY 10027
212-854-2473
212-932-0418
MFP3@COLUMBIA.EDU
P

Barbara H. Palmer
Director, IR
Brandeis University
P O Box 9110
Waltham, MA 02254-9110
617-736-2010
617-736-3485
BPALMER@BINAH.CC.BRANDEIS.EDU
P

Joseph Pettit
VP-Planning & IR
Georgetown University
303 McGuire Hall
37th and O Sts, NW
Washington, DC 20057
202-687-3587
202-687-3935
PETTIT@GUNET.GEORGETOWN.EDU
P

Anne Preston
Professor of Communication
North Dakota State Univ
PO Box 5075
Fargo, ND 58105-5075
701-237-7430
701-237-7784
APRESTON@PLAIN.NODAK.EDU
P

Sandra J. Price
Director, IR
Keene State College
229 Main Street
Keene, NH 03435-1506
603-358-2117
603-357-2124
SPRICE@KEENE.EDU
P

Merrill R. Pritchett
Director, IR
University of Baltimore
1420 North Charles Street
Baltimore, MD 21201
410-837-6207
410-837-6175
MPTRITCHETT@UMBAIL.UBALT.EDU
F

Richard W. Prull
Director, IR
Rhode Island College
600 Mt. Pleasant Avenue
Providence, RI 02908
401-456-8435
401-456-8287
RPRULL@RIC.EDU
P

H. Caryl Purdue
Assoc Dean Plan & Dev
Schenectady County Comm. College
67 Washington Avenue
Schenectady, NY 12305
518-346-6211 X120
518-346-8680
P

Maya Ranchod
Planning Analyst
Columbia University
410 Low Library
New York, NY 10027
212-854-7265
212-854-7670
MR180@COLUMBIA.EDU
F

Michael Randall
Assoc Dir, Instl Analysis
SUNY-Buffalo
406 Capen Hall
Buffalo, NY 14260
716-645-2791
716-645-3799
MRANDALL@UBVM.CC.BUFFALO.EDU
F

Kenneth E. Redd
Policy Analyst
NIICU
1025 Connecticut Ave, NW
Suite 700
Washington, DC 20036
202-785-8866
202-835-0003
KEN@NAICU.EDU
F

Barbra Reed
Student Affairs Rsch Asst
Univ of NC - Greensboro
136 Mossman Building
Greensboro, NC 27412-5001
910-334-5099
910-334-4007
REEDBX@IRIS.UNCG.EDU
F

Joseph Revelt
Descriptive Statistician
Shippensburg University
1871 Old Main Dr
Shippensburg, PA 17257
717-532-1154
717-532-1273
JEREVE@ARK.SHIP.EDU
P

Stuart L. Rich
Director, IR
Georgetown University
Room 303 Maguire Hall
37th & O St, NW
Washington, DC 20057-1099
202-687-3424
202-687-3935
RICH@GUNET.GEORGETOWN.EDU
P

Hakjong Andrew Riew
Director, IR
Brooklyn College
2900 Bedford Ave
Brooklyn, NY 11210
718-951-5103
HRIEW@BROOKLYN.CUNY.EDU
P

James L. Ritchie
Dreictor, IR
University of Pittsburgh
1904 Cathedral of Learning
Pittsburgh, PA 15260
412-624-1220
412-624-1817
JLR@VMS.CIS.PITT.EDU
P

Ronald Roski
Rsch Assistant
Univ Maryland-College Park
2132 Main Administration
College Park, MD 20742
301-405-5595
301-314-9443
RROSKI@UMDACC.UMD.EDU
F

Karen Rouse
Plng/Assess Asst
Bloomsburg University
139 Wall Admin Bldg
Bloomsburg, PA 17815
717-389-4054
717-389-4766
MCFA@HUSKY.BLOOMU.EDU
F

Richard Rugen
Asst to Pres, Plng/Info Tech
Kutztown University
Kutztown, PA 19530
610-683-4153
610-683-4010
RUGEN@KUTZTOWN.EDU
P

Kathy A. Russavage
Director, IR
Saint Peter's College
Room 208
2461 Kennedy Blvd
Jersey City, NJ 07306
201-915-9079
201-451-0036
RUSSAVAGE_K@SPCUNA.SPC.EDU
F

Terrence Russell
Executive Director
Association for Instl Research
Florida State University
314 Stone Building
Tallahassee, FL 32306-3038
904-644-4470
904-644-8824
AIR@MAILER.FSU.EDU
P

Dean P. Russo
Research Analyst
Binghamton University
PO Box 6000
Binghamton, NY 13902-6000
607-777-2052
607-777-6453
IR0007@BINGUMB.CC.BINGHAMTON.EDU
F

Barbara R. Sadowski
Director, Plng/IR
Marywood College
2300 Adams Ave
Scranton, PA 18509
717-348-6203
717-348-1899
SADOWSKI@AC.MARYWOOD.EDU
P

Janet A. Schmidt
Acting Director
Univ Maryland-College Park
2132 Main Administration
College Park MD 20742
301-405-5596
301-314-9443
JSCHMIDT@UMDACC.UMD.EDU
F

Edward A. Schroeder, IV
Director, IR
Nazareth College
4245 East Ave
Rochester, NY 14618
716-586-2525 X562
716-586-2452
F

Charles Secolsky
Research Associate
Rockland Community College
145 College Rd
Suffern, NY 10901
914-574-4485
P

David G. Seguin
Assoc Dean, Acad Affairs
Jamestown Community College
525 Falconer St
Jamestown, NY 14701
716-665-5220 X445
716-665-3498
SEGUINDG@JCCW22.CC.SUNYJCC.EDU
P

Sr. Mary George Senderak
Director, IR
College of Saint Elizabeth
2 Convent Road
Morristown, NJ 07960-6989
201-292-6307
201-292-6777
P

Catherine Serianni
Director, IR
Niagara University
Niagara Univ, NY 14109
716-286-8571
716-286-8355
P

Peina Shr
Coordinator, Rsch Sys
Univ Maryland, Balt Co
5401 Wilkins Ave
Baltimore, MD 21228
F

Ed Silverman
Director, IR
City College of New York
120 Cabrini Blvd
New York, NY 10033
212-650-6480
OIRTRAN@CCNY.CUNY.EDU
F

Gerald Sircus
Director, IR
Bergen Community College
400 Paramus Road
Paramus, NJ 07652
201-447-7119
201-447-9042
P

Lucyann Skvarla
Assistant for IR
King's College
133 North River Street
Wilkes-Barre, PA 18711-0801
717-826-5886
717-825-9049
LMSKVARL@RS01.KINGS.EDU
F

Ella Smith
Asst Director
University of Baltimore
1420 N. Charles St.
Baltimore, MD 21201
410-837-6204
410-836-6175
ESMITH@UBMAIL.UBALT.EDU
F

Barbara Smith
Rsch Assistant
Univ Maryland-College Park
College Park, MD 20904
301-405-5594
301-314-9443
BSMITH1@UMDACC.UMD.EDU
F

Lydia S. Snover
Senior Planning Officer
MIT
77 Massachusettts Ave
Room 12-156
Cambridge, MA 02139
617-253-5838
617-253-1986
SNOVER@PLANNING.MIT.EDU
P

Donna Killian Sorkin
Associate Professor
Mercy College
555 Broadway
Dobbs Ferry, NY 10522
914-674-7302
914-674-7514
F

Roberta Spalter-Roth
Research Director
Institute for Women's Policy Rsch
1400 20th St, NW
Ste 104
Washington, DC 20036
202-785-5100
202-833-4362
JC5904A@AMERICAN.EDU
F

James A. Stager
Assoc VP - Acad Affairs
Millersville University
PO Box 1002
Millersville, PA 17551
717-872-3599
717-871-2251
JSTAGER@MU3.MILLERSV.EDU
P

Sandra Starke
Director, Budget/IR
Binghamton University
P O Box 6000
Binghamton, NY 13903
607-777-2365
607-777-6453
SSTARKE@BINGVAXA
P

Karen Stout
Dean, Plng/Rsch/Comm
Camden County College
PO Box 200
College Drive
Blackwood, NJ 08012
609-227-7200 X689
609-227-0396
F

William Strausbaugh
Executive Asst to President
Messiah College
College Ave
Grantham, PA 17027
717-766-2511
717-691-6059
STRAUSBA@MCIS.MESSIAH.EDU
P

William S. Stuart
Research Assistant
Eastern CT State Univ
83 Windham St
Willimantic, CT 06226
203-465-4482
203-465-4485
STUARTW@ECSU.EDU
F

Alan J. Sturtz
Director, IR/Plng/Dev
Gateway Comm-Tech College
60 Sargent Drive
New Haven, CT 06511
203-789-7030
203-789-6466
STURTZ@APOLLO.COMMNET.EDU
P

Scott Swail
The McKenzie Group
555 13th St, NW
Washington, DC 20004
202-637-6800
202-637-8798
F

Eleanor Swanson
Director, IR
Monmouth College
West Long Branch, NJ 07764
908-571-7529
ESWANSON@MONDEC.MONMOUTH.EDU
P

Bruce Szelest
Assoc for IR
SUNY-Albany
Administration 241
1400 Washington Ave
Albany, NY 12222
518-442-5410
518-442-5418
BPS23@ALBNYVM1
P

Dawn G. Terkla
Director, IR
Tufts University
28 Sawyer Avenue
Medford, MA 02155
617-627-3274
617-627-3993
DTERKLA@PEARL.TUFTS.EDU
P

Barbara Thelen
Asst for IR
Rockland Community College
145 College Rd
Suffern, NY 10901
914-574-4585
914-574-4425
BTHELEN@SUNYROCKLAND.EDU
P

Daniel E Thomas
Asst Director, IR
University of Maryland
2132 Main Administration
College Park, MD 20742
301-405-5597
301-314-9443
DTHOMAS@UMDACC.UMD.EDU
P

Mona-Rae Thompson
Director, IR
Carroll Community College
1601 Washington Rd
Westminster, MD 21157
410-876-9657
410-876-8855
AA98001@CATCC@VTBIT.CC.VT.EDU
P

Stephen Thorpe
Director, IR
LaSalle University
1900 W Olney Ave
Philadelphia, PA 19141
215-951-1428
215-951-1783
THORPE@LASALLE.EDU
P

Marvin Titus
Plng & Polcy Info Spec
UMD System Admin
3300 Metzerott Rd
Adelphi, MD 20783
301-445-1913
301-445-1914
MTITUS@UMSA.UMD.EDU
F

James F. Trainer
Director, HEDS
Franklin & Marshall College
P O Box 3003
Lancaster, PA 17604-3003
717-399-4448
717-399-4456
J_TRAINER@ACAD.FANDM.EDU
P

Dale Trusheim
Associate Director, IR
University of Delaware
334 Hullihen Hall
Newark, DE 19711
302-831-2021
302-831-8530
DALE_TRUSHEIM@MVS.UDEL.EDU
P

Herbert M Turner III
Research Analyst
University of Delaware
334 Hullihen Hall
Newark, DE 19711
302-831-1622
302-831-8530
HERBERT_TURNER@BRAHMS.UDEL.EDU
P

J. Fredericks Volkwein
Director, IR
SUNY-Albany
Administration 241
1400 Washington Ave
Albany, NY 12222
518-442-5410
518-442-5418
JFV65@ALBANY.EDU
P

Rebecca Walker
Director, IR
Loyola College in Maryland
4501 North Charles Street
Baltimore, MD 21210
410-617-2400
410-617-5195
RWALKER@LOYOLA.EDU
P

Qin Wang
Assoc Director, IR
Bridgewater State College
Bridgewater, MA 02345
508-697-1231
QWANG@BRIDGEW.EDU
F

Jill S. Wetzel
Asst Director
HEDS Consortium
Franklin & Marshall College
PO Box 3003
Lancaster, PA 17604
717-399-4448
717-399-4456
J_WETZEL@ACAD.FANDM.EDU
F

Beverly I. White
Director, IR/Plng
Keystone Junior College
PO Box 50
La Plume, PA 18440
717-945-5141 X3141
717-945-9254
BEVTEC@AOL.COM
F

Patricia M. Williams
Research Associate
Colgate University
13 Oak Drive
Hamilton, NY 13346-1398
315-824-7714
315-824-7798
PWILLIAMS@CENTER.COLGATE.EDU
F

Linda E. Winkler
Director, IR
Mount Saint Mary's College
16300 Old Emmitsburg Rd
Emmitsburg, MD 21727
301-447-5306
301-447-5398
WINKLER@MSMARY.EDU
P

Marjorie E. Wiseman
Director, IR
Northeastern University
401 Churchill Hall
Boston, MA 02115
617-373-5100
617-373-5106
NWISEMAN@NEU.EDU
P

Carol W. Wood
Asst to Dean, IR/Plng
Alfred University
2 Pine St
Alfred, NY 14802
607-871-2243
607-871-2344
WOOD@BIGVAX.ALFRED.EDU
P

Richard Yankosky
Assoc Dean, Instl Serv
Frederick Community College
7932 Opossumtown Pk
Frederick, MD 21702
301-846-2548
301-846-2498
F

Diana Zhang-Wobus
Senior Rsch Analyst
Univ Maryland, Balt Co
5401 Wilkens Ave
Baltimore, MD 21228
410-455-2111
410-455-1126
F

Walt Ziemba
Director, IR
Southern CT State Univ
501 Crescent St
New Haven, CT 06524
203-392-5207
F

Joseph Zikmund II
Director, Research
CT State Dept of Higher Ed
29 Glen Hollow
West Hartford, CT 06117
203-566-4645
F

Subject Index