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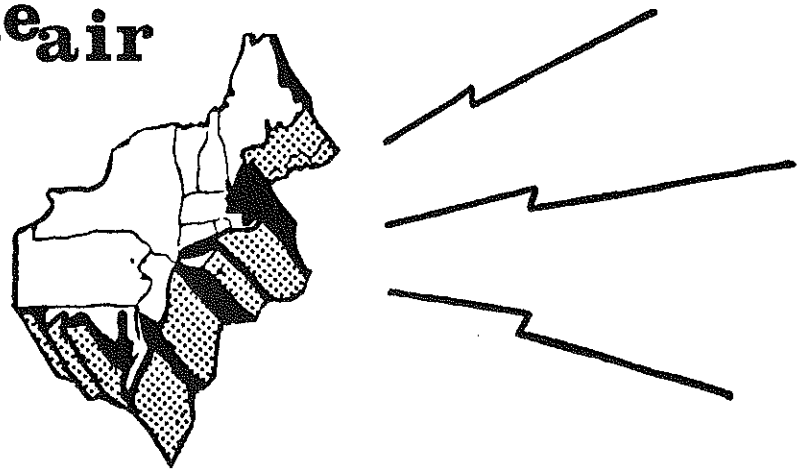

Does IR = Institutional Retrenchment?

Papers from the Fourth Annual Conference

October 27, 28, and 29, 1977

Durham, New Hampshire

DOES IR = INSTITUTIONAL RESEARCH?

Perspectives on the Role of Institutional Research
in a time of Retrenchment

NEAIR

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North East Association for Institutional Research

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PREFACE

The fourth annual conference of the Northeast Association for Institutional Research was held from October 27 through October 29 at the New England Center for Continuing Education, University of New Hampshire, Durham, New Hampshire. The purpose of this year's conference was twofold:

*To disseminate information about the methods and content of institutional planning and research.

*To provide a forum in which institutional researchers can discuss and seek assistance in their common problems.

The conference focused on various perspectives of the role of institutional research in a time of retrenchment: policy analysis, economic assumptions, resource management, academic planning and cooperative statewide planning. Among the themes addressed were:

*Enrollment Projections and Financial Planning

*Institutional Efficienty and Effectiveness

*Planning for Growth in Adult and Continuing Education

*Student Attrition and Consumerism

*Governmental Regulations and Reporting Requirements

*Evaluation Studies and Academic Program Review

The keynote this year was delivered by Dr. Marilyn Gittell, Assistant Vice President and Associate Provost of Brooklyn College. Dr. Gittell, a political science researcher, has supervised institutional research at Brooklyn College where she attempted to put institutional research into a policy process. Basing her remarks on these experiences, she addressed one of this year's conference themes: "Does IR=Institutional Retrenchment?" Her emphasis included the need for institutional researchers to become more action oriented, and more central to an institution's planning process; for their work to become tied to policy planning, and for their work to expand to include program evaluation, self-evaluation, internal and market analysis, and research to meet the needs of all

constituents of the institution.

The papers contained in this publication were submitted in photo-ready copy by the individual participants. These papers do not represent all the papers presented but rather, only those which were submitted by the presentors. Thus, many of the presentations at the conference are unfortunately not reflected in these proceedings. However, the submitted papers do provide an accurate profile of the tenor and tone of the conference.

The conference evaluations were overwhelmingly positive and the success of the conference can be attributed in great part to the untiring efforts of the many individuals, including the Conference Arrangements Committee: ALBERT ELWELL, University System of New Hampshire, and ERIC BROWN, New Hampshire College and University Council. In addition, the help and support of JAN SCHEIBEL and PAT CARON of the NECCE staff can not be overemphasized.

Program Committee reponsible for the program were:

WILLIAM FENSTEMACHER, University of Massachusetts-Boston (Ch.)
JAMES SELGAS, Harrisburg Area Community College, PA
HELEN WYANT, State University of New York at Buffalo

In addition, the contributions of the Conference Conveners should not go unnoticed and these people were:

WILLIAM FENSTEMACHER, University of Massachusetts-Boston (Ch.)
STEVE BIRRELL, University of New Hampshire
MOLLY BROAD, Syracuse University
ERIC BROWN, New Hampshire College and University Council
MARVIN COOK, Boston University
THEODORE CROMACK, Johnson State College, VT
ALBERT ELWELL, University System of New Hampshire
TOM FENCIL, New England College, NH
ERNEST GREENBURG, New Hampshire College
JANICE HASTINGS, Keene State College, NH
ADOLPH KATZ, New Jersey Department of Higher Education
WENDELL LORANG, JR., State University of New York at Albany
HANK MUNROE, New Hampshire College and University Council
ALBERT ROBERGE, Vermont Technical College

- -

Larry Benedict, University of Massachusetts,
for the NEAIR Publications Committee

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DEVELOPING ECONOMIC ASSUMPTIONS FOR THE 80's

Dr. James R. Speegle
Director of Planning Projects
Rochester Institute of Technology

Economic Assumptions are the building blocks for any rational planning effort. The assumptions that are used are the direct outcome of institutional research. Beginning with that premise, this paper will describe the key role assumptions occupy in implementing a process of planning as learning, and define several of the major assumptions that have been developed at the Rochester Institute of Technology.

Planning at RIT is guided by the following principle: planning is a learning process involving the total Institute community and beyond that will result in anticipatory action rather than crises oriented reaction. Two major activities then are to establish a "best guess" about the future enrivonment for the institution and carefully describe the major components, or assumptions, upon which that best guess is built. When this is done, the planning process is not completed; it has only begun. What is now available is a set of tools for understanding. RIT finds itself at this point presently.

Undoubtedly everyone will agree that you have to make assumptions to build an economic model; no great wisdom there! What may not be agreed upon, or understood, is that the assumptions must be made explicit, clear, simple statements so that all can react to them; so that their genisis can be described; so that their factual basis can be tested; so that they can be modified based upon the interaction and the unfolding of the future. It is in this process that understanding can be achieved and a plan for action constructed.

If the assumptions are carefully developed and widely shared it is my contention that you have a set of testable hypothesis that can be rationally debated. You provide an opportunity to test variations and "what if" possibilities. You have a check on the historical accuracy of your assumptions. In short, the model that rests on the assumptions does not become cast in concrete, the shibboleth, the cause celebre; it is a working, changing tool for understanding.

Maybe I have repeated myself in these introductory remarks; please be assured it is not out of some narcissistic tendency but rather a result of my conviction that this is an important process too often ignored. If I am too critical, I apologize. However, I have witnessed too many instances in institutional research and planning where the end justifies, or hides the means. Process and means are equal to or greater than the ends <u>if</u> planning is to be considered a learning process.

Now that you have sat through that polemic, let me more quietly guide you through some of the major assumptions that we have developed for use in the planning process at RIT.

It will, perhaps, come as no surprise that we assume inflation will be a major feature of current and future educational environments. We further assume that inflation for higher education will outpace general inflation by 1 3/4% and that by the end of the study period (1990) will have compounded at the rate of 6% per year. What then are the basis of these assumptions regarding inflation?

First, it was established that historically there was an inflation gap. This gap relates to several features of higher education: it is labor intensive; it does not have the structural advantage of industry with its ability to increase productivity by the employment of capital through the use of technology and machinery; it is subject to a wide range of publicly mandated social programs. Based upon this analysis, a rather obvious case can be built that the educational dollar will erode at a faster rate than the general dollar. The basis for the 1 3/4% differential is found in the historical documentation of the development of the Higher Education Price Index (HEPI).

What can be assumed about the offsets for this inflationary spiral? In the 1960's which are now counted among "the good old days" there were several factors which robbed higher education of the joys of dealing with inflation: enrollment growth and the "pass-through" concept of educational pricing was one significant factor. The other major ingredient was income transfers from other economic sectors: the percentage of GNP devoted to education more than doubled to 2.5% during those years. The 1970's have been witness to a severe leveling of both trends; the steady state is now an apt description. The 80's? Any projections that have been examined suggest that the rising and steady curves of the past two decades will take on a decidedly negative tilt. Thus, in a set of overly brief and simplified remarks, I have exposed public enemy number one, inflation.

Armed with this set of assumptions, an institution must ask what can be done about inflation and develop a second set of assumptions. It appears

that internal adjustments are the primary source of protection against the ravages of inflation. Can we pass through the entire impact of inflation to student charges? This is hardly a prudent step, particularly for independent institutions, in light of a developing discretionary attitude toward higher education. Can voluntary support and endowment return compensate for the lost revenue? With greater effort on institutional advancement there is some hope of a partial offset but the economic environment impacts these areas also. The primary focus of internal adjustments will fall on that element of educational activity referred to as faculty and staff productivity. As an abstraction, productivity is reflected in the ratio of faculty to students (or staff to students). Assumptions have been developed regarding increasing this ratio; specifically from its current level of approximately 16:1 to 20:1 in 1990. Needless to say, such an assumption requires much definition and debate - but this is vital to a learning process.

Since the productivity assumption is the primary line of defense against inflation, I will describe briefly how we have approached this vital, but volatile area. We have related the discussion of productivity to the projected number of faculty, compensation increments, instructional resource dollars, and the educational delivery system. The analysis of the latter two related factors will demonstrate, at least partially, how RIT is dealing with this issue.

By developing projections of the instructional resource dollars available per FTE student in both current and constant dollars we were able to stress

the important role productivity plays in preventing further erosion. As it is, there is an erosion of well over 200 dollars per FTE student between 1976 and 1990. Inflation is clearly the culprit and productivity the hedge.

Since RIT is committed to quality instruction, productivity will have to be seen in a broader way that just more students in an individual faculty member's classroom, although the traditional view of student/faculty ratios seems to inevitably focus there. As an abstraction, however, the ratio does not reflect other decision variables that can contribute to increasing productivity. Greater use of instructional technology, changing teaching loads, independent study, efficient use of facilities, and an eclectic approach to instructional methods are all means of enhancing productivity. The number of courses in a college that are duplicative are as detrimental as inflation in terms of decreasing instructional expenditures per FTE student and holding down productivity. These decision variables will have to be given due consideration as we prepare for the difficult times projected in the 80's.

Another significant area in which assumptions must be developed is enrollment. How were these developed by RIT? One clear stimulus was the excellent work done by the New York State Education Department in projecting statewide enrollment patterns. Based upon institutional master planning efforts and careful trend analysis, the state has projected a 30% decline in the traditional student population between now and 1990. In addition they provided a set of assumptions on how that decline would impact differentially on institutions across the state. These assumptions were based upon geographic location, program, and other factors. The most important element was institutional demand or attractiveness. This insight provided by the

State Education Department, and widely publicized I might add, caused RIT to examine those assumptions in order to plot our own enrollment patterns.

It was a surprise to us to learn that we were not classified as a high demand institution and it was assumed that the impact of enrollment declines would be felt more severely at RIT. Since the Education Department carefully described their assumptions we were able to test their validity. Demand was based in part upon a ratio of enrollment to applications. In examining this concept we discovered that a large segment of our applicant pool was never counted - those who applied, but because of space limitations their applications were returned and never processed. Through this analysis, the assumptions about enrollment were altered to reflect a somewhat more optomistic, but realistic projection. Obviously, there are considerably more variables that make up enrollment assumptions and the resultant projections, but I use this example to stress the educative nature of clearly stated assumptions.

Although I have not been too specific about the actual assumptions developed for RIT, I can say we have developed 18 major assumptions about such areas as: student charges, governance, campus housing, staffing and compensation, voluntary support, endowment, public support, energy and several others. These are currently being discussed by all members of the Institute community.

Whether you personally agree or disagree with the assumptions that I have described is unimportant; the fact that there is an assumption for you to agree or disagree with is the important element of my message this afternoon. I will be happy to expand on any that you may be interested in discussing. Thank you.

Institutional Research, Institutional Retrenchment, and Resource Management

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Office of Inst. Research
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The conference focus on Institutional Research in a Time of Retrenchment implies that there may be something different about our roles in such a time. That implication seems to have generated its own challenge within each of us: Is anything really different? From an objective systems standpoint, nothing is. Our responsibilities to provide information in support of decision-making about resource management have not changed; our chief executives need workload and enrollment information in good times as well as bad, and our efforts are needed in all seasons.

But even as we defend the objectivity of our professional responsibilities we all know that good times and bad times are not the same. Though our systems and processes are unchanged, the decision-making environment is clearly different in ways that have considerable impact upon the data and analyses we are called upon to produce. The precipitating factor is obvious. As an institution grows in programs, students and faculty, its managers have a different attitude toward their sources of support and the processes of allocation than when the institution is stable or declining in size. As long as there is growth, new demands can be met by new resources. From an institutional standpoint, the significance of those resources is not simply that they are "new" -- indeed, as budgets grow by minimum increments, a new position may have less value than an older one -- but that no one else on campus has an existing claim to them. No oxen are gored when new faculty lines are generated; the need to be met can be examined objectively (even abstractly) on its own merits as a desirable or justifiable purpose.

Let circumstances change, however, and a valid need emerge during a time in which resources are not increasing -- or a requirement to cut back be announced -- and allocation assumes a different character in the minds

of its participants. All resources now are claimed, and the process of reallocation to meet a new need means denying an existing claim. Decisions are no longer abstract and objective; they will hurt, and the hurt must be justified. The actions of the administrator responsible for reallocation must be buttressed by a defensible wall of logic and fact against the responses of those whose existing claims have been denied. That combination of logic and fact must satisfy three questions that are peculiar, in the ordinary setting, to retrenchment and reallocation:

1. Is it necessary? Is the retrenchment crisis (or the new demand) real, or has it been manufactured for some purpose? (The wording of this question suggests that a note of paranoia may be an insistent part of the subsequent dialogue.)
2. Why me? By what criteria has the decision been made that my program should give up resources rather than another?
3. Who says so? What consultation has preceded the decision so that a reasonable person could conclude that my program needs have had a fair hearing?

Behind these questions, and the circumstances that prompt them, stands another factor of considerable importance to decision-making in higher education and to the role of institutional research in its support: the tension between alternative management styles. The most recent issue in the AIR/Jossey-Bass series on "New Directions for Institutional Research"[1] is particularly helpful to all of us in its examination of this tension as the context for our work. Is the campus to operate on the

(1) Carl R. Adams (ed), Appraising Information Needs of Decision Makers, no. 16 (Autumn 1977) in "New Directions for Institutional Research" (San Francisco: Jossey-Bass, Inc., 1977).

basis (to use Earl Cheit's distinction)[2] of folk methods or system methods? We have been through a decade of continuing advances in the development of management systems; the best known products are mainstays of contemporary institutional research. But even as our skills have increased, the attitudes and styles of campus decision-makers have remained more attuned to "loosely organized collections of professionals"[3] that have traditionally characterized the college scene. In growth years, the collective, judgmental approach to resource management can survive with minimal systems support because no one really gets hurt; a "no" answer can simply mean "not yet", and aspirations can remain high. In times of retrenchment or reallocation, however, "no" comes to mean "not at all", and the decision maker is likely to need a more formal and systematic set of justifications. In this context the institutional researcher is best described by Bernard Sheehan's three-hat theory[4] as the human interventionist who, understanding the perspectives of decision-maker, analyst, and technician, is able to facilitate a synthesis between traditional academic strategies of incrementalism and the products of systematic management.

Institutional researchers who have participated in resource management will recognize that role. They are likely also to recognize, with Adams et al, a shared frustration with existing limits and past over-promises of various information systems. There are no magic solutions to them; in many respects the most important advances in the campus use of information

(2) Earl F. Cheit, "Challenges Inherent in the Systematic Approach," in Adams, op. cit., p. 59.

(3) Ibid, p. 72.

(4) Bernard S. Sheehan, "Reflections on the Effectiveness of Informational Support for Decision Makers," in Adams, op. cit., pp. 93-95.

systems are those unexportable techniques designed to fit local conditions. Thus, to go beyond general exhortations in discussing resource management in a time of retrenchment with persons representing diverse institutions is a difficult task. Let me advance two suggestions, however, that I think are exportable and exceedingly useful, that come from our experience over the past five years.

But first, a brief word about those five years. It became evident to us in 1972 that our physical facilities would not be enlarged any further: What we saw then was what we would have available for predictable time. We were coming close to capacity usage then, and with a limit in sight we knew that the attitude of expansion that had governed the previous decade (as campus enrollment and faculty had more than tripled) would have to be replaced by some form of steady-state outlook. We began to think of new, considerably more modest enrollment projections. The following year that position was strengthened by Allan Cartter's remarks at the Vancouver AIR Forum (5) concerning future enrollment prospects and the likelihood of steady-state management. Our adjustments were largely theoretical, however, until 1976, when a severe fiscal crisis in New York State mandated a retrenchment in faculty allocations throughout SUNY. We had in the meantime taken time as a campus to begin a serious examination of relative program quality, and had done so within the context of assumptions about mission -- assumptions subsequently clarified and endorsed through the development of a campus mission statement. Thus we had a strong body of qualitative, judgmental material available to support the retrenchment decisions that had to be made. Institutional research was able to support

(5) Allan M. Cartter, "Higher Education Under Steady-State Conditions," in Robert G. Cope (ed), Tomorrow's Imperatives Today (Seattle: AIR, 1973), pp. 18-22.

the process with appropriate statistical data as well, and our success in doing so is a reflection of our response to the steady-state signals we received in 1972-73.

1. Trend data. Most reporting systems emphasize the snapshot approach to campus analysis: a comprehensive, comparative look at all programs at the same instant. The result is a set of single data points that do not (in the absence of fairly sophisticated analytic techniques) sufficiently reflect varying curriculum goals, instructional techniques, and developmental states. They present a weak structure for justifying retrenchment or reallocation of one program rather than another. It is much more effective to assess a department against its own history, and to be able to point to the fact (as a hypothetical example) that over the past five years, department X has had a continually declining enrollment accompanied by stable faculty resources. The result will be a decrease of some amount over time in workload, student faculty ratios, average class sizes, etc., and corresponding increases in unit costs; these quantitative measures can then be combined with assessments of departmental quality and of departmental significance to campus mission as a qualitative-quantitative status report to inform the executive responsible for reallocation decisions.

In summary terms, this is what occurred at Albany in preparation for the 1976 retrenchment actions. It was possible because we had anticipated an eventual need for historic data and had concentrated our efforts between 1972 and 1976 on developing consistent and as accurate as possible records of enrollments, faculty, and budget allocations. Based on this experience it may be fair to say that if a campus waits until it is forced into retrenchment to begin thinking about information needs, it will be too late for institutional research to be effective.

2. The "informed environment". A running complaint of Adams et al concerns failures of timing. Leaving aside for now developmental timing problems (such as the lead time required, as noted above, for the generation of trend data), a serious operational problem exists because of conflicting schedules for academic programming and systematic campus management. Budgets must often be prepared, and initial allocations must be made, before complete and reliable fall enrollment statistics (not to mention subsequent workload analyses) become available; external agencies become anxious for "good news" before a system can produce early tabulations; deans want to know how their respective faculty workloads will be assessed before final teaching assignments have been processed. For many of us there has been a lag in systems development, and there may be ways by which the generation of final data can be speeded; but this is not the whole solution. Specific decision needs may be met this way, though there is no guarantee that this will be the case; but beyond them stands the continuing need of the executive to be as fully informed as possible. The response we have developed is the concept of an informed environment for decision-making on and about the campus.

The informed environment is an environment which supports the formulation, implementation and evaluation of institutional policies and procedures. It supports this process not through a one-to-one correspondence between selected pieces of information and specific decisions but rather through the existence of a longer-term understanding, by decision-makers, of institutional development and the information used to describe that process. The information obtained from current operations supports the process primarily by contributing to a long term body of knowledge. It is upon this body of knowledge that the institution relies for support of specific decisions, and in so doing is freed from the constraints of the current

timetable of data collection, edit, analysis and presentation.

This way of stating the case has its roots in the assertion that "information" is a resource to the campus whose proper development can increase the effectiveness of those more tangible and traditionally recognized resources of money, staff and facilities. It recognizes (by focusing on the promotion rather than the existence of an informed environment) that institutional research does not have exclusive responsibility for information; at the same time, it recognizes that institutional research is the only office on campus that has information for its own sake as its primary focus. Fianlly, by focusing on the environment of decision-making rather than on decisions themselves, it recognizes that institutional research is a staff unit, and that its contributions to campus development are not (and should not be) the only criteria by which decisions are made.

INSTITUTIONAL RESEARCH IN A TIME OF RETRENCHMENT: THE ACADEMIC PLANNING PERSPECTIVE

H. R. Kells
Rutgers University

There is no question that useful, effective institutional research and academic planning are desperately needed in a time of retrenchment. In such times there is a clear need for solid, useful information for decision making and for effective, collaborative processes through which to project into the future the programs and resources of an institution in order to achieve goals. Retrenchment settings are characterized by shortages of time and other resources, by partial or complete institutional stasis, by less "room" for goal displacement and "gut reaction" management, by increased political activity (at least of a certain kind), by shifts in the level and perhaps the mix of governance styles, by increased fear, by pressure to perform, and by the scrutinizing by unusual audiences of the activities and the records of our actions. There is little need to elaborate further.

Some may argue, however, and I tend to align myself with this group, that there is no less desperate a need for effective institutional research and academic planning in times of relative affluence and growth. The form of the damage done through ineffective action in these areas may differ somewhat in the two settings--with over expansion, poor priorities, waste-

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ful tendencies and the like in the affluent setting; and over-reaction, dangerous across-the-board moves to mediocracy and the like more prevalent in the sparcer landscape. In addition, the time at which we realize the damage done (often later in the affluent setting) may be different. But the impact on the institution can be equally devastating in the two settings--retrenchment and affluence.

With that proposition as a context for my remarks, I will attempt to make three additional points concerning the academic planning perspective of institutional research--in either setting. The first will concern the relationship between institutional research and academic planning. The second will place both in the management setting. The third concerning the focus of our efforts--particularly in a time of little resources and a time of concentrated, frantic activity.

As a final introductory comment, I would like to recommend to all concerned the excellent review prepared by Dick Richardson and his colleagues at Arizona State entitled "The Need for Institutional Planning" which appeared in the September 1977 issue of ERIC/AAHE's Research Currents (Richardson et al, 1977). In it, the attributes of substantive planning processes are reviewed and the recent focus on sophisticated, technical planning models and systems is put in proper perspective--namely, that the planning process is far more important than the plan which is produced, that a relatively small percentage of institutions with access to sophisticated methodologies understand them and use them, and that "creative change... can happen only if the more complex quantitative techniques and technologically sophisticated models remain our servants rather than our masters" (Richardson, 1977 p.6).

Richardson and his colleagues refer by implication to one of the aspects I have determined to be important in analysing case experiences of collegiate academic planning over the last ten years (Kells, 1977). It is clear to me that most efforts at academic planning fail. That is, most planning attempts do not result in a process which enables the professionals at an institution to meaningfully project the programs, processes and resources into the future toward the achievement of clearly stated goals and in a way which commits the professionals to attempting to fulfill the plans and to further cyclical analysis and planning. These attempts often fail not for want of a sophisticated technical scheme (although in part often <u>because</u> of a naive attempt to impose some pet scheme in a situation which cries out for simpler more purposeful endeavor!), but usually for some very simple reasons. The following list presents in summary form from my experience the major reasons for failure in academic planning processes.

1. Lack of consensus on the goals for planning;
2. Mismatch between planning procedure(s) chosen and the goals for the process;
3. Lack of an adequate <u>basis</u> for planning. The confidence to project effectively (self study and institutional research) is missing;
4. Human relations failures:
   a) Asking people to do things they are not equipped to do;
   b) Poor group leadership;
   c) Poor communication processes in the group;
   d) Not identifying the key resource people;

e) Not making people aware of one anothers strengths, which results in lack of trust and lack of risk-taking;

f) Not using intensive work assignments with a clear beginning and an end in sight;

g) Not rewarding participants appropriately; and

h) Not letting them understand the context for their work.

5. Poor process management:

a) Data not available at the time when it can be used;

b) Poor timing of the process;

c) Inadequate staff assistance;

d) Inadequate funding;

e) Thinking that production of a plan is planning;

f) Inadequate participation--therefore, little psychological "buying in."

g) Poor commitment from the top; and

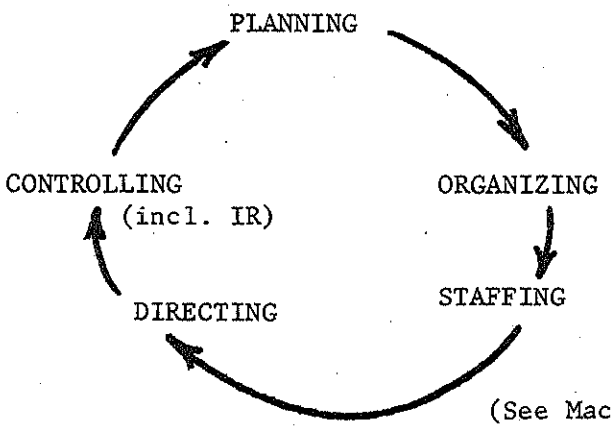
h) Unclear task assignment; poor charge to the sub groups.

(See Kells, Planning 1977)

As can be seen from the character of the list, my experience points to failures in what one might call the management of the planning process--in both the technical and the human aspects of management. It is my thesis, and this is my second point, that these failures occur in both academic planning processes and in institutional research processes--not just because one is a necessary prerequisite for success in the other (IR for planning)--but because they are both, if they are to be effective, people related processes; computers, charts, data by the pound, and fancy acronymed processes not withstanding. And, institutional research and

planning are part of the management process. My second point about institutional research in a time of retrenchment is a reminder, and this reminder may help us to keep things in perspective in tough times.

Institutional managers must resist the temptation to overreact in times of retrenchment--to throw the baby out with the bathwater. If presidents, vice presidents, and deans spend too much time looking over their shoulder, and if they constantly seek data to make the case to protect their domain, or their job they will throw off the balance of the management process. R. Alec MacKenzie presented most vividely and usefully the management "wheel" depiction, copies of which hang in many offices and are used in so many management courses. It brilliantly interrelates the basic elements of management and illustrates for us in higher education the vital links between institutional research at a college or university and the other elements of the management process.



(See MacKenzie, 1969)

The point to be made is that if institutional research in a time of retrenchment or under any other circumstances is sufficiently diverted from providing a balanced offering of information (re outcomes, re

process matters, re evaluation, re finances, re workload, etc.) to a broad profile of managers and other users, and if the diversion causes a severe mismatch between priority needs for information and the focus of the research, damage is done to management process at the institution--management as we usually know it and the management of learning experiences. This is not a new problem--it has existed since the early 1960's. The "capture" of IR efforts is bemoaned continually. But it is taking on new meaning as the institutional and individual reactions to retrenchment accentuate this problem. Finally, this dislocation of effort on displacement of IR goals is severly felt in the planning process which sits right next to IR in the management "wheel" on a long range and even a daily basis and which always suffers from the lack of availability of the right information being available at the right time for the right people to use.

The third and final point I would like to make is related to the second and concerns the specific focus of IR work in a time of diminished resources. Specifically, it concerns the efficiency of our processes--the economy of effort, or making maximum the results of a given amount of effort. To illustrate the point, I would like to use an example with which all institutional research workers are or sooner or later become quite familiar--the process of institutional self study which is conducted (or ought to be conducted) as part of the institutional accreditation process. This is of particular importance in the Middle States and New England region because of the new, more flexible options which either have been (MSA) or now are (NE) available to make this exercise into something useful rather than the expensive diversion it can sometimes become. To put it succintly, it is now possible for an institution coming up for

reaffirmation of accreditation to request permission to design (on a custom-made basis) a self study process which keeps the institution (and particularly the IR office) focusing its efforts on current, real problems and opportunities while also meeting the needs of the regional accreditation commission. Basically there are five approaches which have been developed.

Approaches to Institutional Self Study

1. Comprehensive Self Study
2. Comprehensive with Special Emphases
3. Selected Topics Approach
4. Current Special Study Approach
5. Regular Institutional Research Approach

(See: Educ. Record, 1972, pp. 143-8,
Educ. Record, 1976, pp. 24-8,
North Central Quarterly, Fall 1977,
MSA Self Study Handbook, pp. 17-21, or
New England Commission Guidelines.)

The MSA Commission has had about seven years of experience using these approaches. Basically, the self study design process must consider several factors in order that the institution's needs be well served and in order that the accreditation process can amply see if the definition of an accredited institution can be explored for the college in question--clearly stated goals; achieved in large part; resources (human, fiscal, and physical) to continue to do so.

Factors in Self Study Design

1. Status of planning on the campus; and in the state.
2. Status of institutional research and institutional data in general.
3. Understanding of, consensus on, and nature of institutional goals and problems.
4. Commitment of institution's leadership to conduct self study for its own improvement-oriented purposes.
5. Age, size, complexity of the institution.
6. Stability/turnover of institutional leadership (awareness, need for review, etc.)
7. Turnover, growth in teaching and support staff.
8. Presence or absence of systems to regularly gather information (facts and opinions) an educational effectiveness (achievement of goals, and suggestions for improvement).
9. Energy level, political and historical factors.

In light of these factors, a self study process which diverts an institution but little from its preferred course of activity or which perhaps pushes it to a greater congruence between institutional needs and IR and other related activities can be used. In times of financial and other stress, this is invaluable. The effectiveness of these approaches over the last five years is now being studied by this researcher in a major funded study in the MSA region.

In summary, I have made four points in this paper. First, that from the academic planning perspective (and from other perspectives as well) times of retrenchment may place no greater demands on IR in a long range

sense than do more affluent times. Second, that both IR and planning efforts often fail for the same reasons--mostly people/human relations/ management reasons and that this is accentuated if anything in times of retrenchment. Third, that IR is part of management--and we must not forget this--and that since it sits next to planning in the management process--planning can be severly damaged if IR efforts are "captured" by overreactions during retrenchment (or at other times). And finally, that institutions can find ways to focus their efforts IR effectively (and therefore be efficient and effective) if they analyse their needs and move intelligently to make congruent their IR efforts and the statement of institutional problems and needs. The new approaches to institutional self study available for use with institutional accreditation is an example where this can work well.

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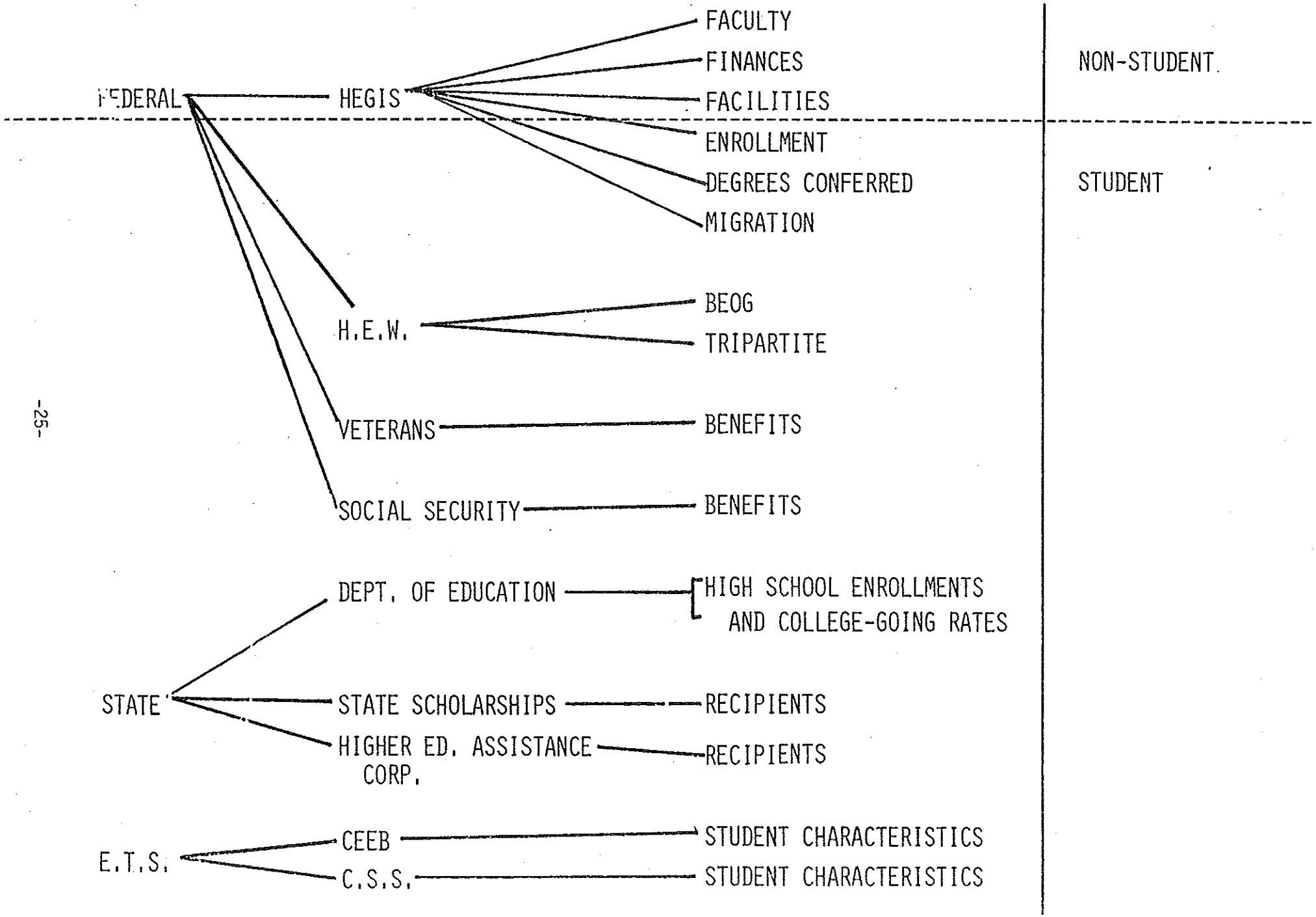
BACKGROUND MATERIALS

STATEWIDE PLANNING: NEW HAMPSHIRE -- AN ATYPICAL EXAMPLE

ERIC BROWN
NHCUC
OCTOBER, 1977

SOURCES OF INSTANT DATA



STATEWIDE GOAL I:

"ANY STUDENT WITH THE DESIRE AND ABILITY CAN PURSUE HIS OR HER POSTSECONDARY EDUCATION AT A TIME WHICH IS CONVENIENT AND AT A PRICE WHICH HE OR SHE CAN AFFORD TO PAY"

PROGRAM A: "ALL LEGITIMATE FINANCIAL NEEDS MET FROM PUBLIC AND/OR PRIVATE SOURCES FOR TOTAL POSTSECONDARY EXPENSES"

DIRECT STRATEGIES

1. INCREASE INSTITUTIONAL FINANCIAL AID
2. INCREASE STATE GRANT AND LOAN FUNDS
3. INCREASE FEDERAL FUNDS TO STUDENTS
4. INCREASE FEDERAL FUNDS TO INSTITUTIONS

INDIRECT STRATEGIES

1. STATEWIDE WATS LINE
2. NON-TRADITIONAL EDUCATIONAL CATALOGUE
3. ADMISSION OVERLAP ANALYSIS

STATEWIDE GOAL I:

"ANY STUDENT WITH THE DESIRE AND ABILITY CAN PURSUE HIS OR HER POSTSECONDARY EDUCATION AT A TIME WHICH IS CONVENIENT AND AT A PRICE WHICH HE OR SHE CAN AFFORD TO PAY"

PROGRAM B: "A SUFFICIENT NUMBER OF PROGRAMS. . . TO ACCOMMODATE THE LEGITIMATE NEEDS OF ALL STUDENTS"

INDICATORS OF DEMAND

1. POTENTIAL APPLICANT POOL ACADEMIC INTERESTS
2. ACTUAL APPLICANT POOL ACADEMIC INTERESTS
3. ENROLLED STUDENTS ACADEMIC INTERESTS
4. DEGREES CONFERRED

INDICATORS OF SUPPLY

1. NUMBERS OF PROGRAMS

PROGRAM B

SAMPLE DATA

POTENTIAL APPLICANT POOL	ACTUAL APPLICANT POOL	ENROLLED STUDENTS	DEGREES CONFERRED	PROGRAMS OFFERED	1/5	2/5	3/5	4/5
3,172	146	55	76	32	99.1	45	1.7	2.4

THE PROCESS FOR DEVELOPING A MACRO-FRAMEWORK FOR INSTITUTIONAL PLANNING

Dr. James R. Speegle
Director of Planning Projects
Rochester Institute of Technology

In order to understand the process of planning at the Rochester Institute of Technology, it is necessary to describe the Institute which is about to celebrate its 150th Anniversary. It has grown out of Rochester's cultural heritage and industrial development and has continually responded to this lineage. Throughout the majority of its history it did not confer degrees, but its diplomas and certificates were held by a large percentage of the skilled workers in Rochester industry. Only as recently as 1955 was the first baccalaureate degree awarded and in 1958 the first master's degree.

Today RIT is an amalgam of 9 colleges serving 7800 FTE students. The nine colleges are: Business, Fine and Applied Arts, Engineering, General Studies, Graphic Arts and Photography, Science, Continuing Education and the two newest colleges, Institute College and the National Technical Institute for the Deaf. Institute College is itself an amalgam responding to new program challenges in such diverse fields as computer science, instructional technology, career information services, and the engineering technologies. It is interesting to note that 1/3 of our students are majoring in programs developed since 1971.

The NTID is a totally federally sponsored program. It serves 750 deaf students of whom approximately 30% pursue degree programs in the parent institution and 70% pursue technically related diploma and associate degree programs that parallel RIT's program strengths.

RIT is located on a 1300-acre campus that was constructed from scratch and first occupied in 1969. Two-thirds of the students come from the Rochester Metropolitan region and the state of New York and the other one-third from out of state. Fully 40% of any entering group are transfer

students. The student body has grown by 3-7% every year in this decade.

The Institute is career oriented and the majority of its programs have a cooperative education component. Its motto, education to earn a living and to live a life, has served as its guiding force through its entire history.

A relatively healthy institution and young in outlook; one may wonder why the introspective look suggested by the process and report reviewed in this paper. There are several factors that influenced this serious process and one only needs to look at the Institute's position in the late 60's and early 70's: growth so rapid that the budget for the auxiliary enterprise in 1974 was bigger than the total Institute budget in 1969; a deficit in those years approaching 2.7 million dollars by 1970; a totally new physical plant and heavy debt service burdens; a new chief executive in 1969.

Changes of this nature and magnitude can seriously erode the essential nature of the enterprise. Thus, in early 1970 it was determined that planned forethought was necessary to guide RIT through the decade of the 70's.

The first step was to renew the commitment to the goals and objectives that had long served RIT but were new to the generation which was now to shepherd the resources. Discussions were held throughout the Institute community to develop consensus on the newly stated but enduring goals. When understanding was achieved, it was necessary to develop mechanisms that kept these goals in focus. These included:

(1) a President's Convocation each Fall to apprise the faculty and staff of the Institute's progress

(2) the establishment of agreed-upon targets for the 70's such as: average salaries increasing to rank within the top quartile of all institutions; productivity increments of .5 students per year in the student/faculty ratio; no new buildings; a balanced budget position; newly established governance arrangements; consultative decision-making; new efforts toward increasing voluntary support

(3) annual reporting on the achievement of the targets through a process known as the "White Paper" which is the responsibility of the Vice President for Finance and Administration and the Priority and Objectives Committee of the Policy Council, RIT's primary policy advisory body.

These activities were related to developing positive attitudes across campus, increasing morale, and laying a firm foundation for rational progress. Incidentally, it helps when it can be reported that all targets for the 70's have been or will be met by the end of the decade with one exception: we did construct one new building in response to increasing need for general classroom space.

A parallel set of activities developed around the state mandated requirement for master planning. Obviously, the two processes are interrelated but it was discovered that we were better at institutional level planning than we were at unit level planning. The planning by units was adequate, but when summed over the Institute, it was found to be held together only by a paper clip; it was not well integrated.

This latter position suggested that there should be a process to integrate all planning efforts, but particularly the macro with the micro. A second motivation revolved around the ominous clouds on the horizon that were being spotted by the higher education community. How would the changing environment anticipated in the next decade impact RIT?

These two major questions provided impetus for the current effort of the presidentially appointed Economic Study Commission. The purpose of the Economic Study Commission was two-fold: to continue the planning momentum and to provide a comprehensive framework within which micro planning at the unit level would occur in the future.

The specific charge developed for the Commission included:

(1) a review of the financial position of RIT

(2) a review of the current fiscal assumptions and modifications as necessary

(3) the development of programs and financial options in case of emergency

(4) the development of ways to use the land resources

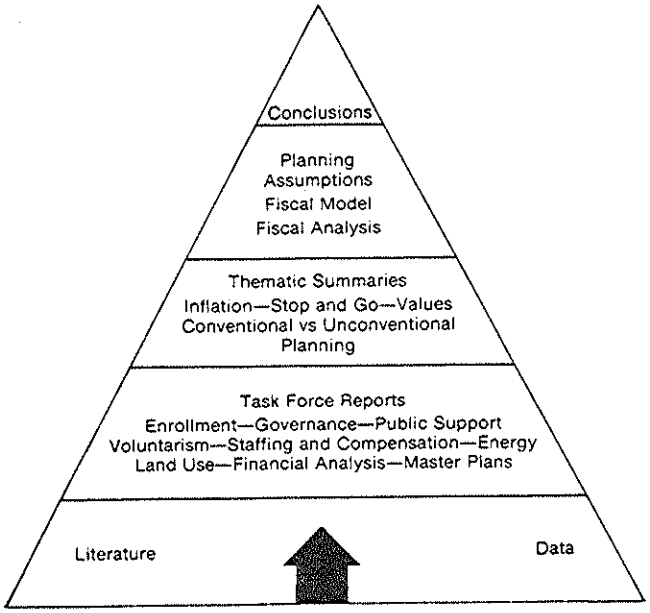
(5) an exploration of the implications of state and regional planning and system development to RIT's future.

A relatively small working Commission was appointed consisting of two Trustees, two Vice Presidents, one Dean and one faculty member, plus two staff members.

Initial discussions were convened to plumb the State and local economic forecasts. The second step was to define areas of study. When this was

completed, each Commission member selected an area and a Task Force was developed to respond to the issue. Each Task Force tapped expertise throughout the Institute and the reports they developed were based upon research studies, questionnaires, interviews, data analysis, hearings, and the deliberations of the Task Force. The Commission staff served as staff to each of the Task Forces. This was found to be extremely helpful in that it freed members to explore questions more creatively and to know that they would receive back-up support to whatever degree necessary.

The process is demonstrated in the accompanying diagram:



The base of the pyramid represents the existing data base, both internal and external. Task Forces researched questions of enrollment, governance, public support, voluntarism, staffing and compensation, energy, land use, finances, and the existing master planning assumptions. The thematic summaries represent a distillation of the meaning of each task force report

integrated into a description of the expected environment of the 80's. The reports and the thematic summary provided the base for determining the new assumptions and the resultant economic model. The conclusions are a series of questions or challenges the Institute must confront over the next several years.

The themes that emerged from this two-year study can be briefly stated as follows:

1. Inflation will seriously erode the resources available for higher education. There will be no significant income transfers from other sectors of our society, thus, the burden of responding to this devaluation of the educational dollar will be an internal responsibility.

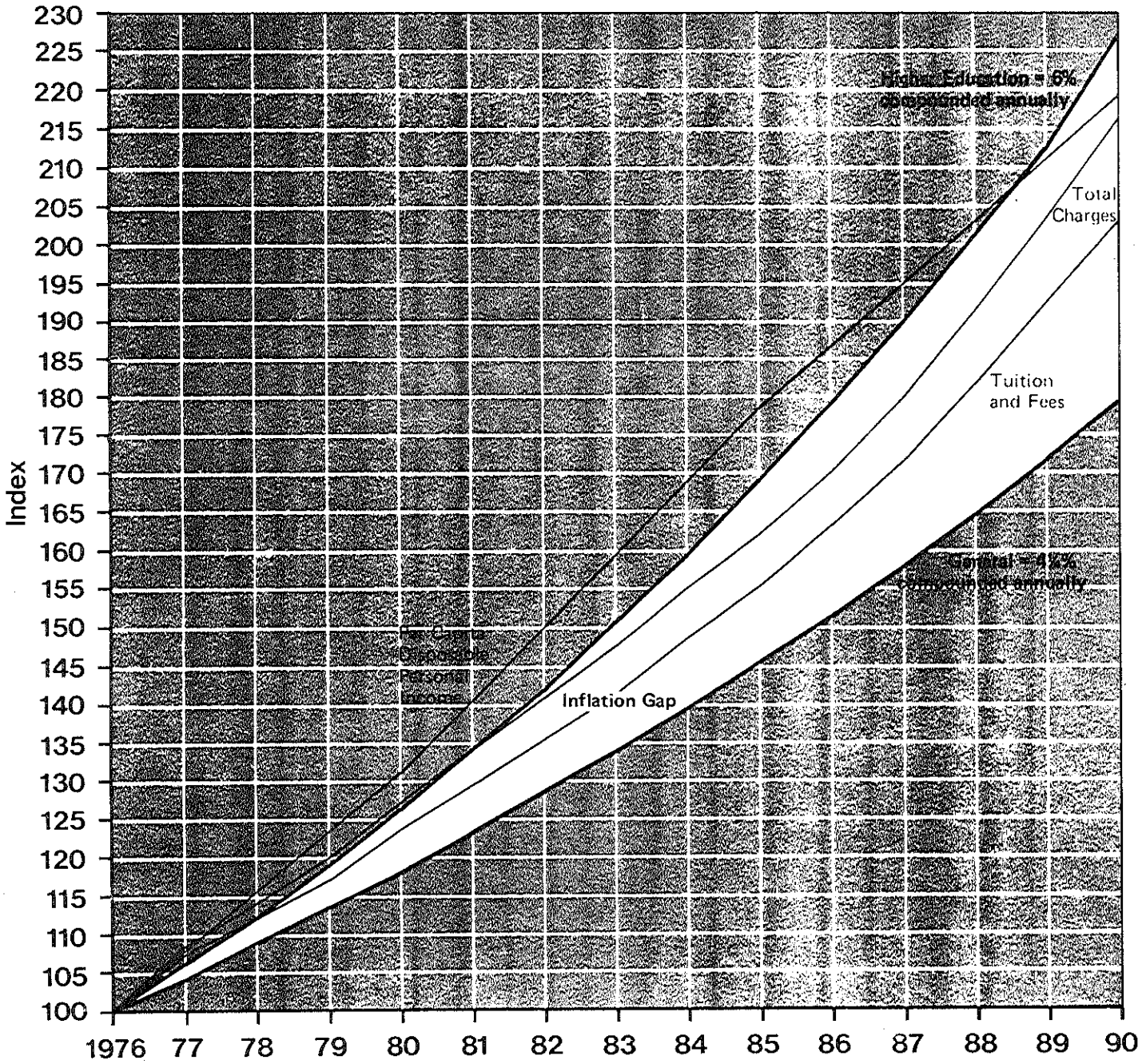
2. A "stop and go" environment will characterize the 80's. Volatility and turbulence will mark the economic, political and demographic sectors of our society. Again, the hedge will only be found internally.

3. Values are changing and the trends indicate that higher education will no longer occupy its traditional place of pre-eminance in society's vision of progress. It is necessary, therefore, to understand and influence these trends and develop anticipatory responses.

4. Institute self-analysis suggests that RIT is unconventional in several respects. To maintain this position it is necessary to establish priorities which will keep RIT on its unconventional track.

Rochester Institute of Technology
Economic Study Commission

Comparison of Projected Higher Education and General Inflation, RIT Student Charges, and Per Capita Disposable Personal Income



Annual Inflation Rate: Compounded Annually

Higher Education = 6.0%
General = 4¼%

Results in

Average Annual Inflation Rate of:

Higher Education 9.0%
General = 5.6%

RIT Annual Student Charge Increase Compounded Annually:

Tuition and Fees = 4¾%
Room and Board (not charted) = 6¼%
Total Student Charges = 5½%

RIT Average Annual Rate of:

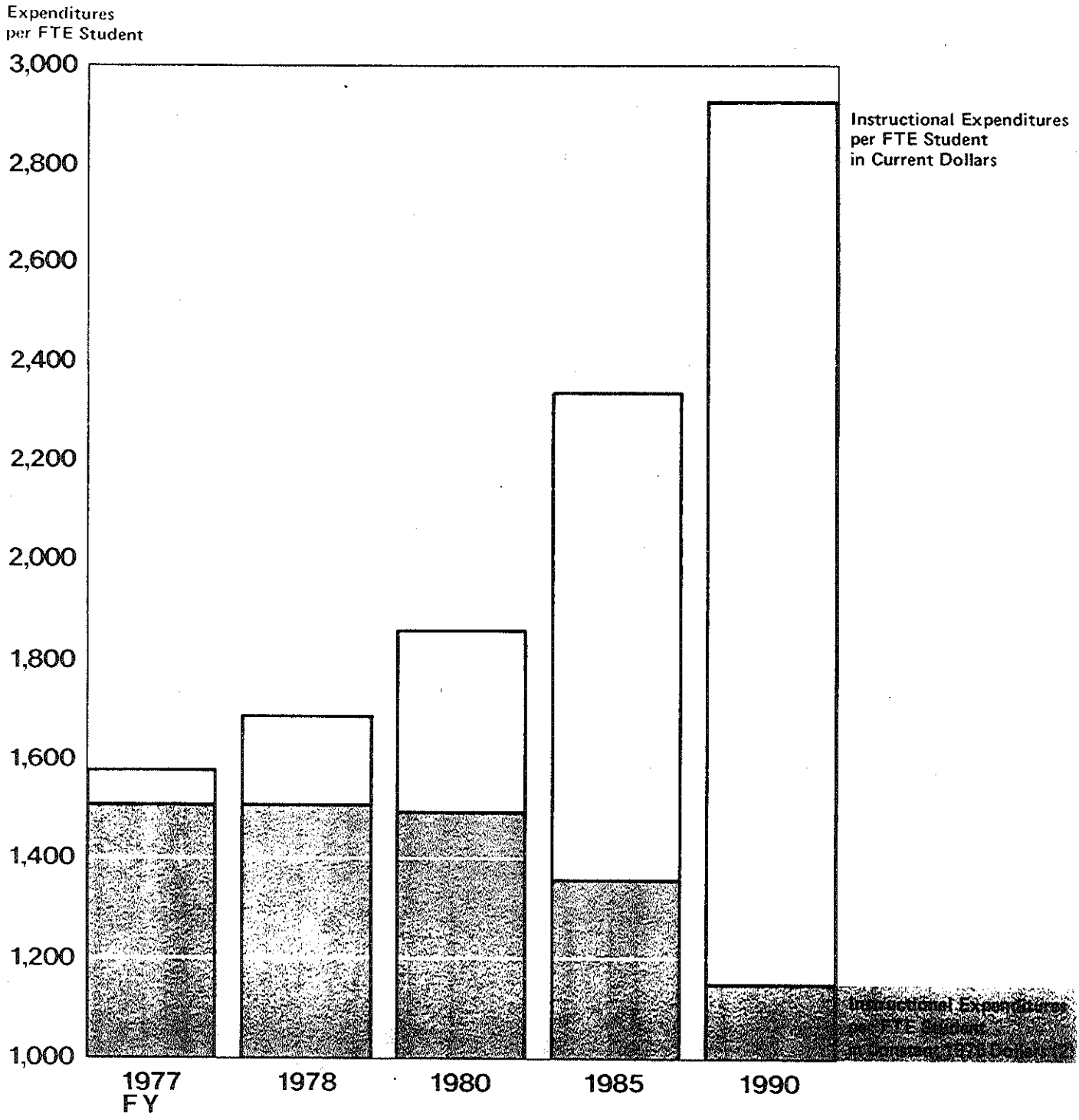
Tuition and Fees 7.1%
Room and Board 9.4%
Total Student Charges 8.0%

CHART 1

Rochester Institute of Technology
Economic Study Commission

Projected Instructional Expenditures (1) Per Full-time Equivalent Student in Current Dollars and Constant 1976 Dollars for the Fiscal Years 1976-1990

Primary Model



(1) Excluding NTID
(2) Assumes higher education inflation costs of 6% compounded annually

CHART 2

5. One of the priorities is an imperative for planning in order to focus issues for units across the campus and develop responsive, reasoned actions.

To highlight these themes that will inevitably play-out on the Institute over the next decade, we developed a series of projections. They are for the most part relatively simple, straight line projections based on the detailed assumptions. The model that is constructed is largely enrollment and inflation driven. It essentially represents our best guess about what the income and expenditure trends will be <u>if</u> we keep on doing business as usual.

Several examples may prove useful.

Since inflation is projected to be a major and continuing problem, it was necessary to demonstrate its compounding effect and its differential impact on institutions of higher education. An assumed inflation rate of 4½% for the general economy and 6% for higher education results in significant "inflation gap" over the period reported. In the Commission report we overlayed projected tuition rates and total charges plus per capita disposable personal income. This was to demonstrate that (1) we would not pass along all the effects of inflation to the consumer and (2) that it was not likely we would price ourselves out of the market. (see chart I)

Another chart deals with the projected instructional expenditures per FTE student. This chart vividly demonstrates that the current dollar amount will increase substantially, but with inflation removed it will actually represent a decline of resources available for instructional expenditures. This was also included to demonstrate the necessity of significant gains in

productivity (student/faculty ratio) to protect against further devaluation. (See chart 2)

Finally, so that there would be a better understanding of allocation decisions and their interrelation, we included a chart describing educational and general revenues and expenditures by category as a percentage of total educational and general. This chart demonstrates the changing nature of the revenue pattern with endowment return and voluntary support assuming the burden of losses in student tuition and fees. On the expenditure side, the significance of spiraling energy costs can be seen eroding the dollars that can be allocated to institutional support, student services, and instruction and direct educational activities. (See chart 3) These charts are intended to be instructive tools and not definitive projections.

The report on "The Third Decade" was completed in the Spring of 1977. A companion document from the Institutional Advancement Commission is nearing completion. The IAC report will focus on means for increasing the probability that private sources of financial largesse will indeed assume an increasing share of income production.

At this time it can be fairly asked if RIT is indeed ready to face the tumultuous times ahead. The answer is clearly No: the financial model assumes a business as usual stance and does not take into account bold new ventures; the linkages between the macro-environment and the micro-environment have not been established; a plan for action has not been developed by each unit of the Institute; finally, it must be wondered if the report on "The Third Decade" will meet the same fate as many other dust-covered documents.

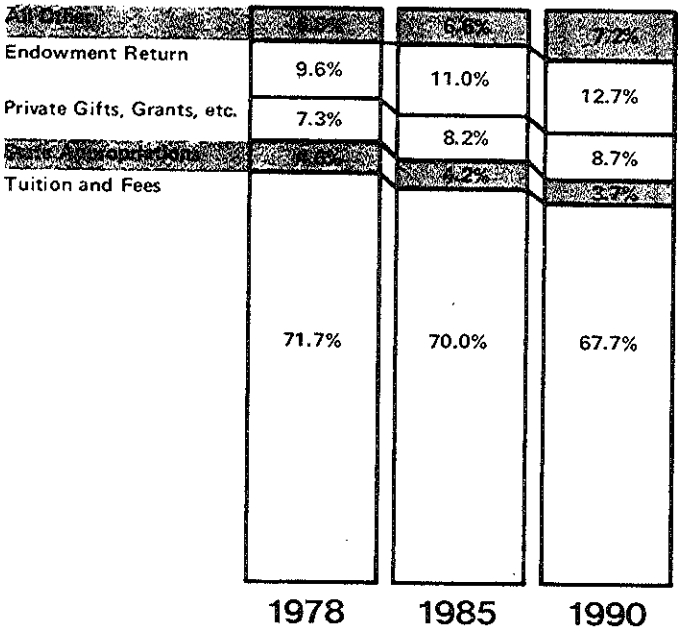
Rochester Institute of Technology
Economic Study Commission

Comparison of Educational and General Revenues and Expenditures by Categories as a Percentage of Total Educational and General for the Fiscal Years 1978, 1985, and 1990.

Primary Projection Model

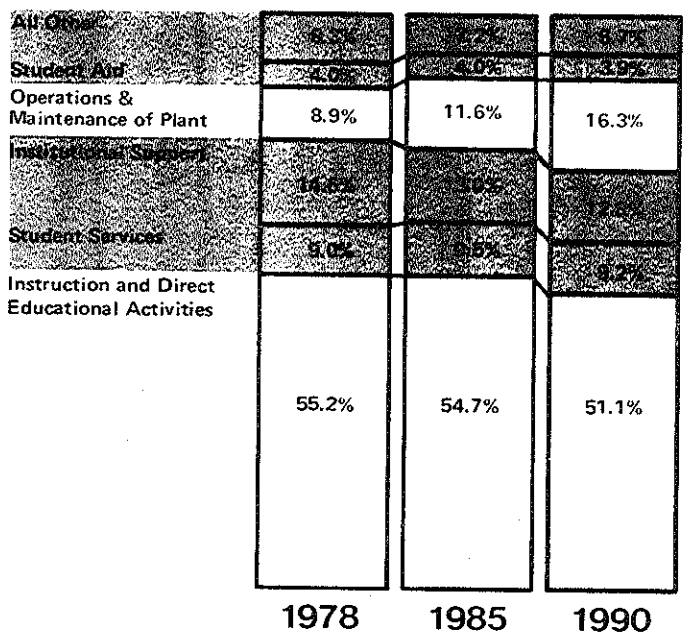
Educational and General

Revenues (1)



Educational and General

Expenditures (2)



(1) Excluding NTID
(2) Excluding NTID and Educational Debt Service

CHART 3

To move the process beyond the descriptive, a great deal more needs to happen. In response to the imperative for planning recommendations, a planning officer has been appointed. Reflective of the philosophy of planning at RIT, that officer has been entitled Director of Planning Projects indicating that planning is the result of decentralized projects and not the product of a single office. Planning is further defined as a learning process.

To insure that the learning process continues and reasoned action results, several other steps have been taken:

(1) The President in his Fall message to the faculty has highlighted what needs to be done to adequately prepare for the 80's through Institute-wide planning. He appointed a faculty Task Force on the 80's to sharpen the issues identified by the Economic Study Commission and determine which units should respond to them. In addition, this Task Force is to act as the Steering Committee for RIT's accreditation review and to develop the specific plan for the Institute for the 80's.

(2) Two standing committees of the Policy Council have been assigned basic questions that will assist the planning effort: What is the optimum educational size of the Institute and what are the essential competencies an RIT student should acquire during his or her education?

(3) "The Third Decade" has been distributed to all members of the Institute community. Many groups have elected to focus on its implications during the course of the year.

Several faculty members are currently developing a simulation game using the Commission report as the basis. It is felt this will assist in moving closer to the intended use of the report as a learning tool.

(4) The budgeting process has now built-in funding for program innovations and contingencies to hedge against short-falls. In the past, the budget cycle has been one year; it is being expanded to a two-year cycle.

(5) Recognizing that institutional morale is important, the base is being constructed for responding to the professional and personal development needs of members of the RIT community. A series of seminars is planned for this year. They will begin to ascertain those needs and to assure faculty and staff that positive and developmental activities can serve as an appropriate response to the decade ahead.

It is apparent that the framework of information available has stimulated preparation for the future. One note of caution needs to be interjected at this point. There are problems ahead but they should not be used to frighted faculty or to create a sense of inevitability. Indeed, we should focus on the opportunities that this new environment will create. As a labor intensive enterprise, we must concentrate on the human resources that are truly the fund for the future. At this point, to concentrate on the tools and not the process; to look for decision from data and not from people would be a serious mistake. The emphasis in planning needs to be on

simple decision-making procedures that are sufficiently democratic and participative to respond naturally to environmental change. To be effective, planning procedures must be characterized by simplicity, flexibility, the ability to keep pertinent information in focus, and provision for meaningful participation by all concerned.[1]

In short, planning must be viewed as a learning process.

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[1]Richardson, Richard C., Don E. Gardner, and Ann Pierce, "The Need for Institutional Planning" in ERIC/Higher Education Research Currents, September, 1977.

SELECTED BIBLIOGRAPHY ON THE TOPIC OF PERSISTENCE AND ATTRITION IN POSTSECONDARY EDUCATION

PREPARED BY
PETER T. FARAGO
OFFICE OF ANALYTICAL STUDIES AND PLANNING
BOSTON UNIVERSITY
(OCTOBER 1977)

THIS ANNOTATED BIBLIOGRAPHY IS INTENDED FOR THE RESEARCHER OR THE INSTITUTIONAL PLANNER WHO IS INTERESTED IN SAMPLING RECENT LITERATURE RELATED TO THE SUBJECT OF COLLEGE STUDENT ATTRITION AND RETENTION. IT IS BY NO MEANS AN EXHAUSTIVE LIST, RATHER IT IS PROVIDED TO BE USED AS A STARTING POINT. SEVERAL OF THE ITEMS CITED CONTAIN EXTENSIVE LISTS REFERENCING OTHER RELATED MATERIALS. WHERE APPLICABLE, ANNOTATIONS START WITH SOME KEY WORDS INDICATING THE TYPE OF INSTITUTION STUDIED, THE TYPE OF STUDY CONDUCTED, AND WHETHER THE QUESTIONS ASKED PERTAINED TO THE NUMBERS OR TO THE REASONS RELATED TO ATTRITION. "REFERENCES" INDICATES THAT THE ITEM IS A GOOD SOURCE FOR FURTHER REFERENCES.
LASTLY, SOME SOURCES NOT LISTED HERE ARE THE PERIODIC "ERIC" INDECES, THE "DISSERTATION ABSTRACTS", AND THE SOCIAL SCIENCES EDITION OF "CURRENT CONTENTS", ALL OF WHICH ARE AVAILABLE AT MANY LIBRARIES. THEY ALL INCLUDE ITEMS UNDER THE HEADING OF "DROPOUTS", AND ARE USEFUL FOR KEEPING UP WITH RECENT PUBLICATIONS.

SELECTED BIBLIOGRAPHY ON THE TOPIC OF
PERSISTENCE AND ATTRITION IN POSTSECONDARY EDUCATION

ASTIN, ALEXANDER W.
COLLEGE DROPOUTS: A NATIONAL PROFILE,
AMER. COUNCIL ON EDUCATION, RESEARCH REPORT VOL.7, NO.1
(FEB.1972)

MULTI-INSTITUTIONAL, LONGITUDINAL, NUMBERS, REASONS
BASED ON DATA FROM STUDENTS ATTENDING A REPRESENTATIVE NATIONAL SAMPLE OF 217 INSTITUTIONS, INCLUDING TWO- AND FOUR-YEAR COLLEGES AND UNIVERSITIES. USING THE FRESHMAN CLASS ENTERING IN FALL 1966, THE STUDY EXAMINES THE NATIONAL DROPOUT RATE, AND THE RELATIONSHIP OF VARIOUS PERSONAL AND ENVIRONMENTAL FACTORS TO DROPPING OUT. DATA WERE COMPILED BASED ON INITIAL STUDENT QUESTIONNAIRES AND FOLLOWUPS ONE AND FOUR YEARS AFTER COLLEGE ENTRY.

ASTIN, ALEXANDER W.
PREVENTING STUDENTS FROM DROPPING OUT,
JOSSEY-BASS INC., SAN FRANCISCO (1975)

MULTI-INSTITUTIONAL, LONGITUDINAL, NUMBERS, REASONS
QUESTIONNAIRE DATA WERE COLLECTED FROM THE FRESHMAN CLASS ENTERING IN THE FALL OF 1968 AND FOLLOWED UP FOUR YEARS LATER. THE SAMPLE GROUP WAS SELECTED FROM 358 TWO- AND FOUR-YEAR COLLEGES AND UNIVERSITIES. NATIONAL AVERAGE DROPOUT RATE WAS DETERMINED FOR VARIOUS TYPES OF INSTITUTIONS. THE CORRELATIONS WITH PERSISTENCE WERE ESTABLISHED FOR A LARGE NUMBER OF FACTORS INVOLVING ACADEMIC VARIABLES, FINANCIAL VARIABLES, STUDENT EMPLOYMENT STATUS, STUDENT RESIDENCE, COLLEGE CHARACTERISTICS, AND THE MATCH BETWEEN THE STUDENT AND THE INSTITUTION. A LIST OF CONCLUSIONS WERE DRAWN AND A WORKSHEET IS PROPOSED FOR PREDICTING A STUDENT'S CHANCES, RELATIVE TO THE NATIONAL AVERAGE, FOR DROPPING OUT.

CHASE, CLINTON J., ET. AL
"PERSISTENCE AND CONDITIONS RELATED TO IT: A PERSISTENT QUESTION"
INDIANA STUDIES IN PREDICTION, REPORT NO.32, INDIANA UNIV., BUREAU OF EDUCATIONAL STUDIES AND TESTING, BLOOMINGTON, (NOV. 1976)

PUBLIC UNIVERSITY, LONGITUDINAL, NUMBERS, REASONS
THIS STUDY FOLLOWS FALL AND SPRING FRESHMAN COHORTS OF 1971, 1973, AND 1974 OVER VARIOUS TIME PERIODS RANGING FROM FOUR TO TEN SEMESTERS. ACADEMIC AND NON-ACADEMIC DROPOUTS ARE DISTINGUISHED. SIGNIFICANTLY DIFFERENT PERSISTENCE PATTERNS WERE OBSERVED FOR FALL AND SPRING COHORTS. THE EFFECTS OF VARIOUS FACTORS OTHER THAN ACADEMIC STANDING WERE EXAMINED, INCLUDING STATE RESIDENCY,URBAN OR NON-URBAN HOME, PARENT ALUMNI, ETC.

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BY THE NATIONAL ASSOCIATION OF STUDENT PERSONNEL
ADMINISTRATORS (NASPA) SEE: "ATTRITION"

REFERENCES
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COPE, ROBERT G. AND WILLIAM HANNAH.
REVOLVING COLLEGE DOORS - THE CAUSES AND CONSEQUENSCES OF DROPPING OUT, STOPPING OUT OR TRANSFERRING. J. WILEY, NEW YORK (1975)

GENERAL, DESCRIPTIVE, REFERENCES
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"APPROACHES TO STUDYING THE STUDENT DROPOUT - OR WHERE HAVE ALL THE STUDENTS GONE?"
AVAILABLE FROM ERIC, #ED 134 129 (1976)

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USING A REPRESENTATIVE NATIONAL SAMPLE, MEMBERS OF THE 1961 AND 1966 COHORTS WERE CONTACTED IN 1971 BY MEANS OF MAILED QUESTIONNAIRES. THIS IS AN EXTENSIVE REPORT ON THE ACADEMIC PROGRESS AND THE EMPLOYMENT EXPERIENCE OF THE MEMBERS OF THE TWO COHORTS.

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CHANGE VOL.8, NO.4, PP13-15 (MAY, 1976)

THE AUTHOR SUGGESTS THAT NOT ENOUGH ATTENTION IS PAID BY INSTITUTIONS TO STUDENTS WHO MAY WISH TO (OFTEN TO THEIR BENEFIT) INTERRUPT THEIR STUDIES FOR ONE OR MORE SEMESTERS. SHE SUGGESTS WAYS WHICH COULD MAKE SUCH AN EXPERIENCE EASIER AND MORE BENEFICIAL FOR THE STUDENT, AND MAY AT THE SAME TIME INCREASE THE LIKELIHOOD OF THEIR RETURNING TO COMPLETE THEIR UNDERGRADUATE EDUCATION.

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(AUG. 1972)

GRADUATE, REASONS
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NCHEMS TECHNICAL REPORT 74
A MANUAL FOR CONDUCTING STUDENT ATTRITION STUDIES IN INSTITUTIONS OF POSTSECONDARY EDUCATION.
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THIS MANUAL PROVIDES A STEP-BY-STEP GUIDE TO CONDUCTING A MAIL SURVEY AIMED AT ASSESSING STUDENTS' REASONS FOR DISCONTINUING THEIR UNDERGRADUATE EDUCATION. INCLUDED ARE SAMPLE QUESTIONNAIRES AND LETTERS, COST ESTIMATES, AND INSTRUCTIONS FOR CODING, PROCESSING, AND ANALYZING THE DATA. AVAILABLE FROM NCHEMS, BOULDER, COLORADO.

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DISSERTATIONS CITED IN THIS BIBLIOGRAPHY ARE DIVIDED INTO GROUPS DEALING WITH PUBLIC COMMUNITY COLLEGES, PUBLIC COLLEGES AND UNIVERSITIES, PRIVATE COLLEGES AND UNIVERSITIES, AND OTHER. MOST DISSERTATIONS DEAL WITH STUDYING REASONS FOR ATTRITION AT A SINGLE INSTITUTION. COPIES OF THE BIBLIOGRAPHY ARE AVAILABLE FREE FROM THE AMERICAN COLLEGE TESTING PROGRAM, 2201 NORTH DODGE, P.O.BOX 168, IOWA CITY, IOWA 52240. COPIES OF THE DISSERTATIONS THEMSELVES ARE AVAILABLE FROM UNIVERSITY MICROFILMS, ANN ARBOR, MICHIGAN.

SHULMAN, CAROL HERRNSTADT
"RECENT TRENDS IN STUDENT RETENTION"
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(1976)

GENERAL, REFERENCES
AN EXCELLENT CONCISE SUMMARY OF RECENT FINDINGS, PUBLICATIONS, AND RESOURCES RELATED TO COLLEGE ATTRITION. A USEFUL LIST OF SELECTED REFERENCES IS INCLUDED.

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"STUDENT PERFORMANCE AND ATTRITION AT THE UNIVERSITY OF CALIFORNIA, BERKELEY: A FOLLOW-UP OF THE ENTERING FRESHMAN CLASSES OF FALL 1955 AND FALL 1960"
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PUBLIC UNIVERSITY, LONGITUDINAL, NUMBERS
THIS STUDY, CONDUCTED IN 1965, EXAMINED THE FALL 1955 AND FALL 1960 FRESHMAN COHORTS. ALONG WITH A LATER STUDY (SEE NEXT REFERENCE), THIS CONSTITUTES ONE OF THE BEST LONGITUDINAL ATTRITION STUDIES PERFORMED AT A SINGLE INSTITUTION. THE METHODOLOGY AND THE FINDINGS ARE CLEARLY STATED. THE AUTHORS EXAMINED OVERALL PERSISTANCE PATTERNS AS WELL AS PERSISTENCE IN AND TRANSFERS AMONG THE VARIOUS COLLEGES AND FIELDS OF STUDY AT BERKELEY. A FOLLOW-UP STUDY OF THE STUDENTS WHO LEFT BERKELEY WAS USED TO ESTABLISH THEIR ACADEMIC PROGRESS SUBSEQUENT TO LEAVING.

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OFFICE OF INSTITUTIONAL RESEARCH, UNIV . OF CAL., BERKELEY, (1975)

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SIMILAR TO THE STUDY IN THE PREVIOUS REFERENCE, THIS STUDY LOOKS AT THE FRESHMAN COHORTS OF FALL 1955, 1960, AND 1969 THROUGH 1974. THE STUDY WAS CONDUCTED IN THE FALL OF 1975. CHANGES IN PERSISTENCE PATTERNS ARE OBSERVED, OVERALL AND WITHIN COLLEGE PERSISENCE IS EXAMINED, AND A SEPARATE SECTION DEALS WITH THE PERSISTENCE OF JUNIOR TRANSFERS TO BERKELEY. WELL DONE AND HIGHLY RECOMMENDED. AVAILABLE ON REQUEST FROM THE OFFICE OF INSTITUTIONAL STUDIES, U.C., BERKELEY.

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GENERAL
THE AUTHOR EXPLAINS THE DIFFERENCES AMONG THREE ENROLLMENT PROJECTION MODELS: THE USE OF GRADE PROGRESSION RATIOS, MARKOV PROJECTIONS, AND COHORT SURVIVAL PROJECTIONS. THE ADVANTAGES OF THE COHORT SURVIVAL MODELS OVER THE OTHERS ARE DISCUSSED. A SEPARATE SECTION DEALS WITH THE APPLICABILITY OF THE COHORT SURVIVAL METHOD TO STUDENT PERSISTANCE STUDIES.

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COHORT SURVIVAL CURVES ARE CONSTRUCTED FOR THE FALL 1970 COHORT AND ARE APPLIED AS AN ENROLLMENT PROJECTION TOOL IN A LARGER MODEL.

TERENZINI, PATRICK T. AND ERNEST T PASCARELLA
"VOLUNTARY FRESHMAN ATTRITION AND PATTERNS OF SOCIAL AND ACADEMIC INTEGRATION IN A UNIVERSITY: A TEST OF A CONCEPTUAL MODEL"
RESEARCH IN EDUCATION, VI, PP 15-43 (1977)

PRIVATE UNIVERSITY, CROSS-SECTIONAL, REASONS
THE AUTHORS STUDY VOLUNTARY WITHDRAWALS FROM ONE COLLEGE OF THE UNIVERSITY IN AN ATTEMPT TO TEST TINTO'S (SEE BELOW) MODEL OF THE EFFECTS OF ACADEMIC AND SOCIAL INTEGRATION ON PERSISTENCE. DISCRIMINANT ANALYSIS IS USED TO ESTABLISH A SET OF VARIABLES FOR DISCIMINATING BETWEEN PERSISTERS AND NONPERSISTERS. THE PREDICTIVE VALUE OF THESE VARIABLES IS ACKNOWLEDGED TO BE LIMITED, BUT THE STUDY IS A GOOD INDICATOR OF THE COMPLEXITY OF THE INFLUENCES EFFECTING ATTRITION. TWO SUBSEQUENT PAPERS WERE PRESENTED BY THE AUTHORS AT THE 1977 A.I.R. FORUM AND APPEAR IN: CONFLICTING PRESSURES IN POSTSECONDARY EDUCATION, R.H. FENSKE, ED., A.I.R. (1977). BOTH OF THESE LATTER PAPERS DEAL WITH THE FURTHER STUDY OF THE SAME MODEL AND LOOK SPECIFICALLY AT THE EFFECTS OF SOCIAL INTERACTION BETWEEN STUDENTS AND FACULTY ON FRESHMAN ATTRITION.

TINTO, VINCENT
"DROPOUT FROM HIGHER EDUCATION: A THEORETICAL SYNTHESIS OF RECENT RESEARCH"
REVIEWS OF HIGHER EDUCATION, 45, #1 (WINTER '75) PP 89-125

GENERAL, THEORETICAL, REASONS, REFERENCES
THE AUTHOR LOOKS AT EXISTING RESEARCH ON ATTRITION AND PROPOSES A MODEL FOR SYNTHESIZING THE INFORMATION INTO A PREDICTIVE MODEL. HE DIFFERENTIATES BETWEEN VARIABLES RELATED TO ACADEMIC AND TO SOCIAL INTEGRATION OF THE STUDENT INTO THE ACADEMIC ENVIRONMENT, AND THEN EXAMINES THE INDEPENDENT AND COMBINED EFFECTS OF THESE TWO TYPES OF VARIABLES ON ACADEMIC DISMISSALS AND ON VOLUNTARY WITHDRAWALS. A USEFUL BIBLIOGRAPHY OF OVER 100 REFERENCES IS INCLUDED.

WRIGHT, CHARLES R.
"SUCCESS OR FAILURE IN EARNING GRADUATE DEGREES"
SOCIOLOGY OF EDUCATION, VOL. 38, (FALL 1964) PP 73-97.

GRADUATE, LONGITUDINAL

*GO

NON-RETURNING STUDENTS QUESTIONNAIRE

J. David Smith, Ed.D.
Assistant Dean for Freshmen
Widener College

1. Name _____

2. Your Academic Major at Widener was _____

3. At Widener, were you ____ a boarding student
   ____ a commuting student

4. Assuming you applied to more than one college for admission, was Widener College your first, second, third, or fourth choice of colleges to attend?

   1____ first choice of those I applied to.
   2____ second choice of those I applied to.
   3____ third choice of those I applied to.
   4____ fourth choice of those I applied to.
   5____ I applied only to Widener.
   6____ other; please indicate _____

5. Please indicate your sources of financing your education when you attended Widener. Indicate approximate percentages of each source:

   1____ % support from parents
   2____ % your savings from previous work
   3____ % G.I. Bill
   4____ % Widener College Scholarship
   5____ % Widener College Grant-In-Aid
   6____ % State Grant or Scholarship
   7____ % E.O.G. or B.O.G.
   8____ % State Guaranteed Loans
   9____ % Commercial loans
   10____ % Reimbursed by employer
   11____ % College Work Study
   12____ % Full-time employment
   13____ % Part-time employment
   14____ % other; please indicate _____

6. Please indicate the one or two reasons for attending college when you were enrolled at Widener:

   1____ career preparation
   2____ career advancement
   3____ intellectual development
   4____ parent's wishes
   5____ friends attending college
   6____ college social environment
   7____ other; please indicate _____

7. Please indicate the one or two reasons for choosing Widener College:

   1____ location
   2____ available financial aid
   3____ Cadet Corps Program
   4____ specific academic program: indicate _____
   5____ academic reputation of Widener
   6____ friends attending Widener
   7____ fellow employees attending Widener
   8____ other; please indicate _____

8. Who or what influenced you most in choosing to enroll at Widener when you did? (Indicate no more than two)

1____ Widener College Admissions Representative
2____ high school guidance counselors
3____ high school teachers
4____ parents
5____ friends enrolled at Widener
6____ Widener or PMC Alumni
7____ visit to Widener's campus
8____ Widener College professors
9____ Widener College official publications (catalogues, posters, etc.)
10____ other; please indicate _____
_____

9. Please indicate the one or two <u>personal</u> reasons for not returning to Widener:

1____ moved from the Widener College area.
2____ "Stop-out" My not returning is a planned, temporary leave.
3____ financial considerations - insufficient funds for college.
4____ poor academic performance or progress.
5____ undecided career objectives.
6____ marriage.
7____ lost interest in college in general.
8____ other; please indicate _____
_____

10. Please indicate the one or two <u>institutional</u> reasons for not returning to Widener:

1____ lack of student activities.
2____ the quality of teaching.
3____ academic program I wanted was not offered.
4____ did not like the housing accommodations.
5____ did not like the food served at MacMorland Center.
6____ academic counseling was not adequate.
7____ personal counseling services were not adequate.
8____ administrators hassled students too much.
9____ the quality of the other Widener students.
10____ other; please indicate _____
_____

11. Overall, do you feel the <u>personal</u> reasons (listed in 9) or the <u>institutional</u> reasons (listed in 10) were primarily responsible for your leaving Widener?

1____ The personal reasons were primarily responsible.
2____ The institutional reasons were primarily responsible.
3____ It was a combination of the two.
4____ other; please indicate _____
_____

12. Regardless of your reasons for leaving Widener, what did you like and dislike most about the college?

Liked Most: _____
_____

Disliked Most: _____
_____

13. Is there one thing Widener could have done to have prevented you from leaving Widener College?

1____ No
2____ No opinion
3____ Yes. Please elaborate: _____
_____
_____

14. Would you recommend Widener College to a friend or relative?

1____ Yes
2____ Unsure
3____ No

15. Please check one response:

1____ I am currently enrolled at another school.
2____ I plan to enroll at another school.
3____ I am not enrolled nor do I plan to enroll at another school.
4____ I have "stopped-out" and plan to return to Widener at a later date.
5____ My plans are uncertain.
6____ other; please indicate _____
_____

16. If you are currently enrolled at another school or plan to enroll at another school, please at what school.

1____ I am currently enrolled at _____
I am majoring in _____
2____ I plan to enroll at _____
I plan to major in _____

17. If you plan or wish to return to Widener College, what can we do to help you return? _____
_____
_____
_____

As best you can recall, please evaluate the following facilities, functions, and activities at Widener College.

	EXCELLENT	ABOVE AVERAGE	AVERAGE	BELOW AVERAGE	POOR	NO OPINION
ACADEMIC LIFE						
(18) Quality of teaching						
(19) Interest shown by professors in your work and progress as a student						
(20) Library and Library services						
(21) Class scheduling convenience						
(22) Academic Counseling						
(23) Classroom facilities						
(24) Laboratory facilities						
(25) Quality of other Widener students						
(26) Help provided by the Academic Dean's office						
(27) Help provided by the Office of Freshman Programs						
STUDENT LIFE						
(28) Opportunity to participate in campus activity						
(29) Cultural events on campus						
(30) Opportunity to participate in intramural athletics						
(31) Varsity athletic events						
(32) Personal counseling services						
(33) Student spirit and involvement						
(34) Entertainment for students on campus						
(35) Student activities at MacMorland Center						
(36) Food services at MacMorland Center						
(37) Recreation facilities at MacMorland Center						
(38) The bookstore						
(39) Movies on campus						
(40) Fraternities/Sororities						
(41) Dormitories						
(42) Help from the Dean of Students office						
(43) Help from the Financial Aids office						
OTHER						
(44) Registration procedures						
(45) Parking accommodations						
(46) Health services						
(47) Attractiveness of campus						
(48) Security on campus						
(49) Help from the Business Office						
(50) Help from the Admissions Office						
Other; (fill in your own)						

Please record any additional comments you care to make on the back of this sheet.

Report to the Dean

Freshman Attrition and Academic Dismissal Study: Class of 1978

Report Prepared By:

J. David Smith, Ed.D.
Assistant Dean for Freshmen
Office of Freshman Programs
Widener College

December 1, 1975

Freshman Attrition Study: Class of 1978

This report presents the results of our study to calculate the rate of attrition for the Class of 1978. It also presents data relevant to the issue of freshman attrition and academic dismissal.

Definitions - For the purpose of this report, the following definitions will be used:

One-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1974 Fall semester but not enrolled in the 1975 Spring semester.

Second-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1975 Spring semester but not enrolled in the 1975 Fall semester though eligible to be enrolled.

Two-Semester Attrition is defined as Class of 1978 freshmen enrolled in the 1974 Fall semester but not enrolled in the 1975 Fall semester though eligible to be enrolled.

Class of 1978 freshmen were identified as attrited by a name-by-name comparison of appropriate enrollment rosters provided by Data Processing. This report presents data about Class of 1978 freshmen who entered Widener in the 1974 Fall semester. Class of 1978 freshmen who entered in the 1975 Spring semester are not reflected in this report.

Tables#1, #2, and #3 present the rates of one-semester, second-semester, and two-semester attrition.

ble #1. Rate of One-Semester Attrition: Class of 1978[1]

Number 1978 Freshmen Enrolled Fall 1974	Number 1978 Freshmen Enrolled Fall 1974 But Not Enrolled Spring 1975	Rate of One-Semester Attrition
373	29	7.8%

ble #2. Rate of Second-Semester Attrition: Class of 1978

Number 1978 reshmen Enrolled Spring 1975	Number 1978 Freshmen Enrolled Spring 1975 and Eligible to Enroll 1975 Fall Semester	Number 1978 Freshmen Eligible to Enroll Fall 1975 But Not Enrolled	Rate of Second-Semester Attrition
344	337[2]	52	15.4%

ble #3. Rate of Two-Semester Attrition: Class of 1978

Number 1978 Freshmen Eligible to Enroll Fall 1975	Number 1978 Freshmen Enrolled Fall 1974 But Not Enrolled Fall 1975 Though Eligible to be Enrolled	Rate of Two-Semester Attrition
366	81	22.1%

Table #4 compares the rate of freshman two-semester attrition at Widener College with the rate of freshman two-semester attrition at all four-year colleges and universities.

ble #4. Rates of Two-Semester Freshman Attrition: Widener College and All Four-Year Colleges and Universities[3]

Widener College	All Four-Year Colleges and Universities
22.1%	22%

[1] For a detailed report of one-semester attrition, see JDS to ATM memorandum of 4/2/75.

[2] Seven Class of 1978 freshmen were dismissed from the College at the conclusion of the 1975 Spring semester for insufficient academic progress. (i.e. Two Semester Q.P.A. of less than 1.0).

[3] Rate of attrition figures for all four-year colleges and universities taken from "College Dropouts: A National Profile," published by American Council on Education, 1972.

Tables #5, #6, and #7 identify the 81 one and two-semester attrited freshmen and the seven dismissed freshmen by academic major (Table #5), grade point average (Table #6), and sex/residence (Table #7).

Table #5. Distribution by Academic Major

Academic Major	# Attrited One-Semester	# Attrited Second-Semester	# Dismissed	Total	%
Exploratory Studies and Liberal Arts Undecided	10	14	0	24	27%
Nursing	6	4	0	10	11%
Business	5	11	2	18	21%
Engineering	3	6	1	10	11%
Sciences	3	5	2	10	11%
Humanities	2	7	1	10	11%
Social Sciences	0	5	1	6	7%
	29	52	7	88	99%

Table #6. Distribution by Grade Point Average

Q.P.A.	# Attrited One-Semester	# Attrited Second-Semester	# Dismissed	Total	%
3.50 - 4.00	0	1	0	1	1%
3.00 - 3.49	0	8	0	8	9%
2.50 - 2.99	3	10	0	13	15%
2.00 - 2.49	1	14	0	15	17%
1.50 - 1.99	5	12	1	18	21%
1.00 - 1.49	4	6	1	11	13%
1.00	8	0	5	13	15%
Withdrawn	8	1	0	9	10%
	29	52	7	88	101%

Table #7. Distribution by Sex/Residence

	Sex							
	Male		Female					
Residence	One-Semester	Second-Semester	One-Semester	Second-Semester	Dismissed Male	Dismissed Female	Total	%
Boarded	9	18	3	13	3	2	48	55%
Commuted	10	17	7	4	2	0	40	46%
	19	35	10	17	5	2	88	101%
	54		27					

Two-Semester Summary of Table #7 (less dismissed)

Total		#	%		#	%
	Male	54	67%	Boarded	43	53%
	Female	27	33%	Commuted	38	47%
		81	100%		81	100%

Report Highlights (Summary)

1. Rates of Attrition

The rate of one-semester freshman attrition was calculated as 7.8%. The rate of second-semester freshman attrition was calculated as 15.4%. The rate of two-semester freshman attrition was calculated as 22.1%.

The Widener College two-semester freshman rate of attrition of 22.1% is virtually equal to the rate of two-semester freshman attrition for all four year colleges and universities as reported in a 1972 American Council on Education publication.

2. Academic Majors

30% (24 of 81) of those freshmen who elected not to return for a second semester or a second year indicated Exploratory Studies (ES) or Liberal Arts Undecided (AX) as their academic programs.

20% (16 of 81) of those electing not to return indicated a major in Management/Applied Economics. The academic majors of the remaining 50% (41 of 81) of those freshmen who elected not to return were nearly equally distributed among the other academic centers and groups.

The seven freshmen dismissed from the college after two semesters indicated academic majors in 5 of the 7 possible categories.

3. Academic Success

19% (4 of 21) of the one-semester attrited freshmen achieved academic success (defined as a cumulative Q.P.A. of 2.0 or better). This compares with a one-semester rate of academic success of 69% for all Class of 1978 freshmen.

65% (33 of 51) of the second-semester attrited freshmen achieved academic success compared with a two-semester rate of academic success of 71% of all Class of 1978 freshmen.

51% (37 of 72) of the two-semester attrited freshmen achieved academic success compared with a two-semester rate of academic success of 71% of all Class of 1978 freshmen.

4. Sex/Residence

The percent of male vs. female freshmen who elected not to return for a second semester or a second year was virtually equal to their percent of the entire Class of 1978.

Commuting freshmen who elected not to return for a second semester or a second year accounted for a slightly greater percentage than their percentage of the entire Class of 1978.

The seven dismissed freshmen were found in 3 of the 4 male vs. female, boarder vs. commuter categories.

5. Special Background Freshmen

30% (24 of 81) of the freshmen who elected not to return were admitted as freshmen with "special backgrounds" (see JDS to ATM memoranda of 2/7/75 and 6/11/75). "Special Background" freshmen accounted for 25% of the Class of 1978.

Five of the seven dismissed freshmen were "special background" freshmen.

6. Questionnaires

Our standard non-returning student questionnaire has been mailed to those Class of 1978 freshmen categorized as "second-semester attrition" freshmen. Results of that survey will be available.

7. Appendices

Appendix A lists Class of 1978 freshmen who elected not to return after one semester.

Appendix B lists Class of 1978 freshmen who elected not to return for a third semester.

Appendix C lists Class of 1978 freshmen who were dismissed from the College for insufficient academic progress.

Distribution

President Moll
Dean Arbuckle
Dean Bloom
Mr. Bowlby
Professor Brown
Mr. Bruce
Mr. Cavin
Professor Conroy
Dean Dower
Mrs. Garrison
Col. Gieseke
Professor Jenkins
Dean Kornfield
Dean Landaiche
Professor L'Armand
Dean Lindsley
Dean Meli
Professor Neaves
Dean Rodney
Mr. Smeigh
Dean Woodside

Appendix A - One Semester Attrition

Class of 1978 freshmen who elected not to return to Widener for the 1975 Spring Semester.

	Name	Major	Q.P.A.	Residence C/B
1.	rd	QP	1.33	C
2.	g	BM	1.38	B
3.	an	ES	0.86	B
4.	on	ES	W	C
5.		ES	W	C
6.		NU	W	C
7.		ES	W	B
8.	rington	EN	0.50	B
9.	d	QB	0.50	B
10.	s	HE	1.63	C
11.	hia	NU	2.50	C
12.	latthew	HH	0.20	C
13.		NU	1.88	C
14.	bert	BM	W	C
15.	ley	ES	2.88	B
16.	eph	BM	0.38	C
17.		BX	0.00	C
18.	t	EN	2.50	C
19.		ES	1.17	B
20.	na	NU	2.25	C
21.		NU	0.25	C
22.	liam	ES	1.63	B
23.	licholas	ES	W	B
24.	las	ES	1.88	B
25.	ael	QB	0.00	C
26.		ES	W	C
27.	t	BM	1.33	B
28.		EN	W	C
29.	y	NU	1.50	B

Appendix B - Second Semester Attrition

Class of 1978 freshmen who elected not to return to Widener for a third semester.

	Name	Major	Q.P.A.	Residence C/B
1.		SY	2.19	B
2.	ɜ	ES	2.56	B
3.		AX	2.57	B
4.	ıe	ES	1.92	C
5.		HE	2.81	B
6.	ɔh	ES	2.27	C
7.	ł	ES	2.21	B
8.	;ley	BM	2.08	C
9.		QB	1.87	C
10.		BM	W	B
11.	l	BE	3.33	C
12.		SB	1.81	C
13.		BM	1.25	B
14.	ınie	SB	2.69	B
15.		HL	2.89	C
16.	t	EN	1.81	C
17.	ɜh	ES	1.73	B
18.		ES	2.20	B
19.		NU	3.06	B
20.		EN	1.60	C
21.		QB	3.13	C
22.		HE	2.09	B
23.		ES	3.38	C
24.		BM	2.25	B
25.	iam	BA	2.69	B
26.		ES	3.47	B
27.	th	QB	2.31	B
28.		QB	1.64	B
29.		BM	1.21	C
30.	na	NU	2.20	B
31.		BM	2.88	B
32.	a	NU	2.14	B
33.		BA	3.33	B
34.		SP	1.81	C
35.	l	EN	1.71	B
36.	yann	HH	2.94	B
37.	s	EN	2.80	C
38.		ES	1.31	B
39.		BX	2.36	B
40.	d	AX	3.25	B
41.		AX	1.64	C
42.		NU	1.70	B
43.	y	HH	1.81	B
44.		QB	1.36	B
45.	usan	AX	1.44	C
46.		HE	1.33	C
47.		HH	3.07	B
48.	eth	ES	2.46	C
49.	es	EN	2.38	C
50.		SB	3.81	C
51.		BM	2.88	C
52.		EN	2.08	B

Appendix C - Dismissed

Class of 1978 freshmen who were dismissed for insufficient academic progress after two semesters.

	Name	Major	Q.P.A.	Residence C/B
1.	ıele	QB	1.17	B
2.	:hael	SB	0.88	B
3.	·t	BE	0.82	B
4.	ıa	QB	0.50	B
5.	·n	BM	1.50	C
6.		HH	0.55	B
7.	d	EN	0.82	C

TYPES OF ATTRITION STUDIES

QUESTIONS ASKED	HOW MANY?		WHY?	
METHODOLOGY	SNAPSHORT STUDIES	LONGITUDINAL (COHORT SURVIVAL) STUDIES	STUDIES BASED ON INSTITUTIONAL DATA	STUDIES BASED ON QUESTIONNAIRES
DESCRIPTION	These studies observe overall enrollment figures such as number of students in a given group at one time and the % of those who are attending (or have graduated) at some later time.	Students are associated with a cohort group, (such as Freshmen Cohort of Fall of 'XX). They are then individually traced through a succession of terms to determine their status as a function of time.	Data are compiled on students who persist and other students who drop (or stop) out from such sources as admissions, registrar, dean's offices and other offices. Various data are then correlated with the persistence characteristics of the students in an attempt to identify causual or at least correlated relationships.	Data are compiled directly from questionnaires (or interviews) completed by persisting and dropout (or stopout) students to determine their impressions of the institution and their relation to it. An attempt is made to identify significant factors affecting attrition rates.
ADVANTAGES	Relatively simple and inexpensive ("Quick and Dirty"). Fulfills current minimum requirements for consumer information.	Provides information not only on dropouts but also on stopouts, duration of stopout, and when students are most likely to dropout or to return. These types of studies also provide information useful in enrollment projections, in such a way that their reliability is independent of variations in the class side. The extensive data base involved is easily usable in a variety of other types of insitutional studies.	Data are relatively easy to gather from existing institutional records. Can be helpful in identifying a larger group of "high risk" students who can then be contacted in an attempt to assess their needs and to provide possible assistance.	Information can be gained concerning student attitudes, their perception of the institution, their plans for the future, their reasons for leaving or persisting. Possibly a personality profile of persisting students may be identified which is unique to the insitution.
DISADVANTAGES	Does not differentiate between stopouts and dropouts. Gives no information concerning patterns of attrition. Assume orderly uniform progression of students from class to class.	Requires an extensive and accurate data base which must be updated each semester. It also probably requires programming support and computer facilities available only to larger institutions. The initial time investment is substantial and should not be made unless relatively accurate insitutional records are available for building the historical data base.	Institutional data are of limited value in determining the causes of attrition. Even when significant correlations are found between variables, assigning causual meaning can be misleading.	Data is difficult to gather and often subjective. Effects are difficult to separate from one another and seldom result in any clearly warranted action which would effect attrition. The assignment of causal meaning to correlations between characteristics and attrition can be misleading.

Office of Analytical Studies
Boston University
October 1977

SUGGESTED DATA ELEMENTS
FOR
LONGITUDINAL STUDY DATA BASE

CORE INFORMATION (FIXED LENGTH)				
I.D. Number	Original Entry Codes	Prior School (H.S. or Coll.)	Current Active/Inactive	Most Recent Marital St.
Name	Yr. & Sem. of Entry	Highest Prior Degree	Current College	Most Recent Resid. Code
Sex	Entry Code	Major Prior to Boston University	Current Degree	Most Recent Proj. Grad.
Racial Origin	Yr. of Grad. Class	Entrance Test Type	Current Major	Cum. Units (Credits)
Date of Birth	Original College	Entrance Test Scores	Current F/P Time	Cum. GPI
Home Zip Code	Original Degree Prog.	# Transf. Units Accepted	Current Contin. Code	No. of Semesters on File
Foreign Student	Original Major	GPI for Transf. Units	Current Class	No. of Courses on File
	Original Fin. Aid Appl.	H.S. or Undergrad. Rank	Current Fin. Aid Appl.	Reason for Termination
	Original Religious Code	H.S. or Undergrad. GPI		Degree Awarded
				Date of Degree

SEMESTERS (VARIABLE LENGTH) ARRAY				
Yr. & Sem. Date	Coll. of Reg.	Active/Inactive Code	Class Standing	Appl. for Fin. Aid
# of 1st Course	Degree Prog.	F/P Time Code	(Fr., So., ...)	Assessed Need
# of Courses in Sem.	Major	Contin. Code		Total Aid

COURSES (VARIABLE LENGTH) ARRAY				
Yr. & Sem. of Course	Course #	Catalog No. of Course (Coll.-Dept.-Course)	# of Units (Credits) Grade in Course	College of Course

Office of Analytical Studies
Boston University
October 1977

Steps In Running a
Student Cohort Survival Study

1. Historical Student Data Base is updated each semester by merging it with Admissions and Registration Files.

2. Extract of Data Elements of Interest is made for the Cohort to be studied. This becomes the smaller working file.

3. Codes related to the status of the students are checked and cleaned up where necessary.

4. Attrition/Persistence statistics are derived for the entire Cohort as well as selected subgroups, such as cohorts in the various colleges.

5. Intrauniversity Transfer patterns among the colleges are derived.

6. Steps 2-5 are repeated for all Cohort groups under study.

Office of Analytical Studies
Boston University
October 1977

ORGANIZATIONAL PERSPECTIVES ON SPACE UTILIZATION AND INSTITUTIONAL RETRENCHMENT

Carla Jackson

Hampshire College

The utilization of space promises to become an increasingly important issue for colleges and universities confronted by the prospect of retrenchment necessitated by changing demographic and environmental circumstances. Previously widespread activities directed toward the construction of additional facilities to accommodate expansion of student enrollments and academic programs will be supplanted by efforts to balance declining student numbers, financial revenues, and personnel resources with the efficient utilization of institutional facilities. Some attention has already been focused on cost-efficient approaches to facilities utilization with declining resources, particularly in terms of debt, energy, and maintenance expenditures (Brown, 1977; Kaiser, 1977) but less consideration has apparently been accorded to the organizational implications of space utilization for the institution. This paper represents an effort to delineate some of these latter organizational issues and to suggest a simple but comprehensive approach to their consideration.

A fundamental organizational issue facing colleges and universities involved in retrenchment efforts relates to the messages which are carried by the use, assignment, and condition of space. These messages are conveyed by the configuration of space use to those both within and outside the organization, and they relate to the institution as a social system and to a person's position within the system (Steele, 1973; Ashcraft and Scheflen, 1976). Such spatial communications provide symbolic information in terms of size of space allocation, location of assignment, and condition of surroundings.

Most institutions of higher education have in the past given some attention to spatial messages about themselves, perhaps most notably with regard to the space allocations for their admissions offices. Most colleges and universities attempt to make the admissions office an attractive, spacious setting for prospective applicants and their parents, because this office is an initial, concrete point of contact between them and the institution. The impression that potential students take away from this setting may well color their decision about applying to or matriculating at a particular institution. This can be contrasted with the spatial situation of most financial aid offices, which are traditionally assigned to less desirable locations and smaller spaces than are admissions offices. The financial aid office is generally less visible to outsiders than is the admissions office and is largely involved in serving, rather than recruiting, students. The messages which outsiders take away with them from this office is less crucial to the institution than the communication which may be received from the admissions office.

As institutions become involved in retrenchment efforts, the messages conveyed by space may become increasingly potent to those both within and outside the organization and these communications should accordingly be given some consideration by those involved in the assignment of institutional space. The exteriors of buildings, the condition of landscaping, and the maintenance of interiors are some variables which a college or university may consider in asking itself the following questions: what messages about the institution are conveyed by a commitment to a certain level of maintenance? is this communication congruent with what the institution would like to say about itself? when is it important to devote resources to sustaining an acceptable level of building maintenance and when is it desirable to let a building become dilapidated or rooms go unpainted? are there circumstances in which a spatial image of decline or decay may be acceptable? The answers which an institution will develop to these questions will depend upon the balancing of financial resources and organizational considerations, and they will undoubtedly also reflect its particular history and circumstances.

Another potentially important message conveyed by space relates to the use of offices vacated by personnel reductions. These office spaces may serve as reminders to those within the organization that it is operating with

limited resources and that their positions might be the next to be eliminated. An institution will again have to ask itself some basic questions: should vacated spaces be left empty? can remaining personnel and units be reassigned to or consolidated in other locations? can vacated spaces be used for alternative purposes by the institution? The answers to such questions as these will of course have to be balanced with cost considerations, but the importance of the spatial messages conveyed by them to those within the institution is undeniable.

A second organizational issue to be confronted in assessing the impact of retrenchment upon space utilization relates to the institution's vision and experience of what can and cannot be done with space. An institution's space utilization practices are largely determined by assumptions about how space should be used and by norms about how it has been used. Often these are the product of how the physical resources of a campus have been developed, especially where buildings have been added gradually to the facilities inventory and have been assigned on an ad hoc basis. The exigencies of institutional retrenchment may provide an opportunity to re-examine the total configuration of space on a campus and to determine how its use might be improved in financial and organizational terms, regardless of the historical determinants of space assignments.

Some of an institution's basic assumptions about space assignments may be reevaluated. Does each faculty member really need a private office? are there alternative arrangements which would provide faculty with space for meeting with students and for scholarly research? would open office landscaping be more efficient than private offices for some administrative functions and would this reduce facilities expenditures in the long run? are there sufficient shared meeting spaces to provide for necessary communication among faculty, administration, and students? An institution need not be closed into certain space arrangements simply because they reflect the way things have always been done; and cost considerations relating to retrenchment render some re-examination of space assignments extremely important. An example of a different approach to space utilization can be drawn from the experience of The Evergreen State College in Washington State, although it was not necessitated by institutional retrenchment but by institutional philosophy. Instead of making assignments based upon seniority or department, faculty members are rotated among offices on a year-by-year

basis. The sight of faculty members pushing trolleys with their belongings around campus is a common sight each fall at Evergreen (Ehrmann, 1977). This is not to suggest that other institutions should necessarily follow the example of Evergreen, but that they should consider alternative types of and possibilities for space arrangements.

Many institutions have also been the victims of their own labelling with regard to room utilization categories. Classifications of space, such as classroom, office, and laboratory, are generally used not as descriptive terms but as inflexible imperatives. Admittedly, what can be done with some types of space is limited by structural and cost considerations, but some facilities are more flexible than often believed. It is important to assess what the organization needs and how it can be accomplished, using space as efficiently and creatively as possible. For example, a vacant classroom can be transformed into a needed advising center office by the substitution of some readily available furniture. This type of analysis involves ignoring the initial labels of rooms and looking at space in the context of real needs and possibilities, and it provides for flexibility which may be particularly necessary in a period of retrenchment.

A third organizational issue relating to the spatial implications of institutional retrenchment is the possibility of fulfilling previously unmet space needs. Few institutions of higher education have ever had sufficient facilities to meet all expressed space needs or to solicit new requests for assignments; but the potential availability of space from activities which have been reduced or eliminated also presents some possibilities for the institution. This may provide an opportunity to raise some of the fundamental issues relating to the goals of the institution and how these have been or could be expressed in spatial terms; it may represent a juncture at which to ask where the institution has come from and where it is going and to discuss the implications of these issues for facilities utilization.

An example of the possibilities for fulfilling unmet space needs can be drawn from the experience of Hampshire College. Prior to the opening of the College in 1970, two planning documents were prepared which included specific recommendations about space relating to the design assumptions of the College (Barber et al., 1958; Patterson and Longsworth, 1966). Some of these plans for facilities were actually implemented, such as the creation of a house system for student residences; others were attempted but later

abandoned, such as the effort to intersperse faculty offices by school; and others have not been tried because of space limitations, such as providing office space for upper division students. It is spatial objectives such as this last possibility which seem congruent with the institution's initial vision of itself but which have remained untried because of the constraints of facilities availability. The provision of space for upper division students is one instance where Hampshire could use facilities which might be vacated by other functions, particularly if it provides a means for improving the quality of life for students within the cost constraints imposed by retrenchment. Most institutions of higher education probably have similarly unsatisfied space needs which could be fulfilled by the use of vacated space, if they will examine their particular institutional history and vision.

In addressing the organizational issues relating to the impact of institutional retrenchment on space utilization, a college or university should attempt to develop a coherent framework for collecting facilities information, planning space utilization, and delegating responsibility for space administration:

Development of a Facilities Information System. Any attempt to examine the organizational issues involved in space utilization with decreasing resources should be predicated upon a comprehensive system for the collection, maintenance, and retrieval of information about institutional facilities. Two types of information about institutional facilities should be included in a space information system.

One type of data relates to traditional statistics on square footage and room use, which provide a basis for some internal institutional decision-making about space and the information necessary to complete federally-mandated facilities reports (see Wood, 1970). Although such information can be manually maintained, a computerized system provides for flexibility and retrievability, and some examples of possible computerized reports are attached. Perhaps most important is a room-by-room inventory of institutional space, providing information about room name, room type, organizational unit, number of stations, and net area (following Romney, 1974). Several types of reports can be readily prepared from this basic data, including space utilization by room type and room utilization by program

classification and by building. In addition, other types of analyses can be prepared as needed, such as space allocations by administrative unit, faculty office assignments by school or department, and scheduled classroom space utilization (Jackson, 1977a). This type of data defines the spatial parameters within which it is necessary to operate and provides a framework for comparative analysis of space allocations within the institution.

A second type of information about institutional facilities is concerned with the actual, in contrast to the assigned, use of space, and it is a necessary supplement to the "hard" data in providing a comprehensive understanding of space utilization. One way of collecting such information is for administrators involved in making facilities allocations to get out on their campuses on a regular basis to look at how space is being used. The floor plans and the room inventories which an institution maintains are reflections of formal understandings about space, but often they present an inaccurate or incomplete picture of actual space use. For example, observation may reveal a space which has been assigned as a classroom but from which furniture has disappeared, indicating that it is probably not functioning as assigned, or a previously open student lounge area on which a lock has been installed, suggesting the exercise of proprietary rights over the space by some group or individual. This is not the type of information which is readily available except by direct observation. Where the actual utilization of a particular space is in question, it may be useful to conduct an informal survey of room use. This can be accomplished by selecting a number of random times at which to observe the use of the space, probably several times daily over a period of a week or two, and hiring a student worker to go to the room at the selected times to observe what is occurring there and how many persons are involved. Another informal source of information about space use which can be particularly valuable is the custodial staff of the institution because they usually have reliable information about the use of space, either by observing it directly in the course of their work or indirectly in terms of maintenance requirements. Taken together with more traditional information about the use of space, these types of informal data provide a comprehensive perspective on the use of institutional facilities.

Planning for Space Utilization. While it seems apparent that the exigencies of institutional retrenchment demand planning with regard to the cost effectiveness of facilities utilization, it should be noted that planning is equally necessary in considering organizational issues relating to space use in a period of declining resources. Planning in this context means the specification of approaches to the attainment of desired objectives; it involves the articulation of goals and the discussion of how to achieve them. The planning process should involve the consideration of what messages about the institution are conveyed by space, of new and creative ways to use space, and of possibilities for fulfilling previously unmet space needs. The process of planning should give direction for the assignment of institutional space, by providing and defining objectives for facilities use and by articulating the environmental and organizational constraints on space allocations (see Bennis, 1973).

A collective vision of desired goals for space utilization seems particularly important for an institution involved in retrenchment efforts where there may be considerable potential for change. It seems particularly important to provide for the inclusion of various institutional subunits in the space planning process, especially where they are directly affected by modifications in space assignments. It should be remembered that with space planning, as with other types of institutional planning, "...if the procedure through which a planning system is implemented violates the principles of participation on which the system is based, the consequence can only be rejection and informal resistance among those affected" (Richardson et al., 1977). The planning process should allow for those concerned to articulate their interests and to have them considered by the institution.

The timing of space planning should also be given some attention. It seems essential to undertake planning efforts in advance of the anticipated implementation of space changes, but how long in advance will depend upon the particular needs of the institution, the availability of relevant information, and the planning norms of the organization. Planning should be timed to allow for consultation with affected users of space and for consideration of alternative perspectives; it should be conducted without the appearance of a crisis-like atmosphere, which is often associated with increased financial and organizational costs.

Responsibility for Space Administration. Although it is important to involve potential users of facilities in space planning, it is also necessary to delegate responsibility for the administration of space to the incumbents of certain positions within the organization. Delegation of responsibility provides for the potential development of expertise by some administrators in dealing with space issues and for the consideration of space requests in the context of overall institutional space needs. Those involved with space administration should be able to weigh some of the conflicting demands for space, provide concrete information about facilities utilization, minimize the application of particularistic criteria in space decisions, and negotiate conflicts about space assignments. There are a number of organizational models which could fulfill these requirements, and an individual institution is probably best suited to select the model which will meet its particular needs while satisfying these general conditions. However, any organizational model which is selected should include at least one senior administrator in the decision-making process, in recognition of the overall importance of space utilization questions and because unresolved space issues are frequently appealed upward in the hierarchy. Under these circumstances, some expertise in the area of space utilization is essential at the highest levels of the institution as well as for those involved with day-to-day space administration.

A final example may serve to emphasize the significance of organizational issues in space utilization and the need to develop institutional mechanisms for their consideration. Founded in 1933 as an experimenting institution in North Carolina, Black Mountain College was initially housed in summer camp facilities leased from a religious organization. Each spring the college was literally packed away to prepare for the summer campers and each fall it was reconstructed after their departure. After several years in this location, the College obtained financing to construct its own campus a short distance away from the original site. However, many of the students and faculty found this move to be somewhat less than completely successful. The new facilities seemed less architecturally unified than the camp buildings, the physical setting was closer to distracting influences than the old location, the excitement of reconstructing the campus each fall

was lost, and some of the experimenting vision of the institution was destroyed (Duberman, 1973). Although many institutions will be moving in the opposite direction from the Black Mountain of the thirties, in contracting rather than expanding their facilities, the Black Mountain experience suggests the importance of space utilization to how an institution views itself.

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PLJ810 HAMPSHIRE PLANT FILE LISTING SEP. 12, 1977 PAGE= 4

ABBR	BLDG TYPE	ROOM NUMBER	INST. NAME OF UNIT	INST. CODE	ORG. UNIT	INST. NAME OF ROOM	ROOM TYPE	ROOM STATION	NET AREA	P/C
COLE	A	0116	ADMINISTRATION		4.6	OFFICE	310		160	0.00
COLE	A	0117	ADMINISTRATION		4.6	OFFICE	310		160	0.00
COLE	A	0118	ADMINISTRATION		4.6	OFFICE	310		240	0.00
COLE	A	0119	ADMINISTRATION		4.6	OFFICE	310		240	0.00
COLE	A	0120	ADMINISTRATION		4.6	OFFICE	310		160	0.00
COLE	A	0121	ADMINISTRATION		6.3	OFFICE	310		240	0.00
COLE	A	0122	ADMINISTRATION		6.3	OFFICE	310		240	0.00
COLE	A	0123	ADMINISTRATION		6.3	OFFICE	310		160	0.00
COLE	A	0124	ADMINISTRATION		6.3	OFFICE	310		160	0.00
COLE	A	0129	INSTRUCTION		1.1	SOLVENT STOR	730		132	0.00
COLE	A	0130	INSTRUCTION		1.1	SOLVENT STOR	730		132	0.00
COLE	A	0201	INSTRUCTION		1.1	LABORATORY	210		6050	0.00
COLE	A	0202	INSTRUCTION		1.1	CLASSROOM	650		340	0.00
COLE	A	0203	INSTRUCTION		1.1	OFFICE	310		240	0.00
COLE	A	0204	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0205	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0206	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0207	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0208	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0209	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0210	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0211	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0212	INSTRUCTION		1.1	OFFICE	310		240	0.00
COLE	A	0301	INSTRUCTION		1.1	LABORATORY	210		6333	0.00
COLE	A	0302	INSTRUCTION		1.1	CLASSROOM	650		340	0.00
COLE	A	0303	INSTRUCTION		1.1	OFFICE	310		180	0.00
COLE	A	0304	INSTRUCTION		1.1	OFFICE	310		180	0.00

Space Utilization by Room Type and Program Category

PLJ813 HAMPSHIRE COLLEGE — ROOM UTILIZATION BY PROGRAM CLASSIFICATION — 9/28/77 — PAGE 2

ROOM TYPE	ROOM USE CATEGORY	TOTAL ASSIGNABLE	P130 UNKNOWN	CLASSIFICATIONS 0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
590	OTHER (ALL PURPOSE)	4,242			1,700					2,542			
500	SPECIAL-USE FACILITIES	34,534			10,512			540	20,940	2,542			
610	ASSEMBLY	5,301			5,301								
615	ASSEMBLY SERVICE	530			530								
620	EXHIBITION	2,140						2,140					
625	EXHIBITION SERVICE	436						436					
630	FOOD FACILITIES	4,138							4,030	108			
635	FOOD-FACILITIES SERVICE	2,334							2,334				
650	LOUNGE	12,288			864				11,024	380			
660	MERCHANDISING FACILITIES	1,066								1,066			
665	MERCHANDISING FACIL SERVICE	420								420			
670	RECREATION	7,720			348				7,372				
675	RECREATION SERVICE	588							588				
680	MEETING ROOM (SEE ALSO 350)	20,308							20,308				
600	GENERAL-USE FACILITIES	57,269			7,063			2,576	45,656	1,974			
720	SHOP	876								876			
725	SHOP SERVICE	166								166			
730	STORAGE	2,809			656		182			1,971			
745	VEHICL-STORAGE-FACIL SERVICE	973								973			
700	SUPPORTING FACILITIES	4,824			656		182			3,986			
850	TREATMENT	204							204				
860	SERVICE LABORATORY	80							80				
880	PUBLIC WAITING	221							221				
895	HEALTH CARE SERVICE	50							50				
800	HEALTH CARE FACILITIES	555							555				
910	SLEEP/STDY WTHOUT TOILT/BATH	57,120							57,120				
919	TOILET/BATH	10,160							10,160				
935	SLEEP/STUDY SERVICE	1,341							1,341				
950	APARTMENT	118,201							102,814	15,387			
955	APARTMENT SERVICE	17,076							1,076				
970	HOUSE	7,753							2,302	5,451			
900	RESIDENTIAL FACILITIES	195,651							174,813	20,838			

Space Utilization by Room Type and Building

PL38;2 -A- PSHIRE COLLEGE SPACE UTILIZATION 9/01/77 PAGE 4

	MONTAGUE HALL	715	SQ.FT.
	FRANKLIN PATTERSON HALL	6,094	SQ.FT.
	PHYSICAL PLANT BUILDING	554	SQ.FT.
	PRESCOTT HOUSE	2,728	SQ.FT.
	STILES HOUSE	1,721	SQ.FT.
	WARNER HOUSE	1,359	SQ.FT.
	310 - OFFICE	35,414	SQ.FT.
315 *			
	BLAIR HALL	263	SQ.FT.
	COLE SCIENCE CENTER	210	SQ.FT.
	OAKIN HOUSE	196	SQ.FT.
	EMILY DICKINSON HALL	428	SQ.FT.
	OAKIN MASTER HOUSE	30	SQ.FT.
	EZRICKI BUILDING	53	SQ.FT.
	VERMINSKY HOUSE	292	SQ.FT.
	MERRILL MASTER HOUSE	30	SQ.FT.
	PHYSICAL PLANT BUILDING	1,038	SQ.FT.
	PRESCOTT HOUSE	312	SQ.FT.
	STILES HOUSE	637	SQ.FT.
	WARNER HOUSE	154	SQ.FT.
	315 - OFFICE SERVICE	3,643	SQ.FT.
350 *			
	JOHNSON LIBRARY CENTER	400	SQ.FT.
	MONTAGUE HALL	176	SQ.FT.
	FRANKLIN PATTERSON HALL	1,200	SQ.FT.
	STILES HOUSE	336	SQ.FT.
	350 - CONFERENCE ROOM(OFFICE RELATED)	2,112	SQ.FT.

Space Utilization by Program Type

PLJ813 HAMPSHIRE COLLEGE — ROOM UTILIZATION BY PROGRAM CLASSIFICATION — 9/28/77 — PAGE 3

ROOM TYPE	ROOM USE CATEGORY	TOTAL ASSIGNABLE	P130 UNKNOWN	CLASSIFICATIONS 0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
********** FINAL TOTALS **********													
.	UNKNOWN												
0.0													
1.0	INSTRUCTION PROGRAM	75,258											
2.0	ORGANIZED RESEARCH												
3.0	PUBLIC SERVICES	350											
4.0	ACADEMIC SUPPORT	21,444											
5.0	STUDENT SERVICES	248,995											
6.0	INSTITUTIONAL SUPPORT	44,129											
7.0	INDEPENDENT OPERATIONS	480											
8.0	UNASSIGNED	3,113											
9.0		412											
	FINAL TOTAL	394,191 SQ. FEET											

INVESTIGATING THE STRUCTURE OF FACULTY WORK WITH CLUSTER ANALYSIS*

Daniel L. Kegan

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Resource allocation and academic planning tend to consider academic discipline as the basic unit of analysis. Although Hampshire College has interdisciplinary Schools rather than single-disciplinary departments, disciplinary considerations still are critically important. Demands for additional faculty in various disciplines exceed the available resources for contract renewal and new hiring. With Hampshire's interdisciplinary Schools and the possibility for cross-disciplinary faculty interaction, the question was raised whether School and disciplinary boundaries actually represented the structure of collegiate programs and faculty work, or whether another unit of analysis would be more appropriate.

To address this question, a cluster analysis of faculty interaction on student learning contracts was conducted. Such student initiated, faculty approved learning contracts (officially termed Divisional Examinations) are the sole measure of academic progress at Hampshire. In effect, each student designs with faculty advice his/her own curricular program. Although courses are offered, they are ungraded and students receive no credit for courses. On upper division contracts (roughly comparable to junior and senior years), there must be at least two faculty examiners. Students freely choose which faculty they wish on their contracts; faculty may accept or refuse to serve on a student's examination committee. Thus, faculty participation on learning contracts is a quite direct and valid representation of the structure of the enacted academic program of the College.

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*Trina Hosmer and Bob Gunter of the University of Massachusetts Computing Center helped encourage the Hampshire College data tapes into and through the UMass computer; Carla Jackson provided the Cumulative Teaching FTE data; Rich Alpert initiated this line of inquiry; and Adele Durham skillfully assisted with the preparation of this report.

Report #R17, presented at the Fourth Annual Meeting of the North East Association for Institutional Research, Durham, NH, 28 October 1977.

METHOD

As of 12 March 1976 the College's official computer record listed 1306 completed upper Division Examinations. Due to initial computer program limitations, only 98 faculty names could be clustered. However, these 98 names accounted for 92% of exam chairpersonships; omitted were faculty with short term appointments at the College.

A computer prgram (WITHWHO) was written by the author to construct a 98 by 98 matrix, to search the file of completed examinations, and to tally within the matrix the number of times each faculty pair served together on an Examination Committee. This matrix became the source data for the cluster analysis program BMDP2M (Dixon, 1975).

A cluster analysis can be seen as a statistical procedure for dividing a group of people into successively smaller clusters, and evetually into individuals. (Actually, the statistical procedure is the opposite. It starts with individuals, and amalgamates them into larger and larger clusters. In thinking about the results of cluster analysis, however, I have found it helpful to think of the total group being dis-amalgamated into smaller clusters.) For a group of 49 people, there will be 49 levels of dis-amalgamation: the first level will contain one group of 49 people, the second level will contain two groups, and the forty-ninth level will contain the 49 separate individuals.

The full cluster analysis of 98 faculty is rather complicated. An abridged cluster analysis is discussed here for ease of comprehension and presentation. This abridged analysis includes half the faculty of the full cluster analysis, those having more than 25 examinations.

RESULTS

Descriptive names for the clustered groups for 1 to 7 levels of dis-amalgamation of the abridged cluster analysis are presented in Table 1.

The second level dis-amalgamation indicates that if the faculty were to be divided into two groups on the basis of collaboration on upper division examinations, then those two groups would be the School of Humanities and Arts on the one hand, and the rest of the faculty on the other. The next most separate group is the School of Natural Sciences. Natural Science resists dis-amalgamation for seven levels, but then divides into two groups.

(This shows in Table 2, but not in Table 1.) There appears to be no clear disciplinary distinction between these two Natural Science groups, the difference appears to be more one of style. A strong interdisciplinary cluster is that of Photography and Anthropology, a combination unexpected by the traditional uses of each discipline but understandable when considering Hampshire's photographic perspectives. Language and Communication does not cluster as a School. Their smaller size contributes to this, but a stronger factor is their clear interdisciplinary collaboration.

The abridged cluster analysis indicates that some of the major groupings of faculty in terms of their actual collaboration on upper division examinations do follow School and disciplinary lines. This need not be the result of a cluster analysis. Faculty could have clustered in groups defined by their length of time at the College, by teaching style, by political orientation, or by other less easily described characteristics.

Table 2 presents the complete abridged cluster analysis for 49 faculty. The format of this cluster analysis is inverted from the "family tree" format of Table 1. The first horizontal line at the bottom of Table 2 connects the two nodes of the second level of dis-amalgamation. All the vertical and horizontal lines extending from the right end of that first line define one of the two groups of the second level of dis-amalgamation. Following the lines from that right end, like a maze to the top of the table, yields faculty member code numbers and disciplines from 33-Literature to 29-Art, that is the Hamanities and Arts cluster. This (vertical) format of the cluster analysis is a good one for seeing and defining clusters at various levels of dis-amalgamation.

Table 3 presents the same abridged cluster analysis in a different (horizontal) format. This format is better for seeing the relationship of individuals within clusters.

The full cluster analysis of 98 faculty found that some of the major groupings of faculty in terms of their actual collaboration did follow School and disciplinary lines. Some faculty members are not sharply separated from their colleagues, but others do form clearly identifiable clusters by discipline. Mathematics, physics, and economics form fairly easily defined discipline groups. Other groups are harder to describe. Faculty with few exams may be "pulled" along with other faculty with many exams, some faculty may collaborate with a wide range of other faculty: both make description of some clusters harder.

In addition to ease of description, clusters may be termed tighter or broader. Referring to Table 1, Natural Science may be termed a tight cluster, whereas the social sciences form much broader clusters. Whether a tight cluster is desirable is a matter of criteria and interpretation. A tight cluster of several faculty probably indicates the existence of a colleagual support group. However, a faculty member in a tight cluster may not be engaging in as much interdisciplinary examination activity as was hoped in initial College policy (Patterson & Longsworth, 1966). Faculty with high rates of completed exams per cumulative teaching FTE but without a tight cluster are contributing toward interdisciplinary work of students, but are probably also suffering some strain from lack of colleagual support.

Preparation of the 98 by 98 matrix of faculty collaboration tallies permitted additional analyses of faculty work indices. Both the number of exams chaired and the number of committee memberships are highly correlated with the total number of exams completed: $r=0.89$ and 0.88. However, chairpersonships and memberships are only moderately correlated with one another, $r=0.56$, accounting for a third of the variance. Moreover, the number of exams completed is only slightly correlated with the adjusted cumulative teaching FTE, $r=0.34$, accounting for only a tenth of the variation in total exams completed. Clearly, other factors contribute toward faculty service of upper division exams besides length of time at the College or formally devoted towards teaching.

DISCUSSION

Organizational and policy analyses generally use pre-established categories focusing on the formal structure for analysis. While this is often sufficient, a different picture might emerge with analyses including informal social relations or developing empirically out of the behavioral data of the organization (cf. Calder, Rowland, & Leblebici, 1976; Grose, 1976; Jones & Young, 1972).

Cluster analysis may be used to investigate the structure of many areas of college or university life. It reflects the actual, enacted choices of students or faculty rather than the formal structure of policy or tradition. Analysis of faculty interaction on doctoral dissertations would indicate the extent of faculty service beyond the home department. Analysis of student courses would indicate the curriculum clusters actually enacted at the college. Analysis of faculty interaction may also be used as a guide for faculty and organization development programs.

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Table 1. DESCRIPTIONS OF CLUSTERS BY LEVELS

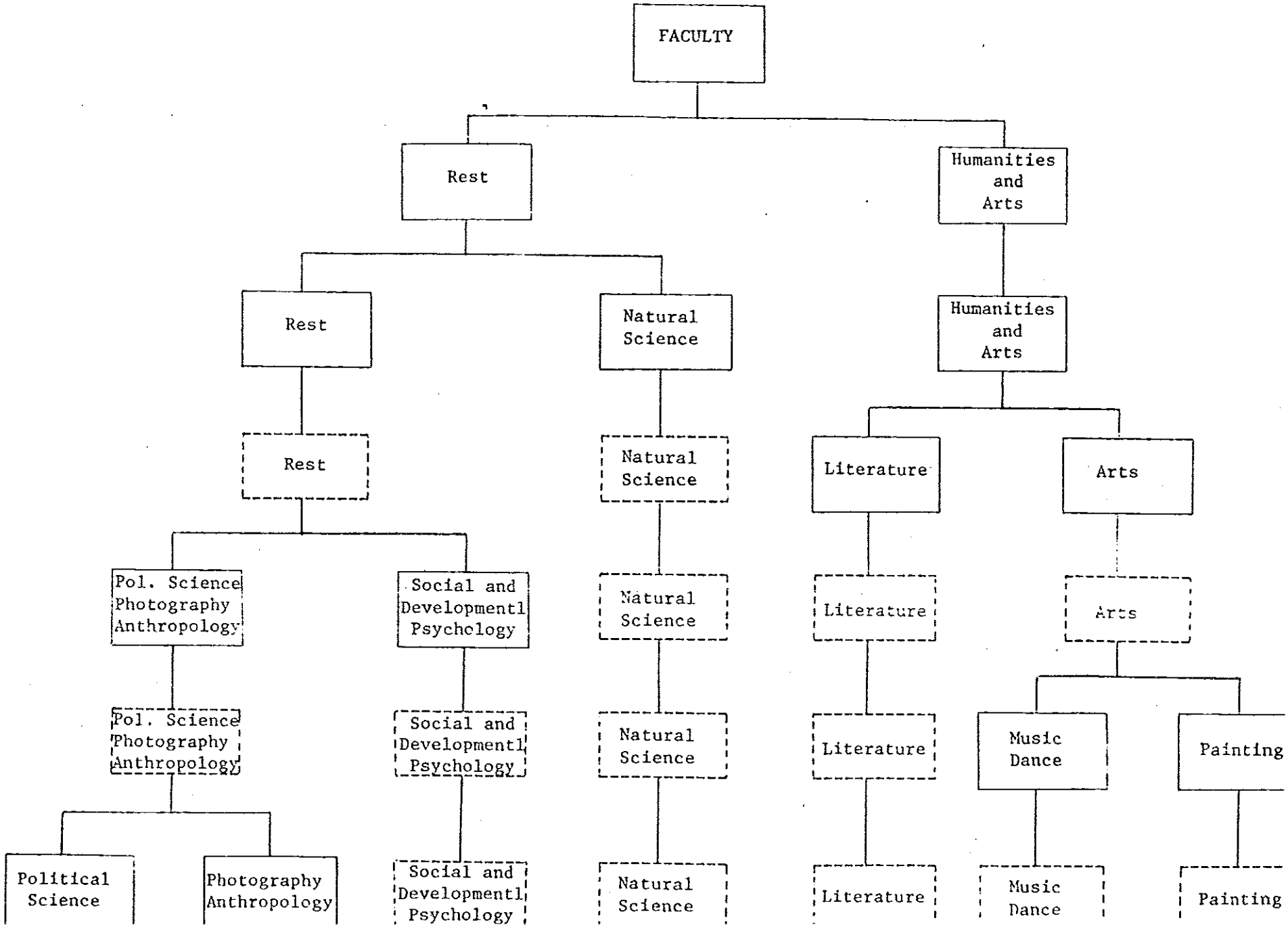

Table 2. Abridged Cluster Analysis of Faculty Collaboration on Division 2 & 3 Exams.

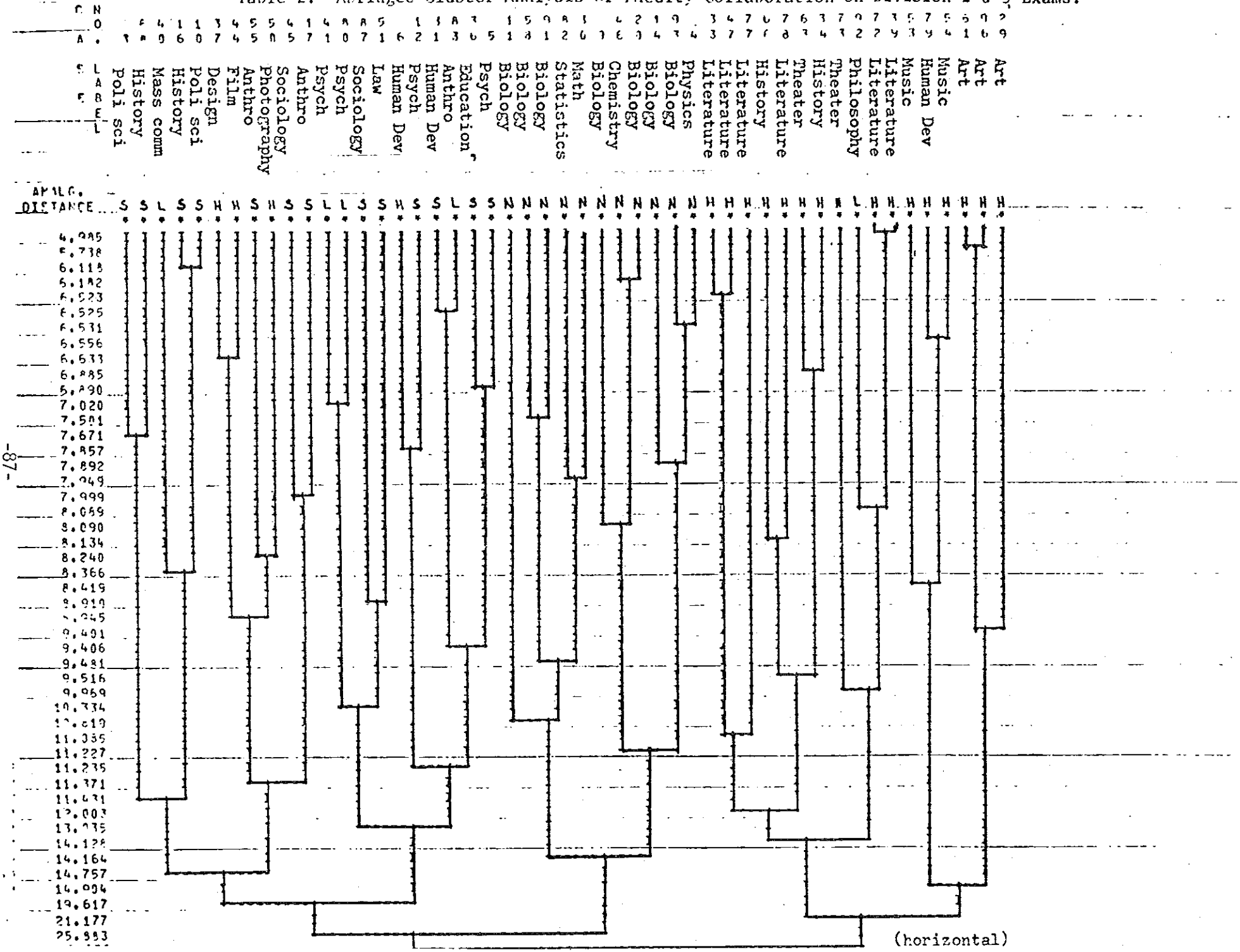

Table 3.

Abridged Horizontal Cluster Analysis of Faculty Collaboration on Division 2 & 3 Exams.

CASE NO.	NAME	ORDER OF AMALGAMATION
3	Poli sci	S****
69	History	S 14.
49	Mass comm	L 23.
16	History	S 3.
10	Poli sci	S 38.
37	Design	H 37.
44	Film	H 9.
55	Anthro	S 22.
50	Photography	H 26.
45	Sociology	S 18.
17	Anthro	S 43.
41	Psych	L 40.
80	Psych	L 12.
87	Sociology	S 25.
51	Law	S 32.
6	Human Dev	H 36.
12	Psych	S 15.
31	Human Dev	S 28.
83	Anthro	L 6.
36	Education	S 11.
5	Psych	S 45.
11	Biology	N 42.
58	Biology	N 29.
91	Biology	N 13.
82	Statistics	N 17.
30	Math	N 33.
9	Biology	N 35.
46	Chemistry	N 4.
20	Biology	N 20.
14	Biology	N 16.
93	Biology	N 7.
4	Physics	N 47.
33	Literature	H 46.
47	Literature	H 5.
77	Literature	H 34.
66	History	H 30.
78	Literature	H 21.
63	Theater	H 10.
34	History	H 39.
73	Theater	H 31.
92	Philosophy	L 19.
72	Literature	H 1.
39	Literature	H 41.
53	Music	H 44.
79	Human Dev	H 8.
54	Music	H 24.
61	Art	H 27.
96	Art	H 2.
29	Art	H 48.

ASSESSMENT OF ORGANIZATIONAL STRUCTURES AND EFFECTIVENESS IN COLLEGES AND UNIVERSITIES

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With the advent of student unrest, a sagging American economy, and a decline in enrollments and growth in colleges and universities during the late 1960's and early 1970's, a decline in the availability of resources and support for higher education was also experienced. There came an increasing realization that higher education should begin accounting for and justifying its use of resources as well as its basic purposes and practices. Cries for institutional accountability became the norm as the economic and employment benefits of a college education became more tenuous (Bowen, 1973; Kreps, 1976; Taubman & Wales, 1975).

A number of research efforts were conducted in response to this call for accountability among institutions of higher education, (e.g., Bowen & Douglas, 1971; Meeth, 1974; Mood, et.al., 1972; O'Neill, 1971), and as could be expected, the emphasis of much of that research was on efficiency and cost criteria. One noted researcher, for example, (Meeth, 1974) suggested that the central concern of higher education in the 1970's has been how to provide quality education for less money by focusing on institutional or program efficiency.

Efficiency has generally been defined as the ratio of costs to some output, or as the amount of energy lost in the production of organizational results (Katz & Kahn, 1966). In higher education, the assessment of efficiency has most often focused on measures such as costs per student, student/faculty ratios, costs per faculty member, costs per square footage of space, and so on, as criteria (Hartmark, 1975). These efficiency criteria, while being well-used, are unfortunately not sufficient for justifying institutional accountability. Educational institutions must not only operate efficiently(use resources with little waste), but they must be capable of demonstrating the <u>effective</u> use of resources as well. The ability of an institution to use its resources to produce valued and desired outcomes, to maintain its own organizational viability and vitality, and to acquire needed inputs and resources without destroying the environmental resource supply--organizational effectiveness--is the much neglected flip-side of the

accountability coin. While studies of efficiency are still vital to the long-term survival of higher education, efficiency and effectiveness cannot be measured with the same criteria (Barro, 1973; Fincher, 1972; Sagen, 1974), and more emphasis on effectiveness is needed.

Up to now the assessment of organizational effectiveness has been rare in higher education. Some instruments of organizational effectiveness such as the E.T.S.'s (1971) Institutional Functioning Inventory, Pace's (1969) College and University Environment Scales, or WICHE's Management Information System materials have been widely distributed, but none of these instruments purported to assess the concept of organizational effectiveness. Several studies in graduate programs have also been conducted, most notably Cartter's (1966, 1977) and by Blau & Margulis (1973), and other researchers have investigated objective correlates of the quality rankings obtained in these studies (see, for example, Beyer & Snipper, 1974, for mention of several of them). Still other research has focused on individual student variables such as student achievement, teaching processes, and learning climates (see, for example, Astin, 1968, 1971; Feldman & Newcomb, 1969), but again, colleges and universities as organizations were not the focus of attention. The comparative evaluation of effectiveness, particularly on the organizational level, has simply seldom been included in studies of higher education.

A number of formidable problems have stood as obstacles to the assessment of organizational effectiveness in undergraduate higher education,so that this lack of research is quite understandable. Cameron (1977) has reviewed a number of those problems, hence they will not be discussed here.A quotation from Hutchins (1970), however, seems to summarize accurately several of these research concerns.

> The only way you can criticize a university, the only way you can appraise it, the only way you can determine whether it's good or bad or medium or indifferent, is to know what it's about, what it's supposed to be, what it's supposed to be doing. If you don't know these things, you haven't any standards of criticism....[Universities] haven't any very clear idea of what they're doing or why. They don't even know what they are.

Research Procedures

The task of this research was to generate valid and reliable criteria for assessing organizational effectiveness in undergraduate higher education while ignoring for the time being questions of efficiency. Special attention was paid both to the problems typical of effectiveness research in higher education and to the problems of organizational effectiveness research in general (e.g., Cameron, 1977). Two research stages were required, the first a preliminary study for developing and refining the instrumentation, and the second an assessment of the effectiveness criteria and their predictors.

The first step in generating the effectiveness criteria was a review of the literature producing approximately 130 possible variables for assessing college and university effectiveness. Four or five top administrators[1] at six colleges along with several faculty members were then interviewed and asked to respond to questions such as the following:

1. What organizational characteristics do effective colleges possess?
2. What is it at this institution that makes a difference in terms of its effectiveness?
3. What would have to change in order to make this institution more effective?
4. Think of an institution of higher education that you judge to be effective. What is it that makes that institution effective?
5. Of the 130 or so items generated from the literature, which ones are not relevant to the effectiveness of this school?
6. Of the approximately 130 items, which ones are not measurable, or for which is no data available?

The variables resulting from the interviews, which were assumed to be a rather comprehensive accumulation of measurable effectiveness items, were combined a priori into nine general dimensions or scales which were hypothesized to constitute organizational effectiveness in colleges and universities from the standpoint of this "dominant coalition." It was recognized that most institutions have some unique goals and missions, hence the nine dimensions were made broad and general enough to allow for institutional uniqueness. The nine hypothesized organizational effectiveness dimensions focused primarily on internal effectiveness, and consisted of:

1. Student Educational Satisfaction - refers to the degree of satisfaction of students with their educational experiences at the institution.

2. Student Academic Development - refers to the degree of academic attainment, growth, and progress of students at the institution.

3. Student Career Development - refers to the degree of career or occupational development of students and the career development opportunities provided by the institution.

4. Student Personal Development - refers to student development in non-academic, non-career oriented areas--e.g., socially, emotionally, or culturally--and the personal development opportunities provided by the institution.

5. Faculty & Administrator Employment Satisfaction - refers to the satisfaction of the faculty members and the administrators with their employment at the institution.

6. Professional Development & Quality of the Faculty - refers to the degree of professional attainment and faculty development and the amount of stimulation toward professional development provided by the institution.

7. System Openness & Community Interaction - refers to the amount of community service as well as the emphasis placed on external environmental interaction and adaptability at the institution.

8. Ability to Acquire Resources - refers to the ability of the institution to acquire resources from the environment such as good students and faculty, financial support, etc.

9. Organizational Health - refers to the benevolence and vitality of the internal processes and practices of the organization.

Six colleges in the Northeast were selected for the initial data gathering phase and forty-one schools were included in the larger follow-up study. Of the forty-seven institutions assessed in both studies, 39% had unionized faculties, 39% were state-owned, 47% were private-secular, 13% were private-religious, with 2% federal. States represented included Pennsylvania, New York, Connecticut, Rhode Island, Massachusetts, Vermont, and New Hampshire, and FTE's ranged from 900 to 14,000 undergraduates.

Instruments and Respondents

Two types of instruments were developed for assessing the nine effectiveness dimensions in the first study. The first was a questionnaire assessing the perceptions of the nine effectiveness dimensions by a sample of respondents from each institution. Appendix 1 lists the items comprising each of the perceived

effectiveness dimensions. An effort was made to generate cognitive rather than affective information, consequently items were included which described organizational characteristics rather than individual opinions about the organizations. This was done to avoid the possibility of obtaining highly intercorrelated dimensions all relating to general satisfaction, and to avoid the problem of having faculty and administrators operationalize or objectify either personal or organizational goals, a task which has been extremely difficult to accomplish in the past. Responses indicated judgements of organizations, therefore, not personal satisfaction.

The second instrument included a set of questions designed to obtain objective data from each school's records. Appendix 1 also lists the items comprising eight of the nine effectiveness dimensions. The objective data were provided by the four or five appropriate administrators at each school.[2] The purpose for developing two sets of instruments--objective and perceived--was to provide data whereby a nomological network for the perceived dimensions could be created and construct validity could be tested.

The perceived instruments were administered to approximately seventy-five department heads and administrators at each institution in the first study, and to approximately fifty-five of the same groups in each of the second study schools. The response rate for the first study was 72% (43% faculty, 57% administrators), and it was 61% for the second study (46% faculty, 54% administrators).

Reliability and Validity of the Effectiveness Dimensions

In order to build confidence in the results produced by the assessments of organizational effectiveness, several statistical procedures were used in both studies which tested the reliability and validity of the nine effectiveness dimensions. Coefficient alphas produced internal consistency reliabilities for each of the dimensions of above .63 for the first study and above .83 for the second study indicating that the items comprising each dimension were consistently measuring the same general construct. Factor analytic procedures similarly confirmed the internal consistency of the dimensions since each dimension loaded on its own

individual factor except Student Educational Satisfaction in the first study, and each dimension loaded on a separate factor in study #2 except the Student Academic Development and the Professional Development & Quality of the Faculty dimensions which loaded on the same factor.

Tests for discriminant validity (i.e., average inside- versus outside-dimension correlation comparisons, item-total correlation comparisons, and inter-dimension correlations) were also conducted resulting in evidence that each effectiveness dimension discriminated one from another, or in other words, that they were measuring separate concepts. Whereas moderate inter-correlations existed among some of the nine dimensions (ranging from .02 to .69 in the first study and from .04 to .71 in the second study), the discriminant validity tests assured that separate, albeit in some cases somewhat related constructs were being assessed with the nine dimensions.

Multivariate and univariate analysis of variance procedures with post hoc contrasts were also performed to determine whether the nine effectiveness dimensions differentiated among the schools and among the respondent groups. In order for the scales to be useful in assessments of organizational effectiveness, some significanr differences among the institutions should have resulted. If all institutions scored the same on the nine effectiveness dimensions, the instruments would be useless in assessing relative effectiveness in higher education. The ANOVA results in both studies indicated that for every dimension the school or institutional affiliation of the respondents had a significant main effect ($p < .01$). The MANOVA results, computed by linearly combining the nine dimensions, also showed that the institutional affiliation of the respondent significantly affected his/her judgments of organizational effectiveness characteristics.

All respondents had been categorized as academic administrators, financial administrators, student affairs administrators, general administrators, or as department heads, and it was interesting to determine whether or not the job held by the respondent also significantly affected judgements of effectiveness. The

results indicated that job did not have a significant main effect in either study using the MANOVA procedures, and it had a significant effect only on two dimensions (Student Educational Satisfaction and Organizational Health) in the first study and on no dimensions in the second study using individual ANOVA procedures.

The results of these analyses suggested that the hypothesized dimensions were useful in differentiating among the colleges in terms of their organizational effectiveness. Furthermore, the dimensions were not significantly affected by different respondent categories. Similar effectiveness judgments were received from respondents, in other words, regardless of their job categories.

Supporting evidence for internal consistency and discriminant validity still left unanswered the question, "Do these dimensions actually measure organizational effectiveness as opposed to other constructs or organizational characteristics?" Since there exist no accepted criteria of effectiveness against which to compare these perceptual dimensions, it was necessary to rely on construct validation as the only alternative for addressing such a question (Cronbach & Meehl, 1955). Evidence for the construct validity of most of the dimensions was provided by analyzing the correlations between the objective data and the perceived data gathered in the first study (but not in the second). Relative rank orderings of the six schools on each of the nine effectiveness dimensions were produced for both the perceptual data and for the standardized[3] objective data. Table 1 reports the non-parametric rank order correlations between these two sets of data.

Table 1 about here

Medium to high positive correlations for seven of the nine effectiveness dimensions provided support for construct validity. For two of the dimensions, however, negative correlations were found indicating that either the objective measures or the perceived measures were faulty, that different and negatively correlated concepts were being assessed, or that the constructs being measured in the two effectiveness dimensions were confusing in some way. Unfortunately, there was no sure way to determine which was the case in these two studies, and further research

TABLE 1 Rank Order Correlations Between "Objective" Data and "Perceived" Data

EFFECTIVENESS DIMENSION	CORRELATION OF OBJECTIVE AND PERCEIVED MEASURES
1. Student Educational Satisfaction	.6000
2. Student Academic Development	.8286
3. Student Career Development	-.6571
4. Student Personal Development	.7714
5. Faculty & Administrator Employment Satisfaction	.3143
6. Professional Development & Quality of the Faculty	.9429
7. System Openness & Community Interaction	-.6000
8. Ability to Obtain Resources	.7143
9. Organizational Health	No objective data collected

is needed to resolve the dilemma. A more detailed explanation of the problems and possible explanations can be found in Cameron (1977).

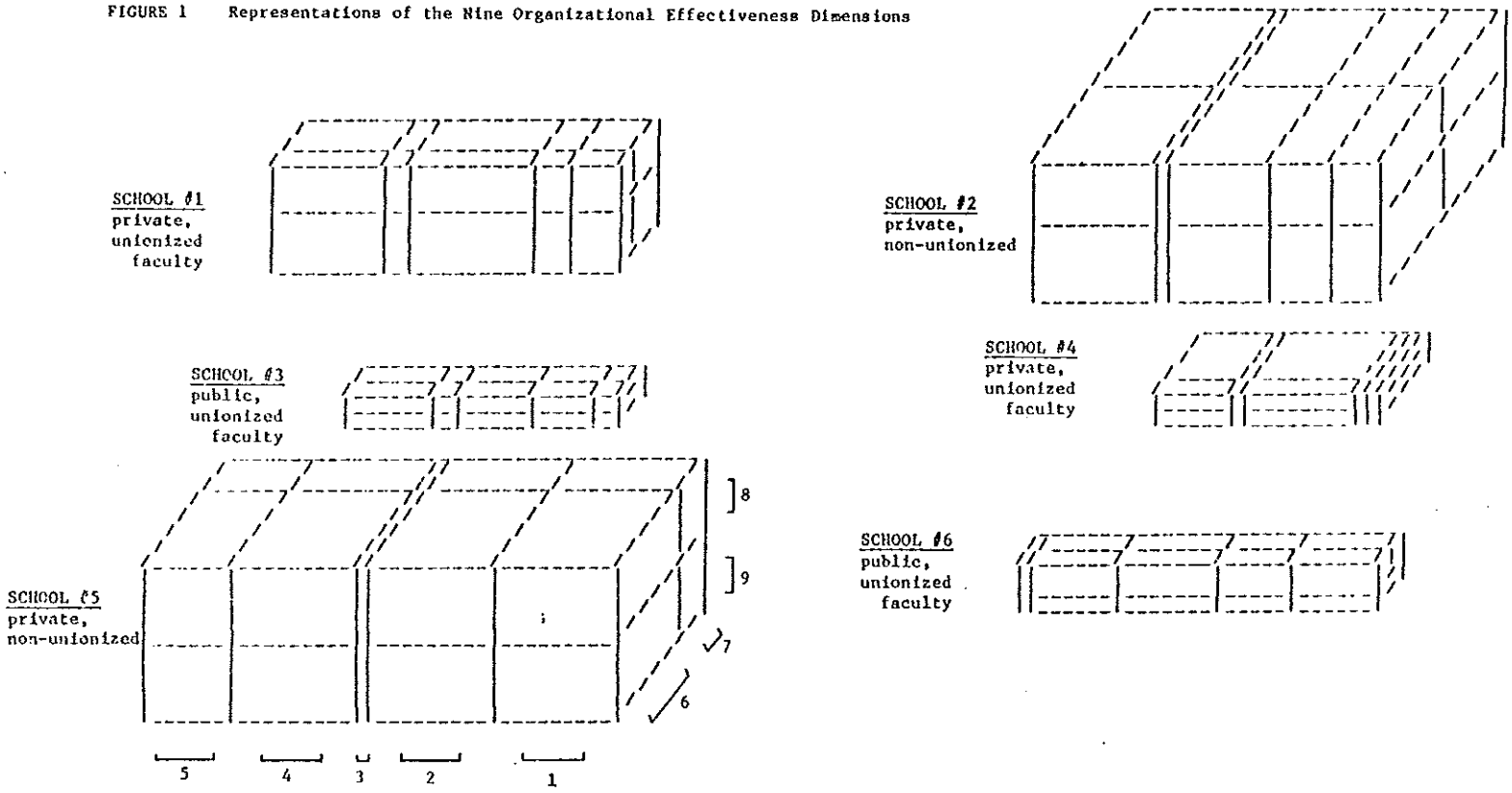
Organizational Effectiveness Profiles

One readily evident result of this research was that there is really no such thing as overall organizational effectiveness (e.g., Hall, 1972; Kirchhoff, 1977), rather there are institutions with relative strengths and weaknesses. Institutions were shown to be relatively effective in certain aspects and relatively ineffective in others. For example, Figure 1 presents a representation of the six schools included in the first study and their scores on the nine effectiveness dimensions based on an algorithm developed by Hartigan (1975). The nine effectiveness dimensions are labeled only for school #5. Larger intervals for each dimension represent higher levels of effectiveness, thus, for example, school #5 indicates higher levels of effectiveness on the 1. Student Educational Satisfaction dimension than does school #6.

Figure 1 about here

Institutions with unionized faculties produced the lowest levels of effectiveness, as demonstrated by smaller intervals in their respective "boxes," on four of the effectiveness dimensions: 5. Faculty & Administrator Employment Satisfaction, 6. Professional Development & Quality of the Faculty, 8. Ability to Obtain Resources, and 9. Organizational Health. Those findings were not inconsistent with studies by Duryea, et.al. (1973), Garbarino (1975), Hedgepeth (1974), Kemerer & Baldridge (1975) and others which showed lower faculty satisfaction, more emphasis on collective bargaining issues and less on faculty concerns, feelings of powerlessness or of being externally controlled, and an undermining of colleagiality and organizational benevolence in unionized schools. In the second study, similar results occurred in that unionized institutions scored lower than non-unionized schools on every dimension except the Student Career Development scale. Figure 2 illustrates the mean effectiveness profiles for unionized versus non-unionized institutions. These

FIGURE 1 Representations of the Nine Organizational Effectiveness Dimensions



results seem to raise questions as to whether institutions unionize because of ineffectiveness in certain areas, whether they become ineffective as a result of faculty unionization, or whether this study simply represents a biased sample. Additional research is needed to address this issue.

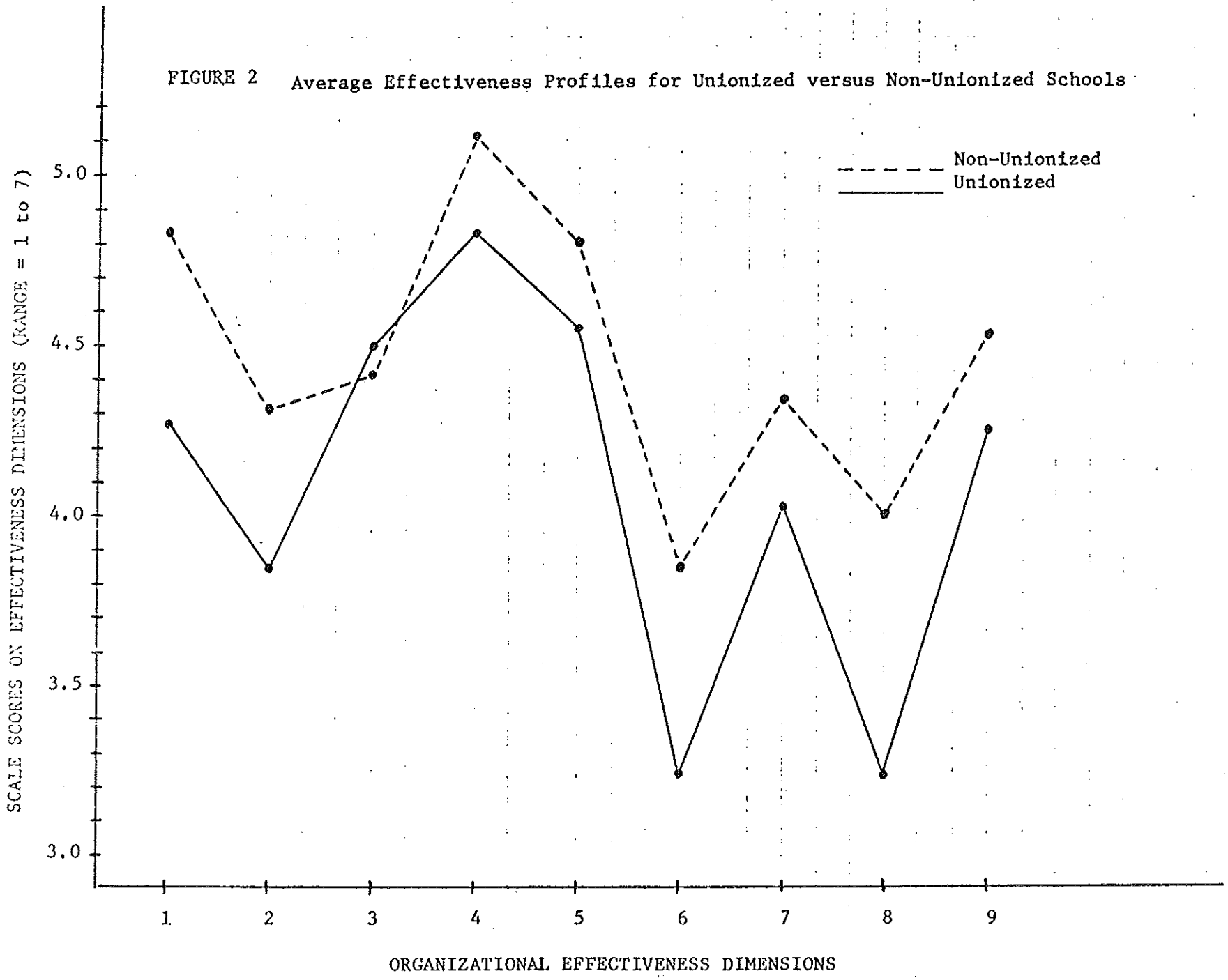
Figure 2 about here

Since data analysis has not yet been completed for the forty-one school study, other results are not reported here but will be available from the researcher early in 1978. Organizational demographics, structures, environments, strategic emphases, and goals in addition to unionization are among the variables which have been assessed and which will be used to analyze and predict certain patterns of effectiveness among clusters of institutions. For example, using a clustering program developed by White, et.al. (1976), at least three distinctive groupings of institutions have resulted on the nine effectiveness dimensions. One cluster of schools is typified by particularly high scores on the Student Career Development and the System Openness and Community Interaction dimensions, a second cluster is typified by high scores on Student Academic Development, Student Personal Development, Professional Development & Quality of the Faculty, Ability to Acquire Resources, and Organizational Health, and the third cluster is comprised of schools scoring lowest on Ability to Acquire Resources and in the middle on most other dimensions. Future data analysis will focus on the meaning and prediction of those clusterings.

Summary and Implications

Since pressures for accountability in higher education have included demands to demonstrate institutional quality and effectiveness for the dollars spent, a need for instrumentation to accomplish this task has been badly needed. Measures of institutional efficiency are are limited usefulness without effectiveness measures with which they can be paired. It has been difficult in the past, however, to derive useful effectiveness measures in higher education research, and thus to provide an opportunity to maintain more complete accountability. These two studies have helped

FIGURE 2 Average Effectiveness Profiles for Unionized versus Non-Unionized Schools



address these research concerns by focusing on effectiveness criteria with at least three characteristics: (1) The effectiveness criteria were empirically derived from organizational members rather than from normative frameworks or researcher preconceptions. Since all organizational constituencies could not be contacted, however, the "dominant coalition," the major decision makers, or those most likely to make use of the research results were relied upon. (2) Cognitive judgements of effective organizational characteristics were used in the assessments rather than value judgements of affective reactions. Since the operationalization of complex and ambiguous goals has been so difficult to achieve in higher education, that problem was avoided by relying on descriptive characteristics accepted as being indicative of organizational effectiveness. (3) The organizational level was assessed in these studies in order to avoid problems of incomparability among subunits in loosely coupled systems (Weick, 1976). Furthermore, a wide range of dominant coalition members at each institution was assessed to assure representation of divergent perceptions.

The usefulness of these research outcomes lies primarily in their diagnostic potential and secondarily in the explication of factors predicting various patterns on organizational effectiveness profiles. Whereas future data analysis will address the latter concern, the use of the nine dimensions to generate comparative effectiveness profiles in colleges and universities can now illuminate areas needing increased support and attention. If an institution, for example, attempted to maintain an effective vocational or career development program and yet was found to be relatively ineffective on that dimension, special attention and improvement would be in order. However, high scores on one dimension may be important to one institution and not to another, therefore the effectiveness profiles would most productively be used as an internal diagnosic rather than as a comparison among several known institutions as a means, for example, of determining which get resources and which do not. The liklihood of inaccurate information and biased data (both objective and perceptual) is enhanced as interorganizational competition increases.

FOOTNOTES

1. Generally, the Provost or Academic Vice President, the President, the Financial or Administrative Vice President, the Dean of Student Affairs, and an Assistant to the President or Director of Development or of Institutional Research were included in the interviews.

2. Administrators who responded to requests for objective data generally included the Academic Vice President or Provost, the Financial Vice President, the Dean of Students, the Director of Institutional Research, and the Director of Development.

3. Itesm were standardized according to full-time student enrollments in order to make the items addative and comparable.

APPENDIX 1 Objective and Perceived Items Measuring Nine Organizational Effectiveness Dimensions

EFFECTIVENESS DIMENSION	PERCEIVED ITEMS	OBJECTIVE ITEMS[a]
1. Student Educational Satisfaction	X_{11} Manifested student dissatisfaction X_{12} Received student complaints X_{13} Attrition resulting from dissatisfaction X_{14} School spirit displayed	X_{11} Number of student terminations X_{12} Number of counseling center visits for problems
2. Student Academic Development	X_{21} Amount of extra work & study by students X_{22} Level of student academic attainment X_{23} Number going on to graduate schools X_{24} Amount of student academic development X_{25} Emphasis on outside academic activities	X_{21} Percent of students going on to graduate schools X_{22} Number of library books checked out X_{23} Percent of alumni holding graduate degrees
3. Student Career Development	X_{31} Number of students employed in major field X_{32} Extent to which career goals are met X_{33} Number of career oriented courses X_{34} Number of students obtaining jobs of first choice X_{35} Importance of career education for job attainment	X_{31} Number of students receiving career or vocational counseling X_{32} Number of students involved in work study
4. Student Personal Development	X_{41} Opportunities for personal development X_{42} Non-academic growth X_{43} Emphasis on non-academic activities X_{44} Importance of personal development	X_{41} Number of weekly extra-curricular activities X_{42} Number of students in extra- or intra-murals X_{43} Number of students in student government X_{44} Number of students in drama, music, art, or dance presentations
5. Faculty and Administrator Employment Satisfaction	X_{51} Faculty preference for this institution over others X_{52} Administrator preference for this institution over others X_{53} Faculty satisfaction with employment X_{54} Administrator satisfaction with employment X_{55} Faculty satisfaction with the school X_{56} Administrator satisfaction with the school	X_{51} Number of faculty members who left X_{52} Number of administrators who left X_{53} Percent of faculty on policy making boards or committees
6. Professional Development and Quality of the Faculty	X_{61} Faculty attendance at professional conferences X_{62} Faculty publications X_{63} Teaching at the "cutting edge" X_{64} Awards received by the faculty X_{65} Amount of professional development	X_{61} Percent of faculty receiving a degree after being hired X_{62} Percent of budget for professional development X_{63} Number of new courses taught X_{64} Percent of faculty doctorates X_{65} Percent of administrator doctorates
7. System Openness and Community Interaction	X_{71} Community service of employees X_{72} Professional activities outside the college X_{73} Emphasis on community relations X_{74} Community programs sponsored X_{75} Adaptiveness to external environment	X_{71} Number of coming education courses X_{72} Number of conferences & workshops for non-students X_{73} Attendance at extension courses X_{74} Percent of students with jobs in the community
8. Ability to Acquire Resources	X_{81} National reputations of faculty X_{82} Drawing power for local students X_{83} Drawing power for national students X_{84} Drawing power for faculty X_{85} Drawing power for financial resources X_{86} Ability to Acquire Resources	X_{81} Amount of general funds raised X_{82} Previously tenured faculty hired X_{83} Average student high school rank X_{84} Athletic teams placing first X_{85} Number of transfer students X_{86} Number of students holding outside scholarships X_{87} Number of visiting recruiting companies
9. Organizational Health	X_{91} Student/faculty relations X_{92} Inter-group relations X_{93} Amount of feedback obtained X_{94} Typical communication type X_{95} Presence of cooperative environment X_{96} Flexibility of administration X_{97} Levels of trust X_{98} Amount of conflict & frustration X_{99} Problem-solving styles used X_{910} Use of talents & expertise X_{911} Types of supervision & control X_{912} Types & adequacy of recognition and rewards X_{913} Decision-making styles X_{914} Amount of power associated with participation X_{915} Equity of treatment & rewards X_{916} Organizational Health X_{917} Long-term planning & goal-setting X_{918} Intellectual orientation	None measured

[a] A number of objective items were not used in this analysis since some institutions could not provide data for certain items. Comparison across schools with data was missing was therefore not practical. Items not used in the analysis have not been listed here, but are available from the researcher.

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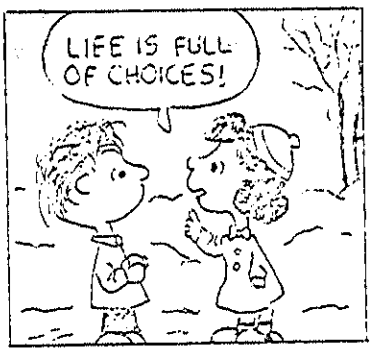
ASSESSMENT OF ORGANIZATIONAL STRUCTURES AND EFFECTIVENESS IN COLLEGES AND UNIVERSITIES

Kim Cameron
Yale University
28 October 1977

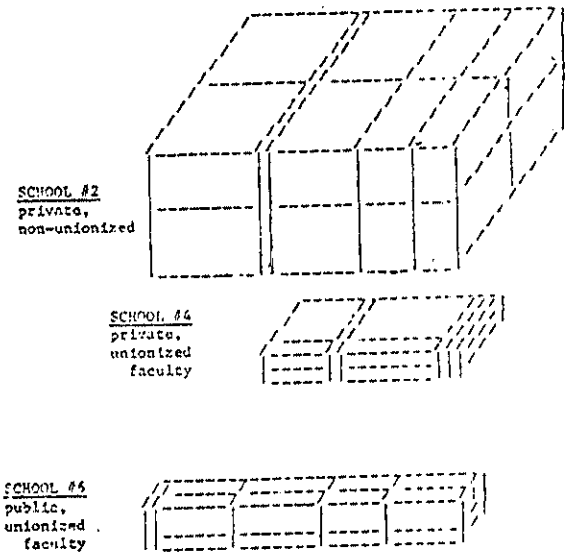
> The only way you can criticize a university, the only way you can appraise it, the only way you can determine whether it's good or bad or medium or indifferent, is to know what it's about, what it's supposed to be, what it's supposed to be doing. If you don't know these things, you haven't any standards of criticism... [Universities] haven't any very clear idea of what they're doing or why. They don't even know what they are.
>
> R.M. Hutchins

> This evaluation will be a waste of time, for either it will demonstrate that the program is excellent or that it is defective in some sense. In the first case it is a waste of time because we already know that it's a good program, and in the second, it's a waste of time because we would not believe any evidence of weakness.
>
> from P.L. Dressel, 1971



NINE DIMENSIONS OF ORGANIZATIONAL EFFECTIVENESS

1. Student Educational Satisfaction
2. Student Academic Development
3. Student Career Development
4. Student Personal Development
5. Faculty & Administrator Employment Satisfaction
6. Professional Development & Quality of the Faculty
7. System Openness & Community Interaction
8. Ability to Acquire Resources
9. Organizational Health



CHARACTERISTICS OF THE EFFECTIVENESS CRITERIA

1. Criteria were empirically derived from members of the "dominant coalition."
2. Focus was on judgements of the presence of effective organizational characteristics rather than on affective reactions.
3. Criteria centered on the organizational level rather than on individual or department levels.

In the real world so-called hard data or "objective" criterion measures usually turn out to be quite "soft." No one needs to be reminded that in almost all cases any number of artifacts and biases operate to water down the fidelity of objective measures... There is no refuge in objectivism. S.E. Seashore

SOURCE	MANOVA		
	df	F	Θ
School (A)	9, 111	10.06***	.282***
Job (B)	36, 417	1.33	.127
Interaction (A x B)	36, 417	1.37	.228

FINANCIAL FORECASTING AT SUNY-ALBANY: A Case Study

Wendell G. Lorang, Jr.
SUNY at Albany

Introduction

Developing a long-range financial forecasting model for the State University of New York at Albany has presented the campus with a challenging opportunity to consider the unique financial environment within which it operates and to understand the financial implications of its recently defined campus mission. This case study presents (a) a brief description of the University, its financial environment and the role and nature of planning activities prior to this forecasting effort; (b) a discussion of the conceptual approach formulated to guide our forecasting efforts; and (c) the initial results, including the results of sensitivity analyses.

Financial Planning at Albany

The University at Albany offers a full-range of liberal arts and professional programs through the doctoral degree. Approximately 14,500 students, 30% of whom are in graduate study, are supported by 750 faculty and a total staff of over 2,000. The total State budget is $43 million, of which half is committed to instruction. Non-State revenue from gifts, grants, and sale of services totals another $9 million.

While the financial structures of universities may be expected to vary from institution to institution, these differences are generally a matter of degree rather than kind. However, there are two salient features of Albany's financial structure which distinguish it from those of other, especially private, universities. The principal difference derives from the fact that the University at Albany is a public institution, and thus the State appropriation is the primary source of revenue. The

campus receives a large amount of non-State support only for sponsored research and student aid. It should also be noted that capital amortization and fringe benefit costs are not part of the campus' budget, as these items are included in a State lump-sum appropriation to the larger SUNY system. Tuition and fees collected by the campus are "passed through" to the State's General Income Fund, while room charges collected by the campus are "passed through" to the Dormitory Authority which built and retains title to campus residence halls. However, residence maintenance and operation is a campus responsibility and funds for this purpose are included in the annual appropriation from the State. All other auxiliary services are administered by University Auxiliary Services, an organization which is financially independent from the State and the University.

While there are non-State funds coming into and being expended by segments of the University community (e.g., Student Association, University Foundation), these funds currently are not in direct support of "mainline" campus responsibilities (the operating budget), nor are they under the direct financial control of the Administration. Thus, such funds are "restricted" at the level of campus administration, though they may be less so at the level of the project director or unit which has obtained the funds.

The second distinctive feature of the SUNY system and of the University at Albany is that the State appropriation is <u>not</u> a lump-sum amount which the campus, in its discretion, can allocate across major budget categories. Rather, the State appropriation is by Major Purpose and Function (Instruction and Departmental Research, Organized Research, Extension and Public Service, Academic Support, Student Activities, Institutional Support and Housing) and by object of expenditure - personal service, temporary

service, and other than personal service (supplies and equipment). Thus, the campus has little flexibility in how it uses its appropriation. With prior approval, the campus can reallocate funds to and from a given Major Purpose, but such reallocations cannot exceed five percent of the adjusted appropriation for that Major Purpose.

The budget process and the final budget documents (the Legislative and Supplemental Budgets) result in a 'net' appropriation to the campus. This appropriation includes mandated savings (the net appropriation plus mandated savings is the gross appropriation). Funds not appropriated to the campus which are later allocated to it show up as an 'adjusted' appropriation. Expenditures in the SUNY system are made within the context of earlier budget and appropriation restraints (cuts, mandated savings, and freezes) and the ability of the campus to expend (in a logistic sense) the funds available.

Planning at SUNY-Albany until two years ago took place only in the sense that budget preparation and approval established yearly funding and staff levels. During the so-called "growth years", planning entailed deciding which of many possibilities to pursue and requesting State support which was almost certain to be given. The long-term financial impact of adding new programs and new staff was presumed, implicitly, to be unimportant, given the seemingly unending flow of State support and the short-term perspective of the State-defined budget process.

While the budget reductions of 1975 and 1976 were effected in the context of long-range program priorities, long-range consideration of our financial future has only now begun to appear. Encouraging this new perspective for campus management is the development of a planning process which takes its direction and support from the President's Office. The first step in this process was the writing of a Mission Statement in late

1976 which set forth the University's purposes, programs, and priorities. All academic units and Vice Presidential areas were then requested to prepare three-year development plans within this broad framework. After review, these plans formed the basis for discussion between the President, the Academic Vice President and respective Deans. Abstracts of these plans and discussions have been drafted not only to inform the University community but also as a basis for evaluation and revision at the beginning of the next planning cycle. These plans provide the cornerstone for preparation of the annual budget request as well as for decisions on resource allocation.

If we take seriously the nature and role of the institution as presently spelled out in the Campus Mission Statement, we must understand the long-range financial needs of the University and how they relate to long-range financial support by the State. The University has an obligation to present these facts (which bear not just on Albany, but also on the other Centers and Colleges of the State University system) to the State. The implications of continuing budget reductions in the absence of stated goals, i.e., what the State University system should "look like", must be identified. To concern ourselves only with bringing the institution and its particular configuration of programs and people in line with decreasing levels of support is to threaten the survival of quality public higher education in New York State. Greater financial flexibility, institutional redefinition and even institutional terminations are alternatives which must be considered by the State.

Another important factor in our concern with financial planning has been our participation since the Fall of 1976 in a Lilly supported project with EDUCOM. Along with Lehigh University, the University of Pennsylvania and Harvard, SUNY-Albany has been studying the applicability of financial

planning concepts and models developed by Massey and Hopkins at Stanford University.

These considerations have been critical in providing a focus for a long-range financial planning effort on the campus. An ad hoc committee of six persons from the President's Office, Finance and Business, the Computing Center and Institutional Research was formed to carry out the initial conceptualization and forecasting. Other offices (particularly, Budget and Accounting) have been consulted to varying degrees, and their increasing involvement is viewed as imperative in order to ensure the validity and usefulness of the committee's work. The Computing Center's involvement goes beyond immediate programming and technical support to the larger considerations surrounding campus development of a financial information system.

Basic Framework of the Model

A five-year forecast of expenditures and revenue was the first task. The initial forecasts are restricted to State-appropriated funds. It was assumed initially that there would be no program improvements or changes in enrollment for the campus as a whole, i.e., that the "steady-state" resource environment will continue for the next five years.

Using 1975-76 fiscal year data, initial forecasts, by function and object of expenditure, were prepared. Shortly thereafter, complete, though not final, data for fiscal 1976-77 became available as a baseline for forecasting. It should be noted that while the base year data were relatively accessible in the form desired, it may have certain limitations for our purposes, given that the data were originally collected through a manual system designed to meet State reporting and accountability requirements.

The level of aggregation chosen reflects the level at which both the State and the campus make decisions while the adjusted appropriation is the point in the budget process chosen for the baseline data. An extensive, though by no means exhaustive, review of the base year figures was conducted for the purpose of, first, identifying any atypical fluctuations in the data and, second, identifying the mix of items within a given object of expenditure. For example, laboratory supplies is a major portion of Supplies and Expense in Instruction, while computer rentals is significant in General Instructional Services. The relative mix of these major components becomes important in developing estimates of cost increases.

Results of the Initial Forecasts and Sensitivity Studies

To maintain its current volume, and quality, of programs and services, the University at Albany would need, under the assumptions made, a budget of approximately $60 million by 1981-82. This means that the State appropriation for operating purposes would need to grow at 6.66 per cent per annum over the next five years. Given the current fiscal problems confronting the State of New York, such an annual growth appears unlikely.

Several additional forecasts were made to determine their sensitivity to different expenditure growth assumptions. This was seen as particularly important given the judgemental nature of choosing rates and because of the magnitude, in percentage and dollar terms, of projected dollar growth.

Growth rates were varied for individual objects of expenditure while the rates for remaining objects were held constant at their original value for the initial forecast. Table 1 summarizes the results of these forecasts. While changes of one or two percentage points have little effect upon the overall growth rate of the campus budget, the absolute dollar differences are not insignificant.

Two additional forecasts were also made, each of which involved changing the growth rates of all objects of expenditure. One forecast (referred to as "optimistic") reduced the rates from what they had been in the initial forecast. The other (called "pessimistic") raised the rates. The resulting campus growth rates (Table 2) in each case changed by 20%, while the dollar change was only about 7%.

Different expenditure growth assumptions all point to significant budget growth by 1981-82. Even at a low 4% growth per annum the budget for fiscal year 1981-82 would be 16% greater than the 1976-77 budget. Growth of 7% per annum, on the other hand, would result in nearly a 40% increase. Alternatively, a one percentage point change in the rate of growth is equivalent in dollar terms to a change of approximately $2.8 million in the fifth year of the forecast.

From our preliminary review of these additional forecasts we can draw two observations. First, it is clear that varying expenditure rates have little impact on the magnitude of the problem identified in the initial forecast -- significant increases in support are needed whether we are talking of price increases of 5%, 6%, or 7%. These are increases equivalent, over the 1976-77 budget, of from 28% ($13 million) to 40% ($19 million).

Even if price trends were to be lower than assumed, the rates for objects of expenditure and functions which constitute a small percentage

of campus budget would individually have little effect on the rate of overall budget growth. This latter rate would only decrease if the rate(s) for significant items in the budget decreased. But, for example, even if instructional salaries (37% of the campus budget) needed to grow by only 3% per annum to keep pace with inflation (down from our assumption of 6%), this would only reduce the rate of campus growth by 1% and the 1981-82 budget by 5%.

At the function level the dollar changes resulting from varying rates are significant, however. For instance, a five percentage point drop in the price trend assumption for the purchase of books, periodicals, etc. has little effect at the campus level, but translates into there being $300,000 or 20% less funds available for acquisitions in the fifth year of the forecast.

Taking another example, a drop of five percentage points in the price trend for utilities is equivalent to a 20% reduction or $1 million. Thus, rate assumptions do make a significant difference at the function level and must receive further attention.

Looking Ahead

The goal of the financial planning project so far has been to develop a methodology for understanding the nature of the long-range financial condition of the University. While the existence of a problem and its general nature has been known for some time, the specifics and the magnitude have not. Both have become clear now. Further modeling and analyses will be carried out particularly as they contribute toward an understanding of the question of marginal costs and trade-offs. Inflation rates need to be monitored, current fiscal year data studied and alternative program/faculty/student configurations explored.

As these efforts proceed, mechanisms for effectively informing the campus community and external agencies involved in decisions affecting financial support of the University will be studied. A brief paper on the purpose, scope, and preliminary results has already been distributed on campus to selected administrators. Discussion is also underway on identifying how these efforts can contribute to the University's private fund-raising efforts. The current study has contributed to the development of our financial information system and helped place a new light on our budgeting and long-range planning process. But, we are still a long way from integrating its perspectives much less some models into the process.

The framework for efforts in financial planning beyond forecasting, however, must come from the academic planning process. As mentioned above, that process has developed with the writing of a campus Mission Statement and of academic and administrative three-year development plans. Strategies for implementing these goals and objectives must now be defined and their outcomes evaluated. Because of the University's recent experiences with state mandated budget reductions, emphasis in this project has tended to be on the income rather than expenditure side of the equation. A "devalued" level of funding (one which does not keep up with inflation) would have serious consequences for the effectiveness and quality of higher education. It is realized though that an effective case for such support lies in the ability to talk credibly of educational goals and outcomes as they relate to costs.

It is in establishing this type of dialogue, both internally and externally, that the University can most effectively meet the challenges of the 1980's.

TABLE 1

Summary Results of Sensitivity Analyses

Object of Expenditure	Price Trend Assumed	Change From Initial Forecast	Resulting Growth Rate of Campus Budget	Change From Initial Rate	Resulting Campus Budget in 1981-82 (000 omitted)	Change From Initial Forecast for 1981-82 (000 omitted)
Instructional Salaries	6.0	-	6.66	-	60,293	-
	5.0	-1.0	6.32	-.34	59,325	- 968
	4.0	-2.0	5.98	-.68	58,393	-1900
	7.0	+1.0	7.02	+.36	61,299	+1006
Utilities	15.0	-	6.66	-	60,293	-
	10.0	-5.0	6.31	-.35	59,291	-1002
	20.0	+5.0	7.08	+.42	61,487	+1194
Supplies and Expense	5.7	-	6.66	-	60,293	-
	3.7	-2.0	6.47	-.19	59,757	- 536
	4.7	-1.0	6.57	-.09	60,021	- 272
	6.7	+1.0	6.76	+.10	60,577	+ 284
	7.7	+2.0	6.87	+.21	60,872	+ 289
Library Acquisitions	15.0	-	6.66	-	60,293	-
	10.0	-5.0	6.53	-.13	59,931	- 362
	12.5	-2.5	6.60	-.06	60,104	- 189
	20.0	+5.0	6.81	+.15	60,724	+ 431
Equipment	5.5	-	6.66	-	60,293	-
	3.5	-2.0	6.63	.03	60,210	- 83
	4.5	-1.0	6.65	.01	60,250	- 43
	6.5	+1.0	6.68	.02	60,338	+ 45
	7.5	+2.0	6.70	.04	60,385	+ 92
Student Aid	6.0	-	6.66	-	60,293	-
	2.0	-4.0	6.63	.03	60,208	- 85

TABLE 2

Assumed Price Trends and Summary Results for
An Optimistic, Initial, and Pessimistic Forecast

Object of Expenditure	Optimistic Price Trends	Initial Price Trends	Pessimistic Price Trends
Faculty Services	5.0%	6.0%	7.0%
Non-Instructional Salaries	5.0	6.0	7.0
Temporary Service	3.8	2.0	4.0
Supplies & Expense (Composite)	4.7)	5.7)	(6.7)
Instruction & Dept'l Research	7.0	8.0	9.0
Organized Research	5.0	6.0	7.0
Extension & Public Service	4.7	5.7	6.7
Organized Activities	3.5	4.5	5.5
Library	4.0	5.0	6.0
Student Services & Aid	4.0	5.0	6.0
Maintenance & Operation	4.6	5.6	6.6
General Administration	4.5	5.5	6.5
General Institutional Svc.	4.1	5.1	6.1
Housing	4.8	5.8	6.8
Utilities	10.0	15.0	20.0
Equipment	4.5	5.5	6.0
Library Acquisitions	10.0	15.0	20.0
Student Aid	3.0	6.0	6.0
Internal Rate of Inflation	5.33	6.66	8.12
recast Budget in FY 1981-82	$56,620	$60,293	$64,529

NONCREDIT CONTINUING EDUCATION - GUIDELINES FOR THE FUTURE

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The recent decline in enrollment of part-time students in credit courses at colleges and universities throughout the nation has led to a great deal of rationalization and, encouragingly, a certain amount of soul-searching on the part of continuing educators and, to a lesser extent, college presidents, treasurers, and boards of trustees. While the rationalization may serve a useful purpose as a defense mechanism by lowering levels of anxiety and tension, the process does not address the problem which brought about the anxiety in the first place. The adult society is sending the colleges and universities a message which those in higher education find difficult to understand, no less act upon. These enrollment data should tell higher education that the programs they are offering do not meet the needs of large segments of society. A growing number of adults are saying by their absence that they do not need additional credits in English, Philosophy or Mathematics but rather, they want educational experiences which will help them cope with the concerns and problems of the real world. In fact, a recent Gallup Poll shows that 49% of American adults listed personal improvement or enrichment as the main reason for going back to school. Another 28% cited job-related reasons as their motivation for further education, while only 4% of those surveyed said they would return to college to take credit courses leading to a bachelor's degree.

Many of the learning needs of our adult society do not lend themselves to the traditional credit course approach which breaks learning down by subject areas and views each course as a portion of a program leading to a college degree. While the intensive single discipline approach to learning is entirely logical at the undergraduate and graduate levels, the problems

which adults face are often too complex and too interrelated to fit the boundaries of academic subjects. We in continuing education must focus on different objectives than our colleagues who plan degree programs. Continuing education programs must be oriented to the needs of adults and must address such concerns as career, health, family, finances, leisure time, housing, retirement and even death.

Working on the assumption that adults would be attracted to continuing education programs which addressed such concerns, an in-depth study of those institutions with extensive noncredit programs was conducted in late 1976 and early 1977. A study of university catalogs and enrollment date indicated that a relatively small number of institutions had recognized the changing nature of society's needs for continuing education as fewer than 50 colleges and universities were responsible for more than three-fourths of all registrations in noncredit programs in the United States. Furthermore, not more than half of these institutions were making what appeared to be concerted efforts in this area of continuing higher education.

The decision was made to visit a representative sample of these institutions with noncredit continuing education programs which were specifically designed to enrich the lives of adults and to help them advance in their careers. It was hoped that these visits would bring about a better understanding of the policies, structures, procedures and relationships which contributed to the success of such programs. Accordingly, visits were made to 10 institutions representative of the group -- a large community college, two state colleges, four land grant universities, and three public universities which were parts of statewide systems. Geographically the institutions were spread from the East Coast to the West Coast and from the deep South to the North.

The format of the visits called for extended discussions with the staff members responsible for noncredit programs as well as with the chief administrative officers responsible for continuing education. In order to encourage freedom of expression on the parts of those interviewed, all individuals were told that neither the interviewees nor the institutions would be identified beyond the general description given above.

In order to structure the information gathered in the study, the material has been divided into the six major areas listed below.

1. The administrative structure of continuing education
2. The developmental process for noncredit programs
3. Program promotion and its evaluation
4. Program evaluation
5. Relationships between continuing education and other units
6. Financing of noncredit programs

1. Administrative Structure

As might be assumed from the description of the process used to select the institutions to be visited, relatively effective administrative structures for noncredit programming were found at all the institutions visited. However, certain patterns of administration were more often found in those institutions with highly developed and innovative noncredit programs than at those schools with less developed and more traditional offerings. The institutions with noncredit programs which appeared to most adequately address the concerns of the adult society tended to have the following administrative characteristics:

(a) strong support for noncredit continuing education by the chief administrative officer of the institution;

(b) an individual at the rank of Dean or higher as the administrative officer responsible for noncredit continuing education;

(c) a relatively large continuing education staff working in the noncredit area;

(d) an administrative structure for continuing education which was closer to a centralized model than to a decentralized model.

2. The Developmental Process for Noncredit Programs

There was no one approach to program development which was considered the most effective by all members of the staffs of the institutions visited. However, almost every school used several of the following processes in program development:

(a) programs developed by the continuing education staff;
(b) programs developed by the full-time faculty;
(c) programs developed by part-time faculty;
(d) programs originating with the client group -- business, labor, professions, students.

The one approach to program development which is usually included in textbooks on adult education and in philosophical statements related to continuing education but which is not listed above - needs assessment - was specifically described as nonproductive by most of the continuing education professionals interviewed. Furthermore, these individuals stated that the great majority of new programs originated either with staff members of the continuing education unit or with potential part-time faculty from the community who brought their ideas to the university along with their offers to teach the same. Client groups were mentioned most frequently with respect to conferences and workshops, while in the opinion of those interviewed, full-time faculty were a relatively poor source of new programs. In the few instances where full-time faculty were active in program development, there was strong encouragement from the university president and college deans for the faculty to get involved in this area of educational activity.

3. Program Promotion

As might be expected, the avenues utilized to bring noncredit programs to the attention of potential students were extensive and varied. Most of the institutions published some form of catalog listing forthcoming programs for the next quarter or semester. Several institutions

distributed these catalogs through selected mailing lists of former students and those requesting information. A few schools published their catalogs as newspaper inserts which were then distributed in the targeted marketing areas. Less frequently mentioned were general display ads in newspapers and advertising on radio and TV. Brochures promoting specialized programs were judged to be effective only if an appropriate mailing list were available. Several institutions had been quite successful in promoting their programs through public service announcements on TV and radio and news releases which were carried by area newspapers without charge. Most of the institutions made some attempt to evaluate the effectiveness of their program promotion efforts through "keyed" enrollment forms, special phone numbers, and periodic studies of enrollment patterns vis-a-vis program promotion procedures. Several of the universities were developing sophisticated computerized programs which would make it possible for the continuing education units to develop and effectively promote specialized programs to meet the needs of relatively small numbers of potential students.

4. Program Evaluation

All of the institutions visited made use of course/program evaluation forms completed by students at the end of the term. Most of the forms used had been developed locally and were similar to those used in evaluating credit courses and instructors. One of the universities utilized the Purdue Rating Scale distributed by the Educational Testing Service. Administrators using this scale felt that it was superior to the typical "home-grown" evaluation form as it made use of the "forced-choice" approach, thereby avoiding the all too common tendency of students to be overly charitable in evaluating instructors, instructional approaches, and course content.

One form of program evaluation which was frequently mentioned was class visits by the individuals responsible for the program areas in

question. To one indoctrinated with the concept of the sanctity of the professor in his classroom, it was refreshing to learn that classroom visits were a regular occurrence at several of the institutions studied, and that these visits were used constructively to improve both the quality of program delivery and the effectiveness of future programs in meeting student needs.

5. Significant Relationships Between Continuing Education and Other Units

The administrative structures of continuing education at most of the institutions visited were closer to the centralized model than to the decentralized one. None of the continuing education divisions, however, could be properly classified as either completely centralized or entirely decentralized; each having some features of both models. The most frequently mentioned relationship between continuing education and the academic divisions was the identification of individuals in one or more of the academic divisions (schools/colleges) who served as the liaison between the faculty of the academic unit and continuing education. These liaison persons might be full-time faculty, or assistant deans of the academic unit, or staff of the continuing education divisions. In some instances, the faculty members or assistant deans were fully or partially supported by funds from continuing education, while in other situations, there was no such support. With or without such support, there was a general consensus among the administrators interviewed that using faculty or assistant deans was not very effective. All too often, such liaison persons, whether faculty or administrators, perceived themselves as primarily academic-discipline oriented individuals with the consequent commitment to the academic establishment rather than to continuing education. Even the most ardent advocates of the decentralized model admitted that it was not working as well as they had hoped for, but they still looked forward to the day when the entire institution and consequently all faculty and administrators saw continuing education as equal in

importance to research and teaching, at which time continuing education as a separate unit would wither away and die, much as the governmental bureaucracy would disappear with the advent of pure communism. Until then, they were willing to struggle along with less than desired achievements in the short run in deference to the more important goal of the glorious future. On the other hand, the institutions which utilized staff of the continuing education unit as liaison between the academic units and continuing education appeared to have developed more effective coordination between the units which, in turn, resulted in noncredit programs reflecting the best efforts of both the academic units and continuing education. Programs of these institutions were more likely to be oriented towards the needs of the adult society cutting across academic disciplines than were the noncredit programs at institutions with more decentralized structures for continuing education; the noncredit programs in the latter bearing a greater resemblance to the credit offerings of the institution. An interesting sidelight on the above phenomena was the comment of a continuing education administrator responsible for a large division which was highly centralized and offered a wide range of innovative and successful noncredit programs that, philosophically, he was still committed to the decentralized model but, pragmatically, he had discovered it simply did not work as well as the more centralized approach to continuing education.

While the form and structure of the relationships developed between continuing education and academic units appeared to have a clear and important effect on the noncredit programs offered by the institutions, varying patterns of administrative relationships with other units of the University did not appear to be as clearly reflected in the continuing education offerings of the institution. That is not meant to imply, however, that these relationships did not have an effect upon the ultimate success of the continuing education unit in fulfilling its mission.

In most instances where continuing education was dependent upon some other unit of the university to provide a given service, comments were heard to the effect that all too often continuing education and adult students were served after all others, and that policies, practices and procedures of these supporting units were designed to meet the needs of full-time students rather than adults. The publications, registration procedures, business methods, data processing and counseling services which were administered by continuing education appeared to be more effective in meeting adult needs than similar services offered by institutions with more decentralized administrative structures for continuing education.

6. Financing of Noncredit Continuing Education

The methods of financing noncredit continuing education which were descriptive of the situations of most of the institutions visited could be described as a disaster or a godsend, (depending on one's philosophical orientation). To those subscribing to the cooperative extension approach to public service, the lack of financial support for noncredit programs, which was the prevailing pattern of the schools visited, would be unacceptable, while advocates of the free enterprise system might view the same picture and comment that this was the one area of higher education which made sense to them. For bad or good, most of the noncredit continuing education programs offered at the institutions studied were dependent upon tuition and fees to pay instructional costs and in many cases, administrative costs, overhead, and if possible, show a surplus of income over expenses; in other words -- a profit. Again, depending upon one's philosophy, the relationship between the degree of self-support and the apparent excellence of the noncredit continuing education programs offered was as expected by businessmen and contrary to the expectations of those who equate support dollars with quality. As far as could be determined by the data collected, analysis of program content, enrollment statistics,

and comments of those interviewed, the greater the degree of self-support required - the better and more extensive the noncredit programs, if, and this is a major qualification, if, and only if, the administrative structure of the continuing education unit could be categorized as basically centralized. Those institutions with decentralized continuing education administrative structures without significant financial support for noncredit programming appeared to have the poorest and most limited offerings. The institutions with decentralized administration for continuing education and significant financial support for noncredit programs were some place between the centralized, self-support institutions and the decentralized, self-support schools in terms of the quality and the quantity of the noncredit programs offered. Apparently, excellent noncredit programs can be offered on a self-support basis if the continuing education unit has the resources and responsibilities associated with the centralized approach to continuing education. On the other hand, the restraints inherent in the decentralized model tend to inhibit the development of innovative and society-centered, noncredit programs without relatively large amounts of fiscal support.

Summary

Each of the ten institutions visited was unique in its own way, and the continuing education units and programs offered reflected this individuality. The comments and interpretations above are not descriptive of any one of the institutions, but rather represent the writer's perceptions of the collage which was observed.

THE COLLECTION AND USE OF INSTITUTIONAL RESEARCH DATA BY THE DELAWARE VALLEY PROJECT ON COOPERATIVE CONTINUING EDUCATION

presented by: Dr. J. David Smith
Project Director
Region I, Continuing Education Project

BACKGROUND - THE COMMONWEALTH'S PLAN FOR REGIONALIZATION

In the Commonwealth of Pennsylvania, the State Board of Education (SBE) has "...the power and duty to review and adopt broad policies and principles and establish standards governing the educational program of the Commonwealth." Composed of 17 members, all appointed by the governor to six-year terms, the board is divided into councils of basic and higher education.

In 1971, the SBE prepared The Master Plan for Higher Education in Pennsylvania which called for a plan that would recognize and utilize the Commonwealth's total program of higher education in the most effective combination of institutional, regional and statewide efforts. In January, 1973, the board adopted the following resolution:

> The State Board of Education endorses and adopts the Principle of Regionalization and, in doing so, authorizes and directs the Pennsylvania Department of Education (PDE) to develop a plan by which regionalization will become a reality.

Implicit in the SBE resolution was the expectation that cooperation at the regional level would be the primary instrument for cooperation among the Commonwealth's colleges and universities and through cooperation would come the most effective use of the combined resources.

In April, 1973, PDE produced and released A Design for Regionalization in Higher Education in response to the resolution. The report recommended the Commonwealth be divided into 10 post-secondary education planning units and the establishment of a regional planning council in each region.

Prior to the release of the PDE publication, and until the spring of 1976 - a period of more than three years -, SBE and PDE officials and representatives of the nearly 200 degree granting institutions in Pennsylvania, discussed and deliberated the structure, purpose and activities of the regions' councils. The viewpoint of the colleges and universities was often presented by the Pennsylvania Association of Colleges and Universities (PACU). PACU, an association of 119 college and university presidents from virtually all sectors of higher education, was founded in 1896 "...to promote the welfare of higher education (and) ...to establish a unity of spirit and understanding..."

In March, 1976, SBE released a final policy statement on Regionalization. The document identified regionalization as a "...concept of cooperative interaction among institutions...operating in the mode of voluntary self-governance to (1) strengthen effectiveness of the higher education community..., (2) ensure fiscal autonomy of the institutions, and (3) preserve the uniqueness of the institutions..." A "regional council" was recognized as a "...voluntary and autonomous body whose member institutions are bound only insofar as they have freely chosen to bind themselves..."

Endorsing the SBE statement, PACU noted that regionalization "...may indeed become the operant mechanism through which the Master Plan's "single system" concept is realized for the benefit of our citizens."

The Commonwealth counties of Bucks, Chester, Delaware, Montgomery and Philadelphia make up Region I, the state's most populous region. Region I contains 71 colleges and universities and enrolls more than 200,000 students, a number greater than the combined enrollments of the other nine regions.

In the summer of 1973, Region I institutions established the Delaware Valley Regional Planning Council for Higher Education (DVRPCHE) as its regional council. The general management of DVRPCHE is provided by an executive committee composed of five college presidents representing the various segments of higher education. One of the members of the executive committee serves as the chairman. PDE recognized DVRPCHE as the official Region I council in 1974.

One function of DVRPCHE is to "...designate committees of the Council to assist it in carrying out its duties..."

BACKGROUND - DVRPCHE'S TASK FORCE AND PROPOSAL

In response to a PDE proposal for an adult continuing education program in Region I, DVRPCHE established in January 1976, a Task Force for Inter-Institutional Cooperation in Continuing Education. The Executive Committee of Region I appointed eight college presidents and one vice president as task force members.

In the spring of 1977, the Task Force learned its Proposal For In-Depth Study On Continuing Education had been awarded a two-year $145,000 grant from the W. K. Kellogg Foundation "...to design and implement a regional post-secondary continuing education program that would improve access, coherence, and comprehensiveness for learners who

typically differ in age from the traditional undergraduate."

THE PROJECT - OBJECTIVES AND STRUCTURE

The objectives of the project are to:

1. develop a system to assess the continuing education needs of the region;

2. design a means to coordinate and maintain inter-institutional arrangements and collaboration for continuing education;

3. develop policies and a program for shared assessment of credit in the region;

4. recommend and develop the academic resources necessary for collaborative programs among the members;

5. provide a means for learners to accumulate credit, and, ready access for participating institutions to evaluate learners' academic achievements;

6. establish cost-effective and comprehensive systems for information, counseling, and referral centers in behalf of adult learners; and

7. develop a program to acquaint citizens with the opportunities available and the value of continuing education.

A fulltime project director has been retained by the Task Force for the duration of the project. A Task Group, selected by the project director from interested faculty and staff of participating institutions, will be established for each of the project's major objectives, e.g., Assessment Group. In consultation with the task group chairmen, the director will determine the responsibilities and activities of the groups; the groups will be supported by the project office as necessary. Task group members will be given stipends for their contributions.

THE USE OF INSTITUTIONAL RESEARCH DATA

At this early stage of the project, it is believed that the use of institutional data and research will be in four areas: (1) the assessment of current continuing education course and program activity as well as existing consortial arrangements; (2) the projection and updating of adult educational needs; (3) the evaluation, accreditation and recording of adult, non-traditional learning experiences; and (4) the general evaluation as to the "success" of the project.

(1) Current Continuing Education Activity

It must be remembered that the Region I cooperative effort is not to be a "turf" document which divides the five-county area in several dozen fiefdoms. Rather, the project seeks to bring about a synthesis of appropriate courses and programs.

In order to determine the direction and magnitude of a cooperative, inter-institutional continuing education program in Region I, it will be the responsibility of the assessment task group to record the current state of affairs. Comparing current activity against desired activity should yield a "net" need.

One anticipated aspect of the assessment will be the compilation of past and current continuing education enrollment data for each institution. The data will be analyzed and interpreted for enrollment trends identifiable by demographic groupings.

The assessment procedure will also evaluate the present, prevailing delivery systems within Region I for the adult learner serviced by them. The flexibility of delivery systems, i.e., the scheduling and modes of delivery, is thought to be a primary factor in the increase of the adult population into higher education.

Currently, there are several consortial arrangements between and among Region I institutions. The extent and purposes of those cooperative agreements varies substantially; however, it is fair to say that most of them were established to deal with "surface" concerns and, when constructed, did not alter significantly the operational policies of the participating colleges. Research will be undertaken to see how existing consortial arrangements could effect and would be effected by the Region I project which seeks to alter the policies of the region's colleges and universities.

(2) Projection and Updating

It will be the responsibility of the assessment task group to develop, implement and maintain (update) a plan for data collection and research which will ensure the most effective use of the region's resources in response to identified needs for continuing education of the adult learner. Research of area manpower needs will estimate career trends for the different population pools and project the need for continuing education opportunities appropriate to manpower requirements.

(3) Non-Traditional Learning for Credit

To encourage the participation of the adult student in higher education and to recognize his creditable, non-traditional learning experience, the project seeks to establish a procedure to evaluate and award credit when appropriate. It is anticipated that this procedure will be administered from a central office serving all of the participating institutions. It will also be the function of the central office to accumulate and store credit, i.e., create a transcript, for adult learners who have not yet selected an institution. The "credit bank" will provide easy access for

participating institutions to transfer measured and evaluated academic achievements. Appropriate legal and professional policies concerning the keeping and release of records will be observed.

It is anticipated that interaction between the "credit bank" and the registrars of participating institutions will be substantial during the design phase of the project and once the "bank" is in place and servicing the non-matriculated adult learner.

(4) Project Success

The Region I continuing education project was created to deal with some very complicated and sensitive issues; therefore, the success of the project is not assumed.

It is believed that research activities and data analysis will be the primary evaluation techniques in determining how successful the project was in attracting a greater number of area adults into higher education courses and programs.

THE FUTURE OF CONSORTIAL ARRANGEMENTS

Higher education literature is filled with gloomy - but probably accurate - reports as to effect of the declining birthrate on college enrollments. From 1960 to 1974 the number of live births in our country declined by 26% and, assuming the percent of 18-year-olds entering college remains reasonably constant, it is agonizingly simple to project what lies ahead.

In response to the anticipated situation, many colleges and universities have identified and are recruiting from new clientele groups, notably the adult learner population.

Another response to the declining 18-year-old market group has been the establishment of consortial arrangements. The sharing of resources in a collaborative, inter-institutional effort can be a cost-effective response to stable or declining income. Therefore, it is believed that the experimentation and use of consortial agreements in the 1980's and 1990's will be significant. The degree of success of consortia will, it is believed, often depend upon the collection, analysis and use of institutional data and research.

AN INTEGRATED RECORDS SYSTEM
FOR
RESIDENT EDUCATION AND CONTINUING EDUCATION

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October, 1977

The Pennsylvania State University

AN INTEGRATED RECORDS SYSTEM FOR RESIDENT EDUCATION AND CONTINUING EDUCATION

Abstract

Most continuing education enterprises have not had the benefit of the information systems support frequently utilized by the "main stream" resident education processes. In a multi-campus environment such as Penn State there is a need to understand the interaction between resident education and continuing education. To achieve this, a project was defined to integrate the records keeping function of these two delivery modes of instruction at the various campuses of the University. The primary purpose was to increase institutional efficiency and cost savings, while at the same time, make available to University administrators additional information which more completely reflects total instructional productivity. The results of the project have provided new insights regarding the total impact continuing education has on the University's mission of instruction.

Introduction

In recent years, part-time adult education has become a major growth industry involving one out of nine eligible Americans. From 1957 to 1975 the number of adults involved in continuing education rose from 8.2 million to 17.1 million. A recent article in the New York Times referenced a study made earlier this year of legislation which mandated continuing professional education. It reported that 17 states now require continuing education for doctors, 18 for dentists and 11 for nurses. Thirty-seven states have requirements for nursing home administrators, 45 for optometrists, 15 for pharmacists, and 18 for veterinarians. Several other states have approved, but have not yet implemented, the continuing education requirements for these professions. Other states have legislation under consideration. This study was conducted by Louis E. Phillips, the Director of Continuing Education at Furman

University in Greenville, South Carolina. Mr. Phillips noted that if the trend continues, continuing education would eventually be required for all the licensed professions. Many professional associations, eager to maintain their creditability of their members, have provided the initiative for state legislation which requires continuing professional education.[1]

At Penn State the increase in continuing education has been attributed not only to the adult student but also to the degree-seeking student already enrolled in an academic program. These students usually schedule Continuing Education courses so that their class attendance is more adaptive to changes in their personal or employment schedules. Scheduling courses through Continuing Education during the evenings or weekends provides this flexibility. Also, the student may be motivated to accelerate progress in his program by picking up extra courses during the summer months at a local Penn State Commonwealth Campus.

The evolution of Continuing Education at Penn State has shown a gradual, but consistent, trend towards integration within the academic structure of the University. This move towards the institutionalization of continuing education is based firmly on the policy of the Board of Trustees. Continuing education is identified as being one of three equal functions of the University--the others being resident education and research.

The University Faculty Senate has also established policies which are consistent with this institutionalization process. Each course that is taught through Continuing Education, whether for credit or noncredit, is an academic

[1]New York Times, September 11, 1977

offering of a specific college. There are no distinctions by method or location of credits earned within the Penn State system. For credit courses the Faculty Senate policy of "a credit is a credit" was adopted by the University in 1976. Penn State's Continuing Education credit course offerings are most often in conjunction with or supportive of existing academic programs. The availability of these courses to the Penn State student offers a broad range of scheduling options to the student to enhance his progress towards his degree goal.

In order to understand the interaction of these two delivery modes of instruction and in order to bring the continuing education closer to the "main stream" of the instructional processes of the University, it was important to develop an information base from which appropriate reporting systems could be developed to support related studies and analyses. This paper will discuss motivation, strategy, and techniques used to develop this information base.

Specific Motivating Factors

Several of the Penn State campuses have designed continuing education records-processing systems for their local use. This individual campus initiative served as one of the motivating factors in establishing a project to develop a system to be used at all campuses. These campuses developed this information support system to help answer such questions as: Who is enrolled in Continuing Education courses at this location? Are any of these students also in a Resident Education program? What percent of the students at this campus are taking courses in both delivery systems? These kinds of

questions can only be answered when a common records system exists which contains registration information from both Continuing Education and Resident Education.

Another motivating factor was the need to understand the nature of faculty work loads. Since many of the Continuing Education credit courses were taught by Resident Education faculty, it was important to be able to evaluate and understand the impact these "extra" teaching assignments had on the overall campus teaching load. With information available on course teaching assignments, meeting times, and section sizes, reports could be produced that improve the efficiency of constructing faculty teaching assignments.

Another reason for developing an automated records-keeping system for continuing education was to support the reporting requirements to external agencies. Accumulation of these data by manual methods was inadequate. As the number of these kinds of requests continue to increase, a computer-based information system was needed to provide comprehensive data on all student enrollments and teaching assignments.

Method

In order to handle the volume of data that would result from recording all Continuing Education registrations and faculty teaching assignments, it was necessary to make use of existing computer facilities and the terminal network that links the Commonwealth Campuses and the University Park Campus. This system consists of an IBM 370/168 computer located at the central campus which is accessible to the branch campuses through medium-speed DATA 100

terminals. The computer facilities are used for data storage and information processing to produce the needed reports for both faculty and administrative staff.

Data would be entered into the system from the branch campuses on punched cards. However, to minimize keypunching at the individual campuses, the course-offering information would be machine punched at University Park and consequently distributed to individual campuses. As course offerings were defined by the campuses, a request would be made to the central system to produce the necessary course cards for use in assembling student registration packets. As students complete the registration process, their packets would be entered into the system via the local computer terminal.

In addition to developing tools and procedures to maintain the data base, it was essential to build a reporting system to serve various levels of management within the University. This reporting system would serve local campus staff who were responsible for administering continuing education. For the local campus, the needed reports would include class lists, enrollments, student directories, section size data, and instructor assignments. For central reporting, the data base would be accessible by central offices at University Park to summarize Continuing Education course offerings on a state-wide basis.

Design Features

A separate computer file was established for each campus. These files are physically separate, but compatible, with each other through the use of "common" computer software. Separate files eliminate data-access contention among the campuses and minimize recovery procedures in case of hardware failure. Individual campuses are responsible for the integrity of their data. As data

cards are entered, the system will make various edit checks and will prepare a diagnostic report for the user which indicates the status of the data he has entered. The campus can then correct and reenter any data that were in error. A branch campus can generate reports only from its data files. File names of other campus locations are not known to a given campus thereby "blocking" access to these data. However, at the central campus, the collection of individual campus files is considered as one large data base. This enables comprehensive reports covering all campuses to be generated for offices at the University Park Campus.

The system is designed to respond to the various information needs of the local campus. A preregistration module permits each campus to plan a term ahead regarding the number of sections needed in certain courses, faculty teaching and advising loads, and overall utilization of classrooms and other facilities. The system also provides operational reports to faculty and staff prior to the first day of classes. These reports include class lists, advisor lists, student enrollments, and several other reports all of which may be separate for Continuing Education or integrated with Resident Education. Late registrations and drop/adds for Continuing and Resident Education students are handled by the system to ensure an up-to-date data base for accurate reporting at any time during the term.

An important feature in data preparation and data entry is the concept of a "student registration packet." As a student proceeds through the registration process, he builds a card packet consisting of a prepunched "master" card, course cards, and other cards containing pertinent information about his registration. The packet concept is adaptive to the manual registration procedures and to the data-entry requirements of the computer system (Figure 1).

PENN STATE'S COMMONWEALTH CAMPUS 'INTEGRATED' REGISTRATION SYSTEM

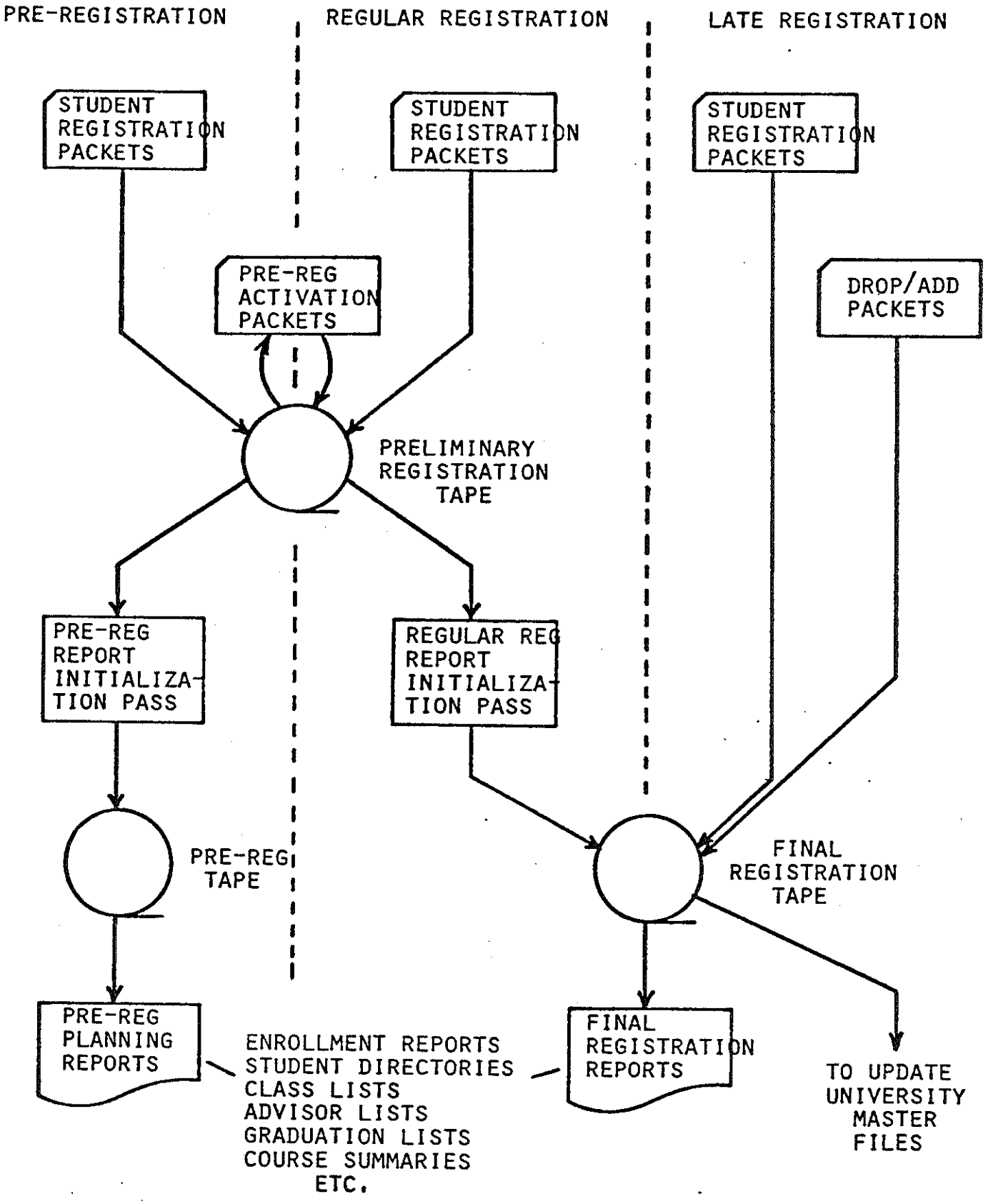

Figure 1

An example of a campus summary which shows the relationship between Resident Education and Continuing Education enrollments is illustrated in Fugure 2. This report not only shows information having operational importance but also a capsule summary of students, faculty, and advisor relationships between the two delivery systems. Other reports depict specific detail by student, course, and/or instructor.

Institutional Impact

As of Fall Term, 1977, this system became available for use by all Penn State Campus locations. During these early stages of use, individual campuses could decide when to incorporate the system as part of their registration procedure. Initially, some campuses chose to use the system for all of their Resident Education courses but for only a portion of their Continuing Education courses. However, as the requests for more information increase, it is expected that campuses will come to rely more completely on the system to provide these data which will necessitate total system usage.

Certain savings will result as the system provides increased support to local Continuing Education administrators. Less clerical support will be required to type such things as class lists and other reports normally produced at course registration time. Other benefits, which may be difficult to evaluate, include the value that a better informed Continuing Education staff has on the overall program. The information support provided by this system will assist the campus in administering course offerings to its students more efficiently. With the implementation of the integrated system, the individual campus systems for continuing education will be eventually eliminated. Thus,

10/20/77 R.I.P. REPORT (REGULAR REGISTRATION)
11:51:37 DUBOIS

	RI ONLY ENROLLMENTS	CE ONLY ENROLLMENTS	JOINT RI/CE ENROLLMENTS	TOTAL ENROLLMENTS
STUDENT SUMMARY:				
ACTIVATED PRE-REGISTRATIONS:	0	N/A	0	0
REGULAR REGISTRATIONS:	518	163	8	689
TOTAL STUDENTS REGISTERED:	518	163	8	689
NO. OF STUDENT/SECTION ASSIGNMENTS: (TOTAL COURSES STUDENTS TAKING)	2019	296	30 **	2345
FACULTY SUMMARY:				
NO. OF FACULTY TEACHING COURSES:	35	0	0	35
NO. OF FACULTY/SECTION ASSIGNMENTS: (TOTAL COURSES FACULTY TEACHING)	89	0	0	89
ADVISOR SUMMARY:				
NO. OF STUDENTS ASSIGNED ADVISORS:	517	0	8	525
MISCELLANEOUS:				
ACTIVATED NON-PRE-REGISTRATIONS: (STUDENTS WITHOUT COURSES)	0	N/A	N/A	0
NON-ACTIVATED PRE-REGISTRATIONS:	0	N/A	N/A	0
CHANGED (REVISED) PRE-REGISTRATIONS: (EXCL. ACTIVATIONS AND DELETES)	0	N/A	N/A	0
NO. OF FACULTY DELETED:	0	0	0	0
TOTAL NUMBER OF RECORDS ON TAPE B: (STUDENT, FACULTY, AND ADVISOR)	2625	296	38	2959

** REPRESENTS: 21 RI COURSES -AND- 9 CE COURSES.

****

RECORDS ON TAPE 'B' -->	MASTERS	COURSES	ADVISORS	DIPLOMAS	DELETES	ERRORS	% ERRORS	---- FACULTY ---- MASTERS	COURSES
*** RI	526	2040	525	0	4	0	0.00	35	89
*** CE	163	305	0	0	0	0	0.00	0	0
TOTALS	689	2345	525	0	4	0	0.00	35	89

Figure 2

only one system will require maintenance. However, it should be noted that campuses that had their own system will be important contributors in the future design and modification of the integrated system.

The Records Office at the University Park Campus is responsible for keeping the "official" student records. This includes all student credit course registrations. The integrated system will provide this office with student course registration data in machine-readable form from each campus. The update of the central master files in this manner will result in more timely and accurate information for these master files.

Another office that will be affected by this system is Institutional Research. In fulfilling its responsibilities of internal and external reporting and in conducting institutional studies and analyses, it will draw heavily on the computerized continuing education data. Institutional reporting and studies will be more complete because information from this important instructional delivery system will be included.

With this system, the Continuing Education Office at the central campus will have a complete data base that reflects course offerings and enrollments throughout the State. Comprehensive reports can be developed that show enrollment trends, credit production trends, and course offering patterns. In addition, special studies can be conducted that would aid Continuing Education staff in deciding when and where to offer certain courses.

A systematic collection of data about both resident education and continuing education is essential. As historical data accumulates, trend patterns in these areas will help the institution to better understand the relationship of these two instructional delivery modes and how they can function in concert to more fully support the instruction mission of the University.

Federal Reporting Requirements: Institutional Burdens for Higher Education.

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The most profound change to occur in higher education over the past generation has been the growing influence of the federal government. The process was accelerated in the late 1960's, when we witnessed the passage of two basic pieces of legislation which Congress has amended repeatedly in the intervening years. The 1963 Higher Education Facilities Act provided grants and loans for graduate and undergraduate facilities; and the 1965 Higher Education Act provided grants for community service by colleges, library assistance, student grants and insured loans. The federal government's involvement in higher education has grown dramatically in terms of the program initiatives it has undertaken, the social goals it has attempted to achieve, and the funds it has provided. These efforts have been beneficial for the continued quality of higher education and for the positive development of the American society. However, accompanying this increased federal involvement and support have been requirements for institutions to report student, staff, and financial data, to comply with mandated administrative regulations, and to generally document institutional accountability in relation to governmental

expectations. The impact upon colleges and universities of federal reporting requirements mandated through both legislative statute and administrative regulations have become a matter of increasing concern for officials in institutions and in the government.

I. PRESENT FEDERAL REPORTING AND COMPLIANCE REQUIREMENTS.

Institutional reporting andcompliance activities are required in the following three general categories:

- Student consumer protection information and related activities.
- General institutional information efforts for management and accountability (including specialized reporting requirements for federal research grants and contracts).
- Social program information and efforts.

There are unique aspects associated with federal compliance and reporting requirements in each of these general areas, although the distinctions between the categories become, at times, blurred. Each category will be briefly treated in the pages that follow.

- Student Consumer Protection Information: Three distinct purposes underlie the federal government's initiatives regarding student consumer information and activities:(1)

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(1) El-Khawas, Elaine H. "Clarifying Roles and Purposes". Promoting Consumer Protection for Students, Stark, Joan S. (ed.) New Directions for Higher Education, Number 13, San Franciso: Jossey-Bass, Spring, 1976, p. 37.

-- To prevent specific abuses: primarily illegal, fraudulent, or deceptive practices

-- To allow better student selection among educational options and institutions

-- To assure adequate educational program quality.

These purposes are unevenly addressed through the many regulatory and reporting requirements which various agencies of the federal government promulgate. Although understandable when viewed in light of the various legislative intents that are being implemented through the regulations, this situation is perplexing and costly to institutions which are attempting to comply with the spirit as well as the letter of the law.

Examples abound which illustrate the nature of the requirements entailed in consumer information compliance. Within the U.S. Office of Education, the implementation of the 1976 amendments require the provision of consumer information in order to qualify for the administrative cost allowances under the student assistance programs. This information includes descriptions of financial aid available; the institution's academic programs, faculty and facilities; educational costs; academic standards; retention rates; and tuition refund policies. The regulations for the Guaranteed Student Loan Program require information to be published regarding the post-graduation activities of students, including the type of job obtained, the relevance to degree received, and the salary level.

Within the Veterans Administration, reporting requirements

for the GI Bill are directed toward correcting both institutional and student abuses. For example, institutions are required to submit to the VA enrollment certification on each GI Bill-funded student every thirty days, and are required to adhere to general guidelines regarding advertising practices for the educational programs of the institution. The "two year rule" requires institutions to obtain approval for the educational programs on the parent campus and for each branch campus it operates. The regulations governing this requirement mandate that a program be in operation for at least two years before GI approval can be granted. Numerous other VA regulations establish acceptable standards for progress, and for the number of undergraduate "contact hours" necessary for eligibility.

Other agencies such as the Federal Trade Commission, the Department of Defense, the Department of Labor and the Postal Service also require student consumer information, either directly or indirectly through their actions. While such regulations continue to proliferate, there is virtually no standardization of definitions and requirements, and no coordination of information among these agencies.

Colleges and universities have voiced their support for the intent of recent student consumer protection information initiatives. The federal government has the right and the responsibility to prevent recipients of public funds from engaging in illegal, fraudulent or deceptive practices. Moreover, the federal government has the authority, through its responsi-

bility to promote the general welfare, to improve students' abilities to select educational alternatives. Most feel, however, that the monitoring of adequate educational program quality, vis a vis the collegiate sector of postsecondary education, should primarily rest in state governments and should remain an indirect function of the federal government -- mediated through the national accreditation organizations.

The troubling aspects of the student protection thrust are the practices by which the three consumer information purposes are implemented. Federal legislators and rule makers must be clear about which purpose or purposes they are addressing when they design legislation and/or regulations in this area. Further, consideration must be given to whether required information or mandated practices will actually curtail abuse or improve student choice. For consumer protection purposes to be achieved, institutions must understand and support the intentions of the law; students must have available and take advantage of the information provided; and mandated practices must be purposeful.

- General Institutional Information for Management and Accountability:

The federal government requires institutions to provide general information through a number of reports to several different agencies. This information is used to make decisions about national policy and about institutional needs, to monitor the condition of higher education in the nation, and to provide a basis for longitudinal assessment.

Four prominent efforts in this category are conducted by the National Center for Education Statistics (NCES), the National Science Foundation (NSF), the Office of Education (OE), and the Veterans Administration (VA). We are all familiar with the HEGIS, NSF, Fisc Ops, Tri-Partite and the 85-15 requirements of VA.

Colleges and universities generally understand and support the need for the government to collect data on general institutional characteristics, for through the utilization of resulting analyses and information governmental policy makers will be able to make better decisions in postsecondary education matters. The gap between this ideal (where good information is used) and the current reality is, at times, frustrating.

Another member of this panel will discuss in greater detail the recent work of the Office of Management and Budget (OMB), the Paperwork Commission, the Interagency Task Force and others. The reports of these groups focus on some of the most pressing problems of gathering and utilizing general education information. The issues raised by these groups address concerns like duplication of effort, timeliness, institutional costs, and utilization of data. For example, in relation to this particular category of federal reporting requirements, i.e. general institutional information, the OMB recommended that

> "An interagency effort should be established to develop an overall specification of the needs for federal education statistics; to formulate plans for improved interagency cooperation...; and to recommend discontinuation of outdated programs, development of new activities, and appropriate assignments of responsibility for the

collection of education statistics....
"...the Office of the Assistant Secretary for Education may well be the most logical locus of responsibility for leadership of the proposed interagency effort..." (2)

A move in this direction would be a very positive step toward reducing the reporting burden on institutions and toward developing a more coordinated federal approach to postsecondary education in general. Under the current arrangement, which seems piecemeal at best, institutions face problems when completing reports for the several federal agencies: problems in definition of terms, differences in format, differences in necessary data base components, and differences in accounting procedures. A more coordinated federal approach is the only answer.

- Social Program Information:

In the past ten years the federal government has legislated and implemented a number of social programs designed to improve the condition of the citizens. These programs, related to social goals such as equal employment opportunity, non-discrimination, social security, environmental protection, and occupational safety and health, apply to organizations throughout our economy -- not only to educational institutions.

Compliance with regulations of these programs generally requires information reports or audits to be submitted to the appropriate agency of the government. Such program compliance requirements are thus similar to the data requirements covering

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(2) Statistical Policy Division, Office of Management and Budget, Statistical Reporter, Number 77-7, Washington, D.C.: April, 1977, p. 33-37.

general institutional accountability. However, in addition, these programs require reforms or actions to be undertaken by the institution to meet federal expectations for social progress. The necessary institutional reforms or actions cause these types of programs to be among the most costly to administer of all federal activities.[3]

There are three distinct aspects of the institutional administration of the federally mandated social programs:

-- Procedural mechanisms must be in compliance with federal requirements

-- Reforms may be necessitated in order to comply with federal requirements

-- The legislation and regulations inherently suggest that progress toward particular social goals ought to be measured quantitatively.

In reality, many campuses get bogged down in meeting the procedural compliance requirements and frequently lose sight of the higher level social good that the procedures are designed to attain. This is no small problem, for in a number of these social programs (such as Affirmative Action), the emphasis of federal requirements is on the administrative/procedural side, and not on the actual social progress that is to be achieved. An alternative approach would reflect regulations that set

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(3) Van Alstyne, Carol and Coldren, Sharon L., The Costs of Implementing Federally Mandated Social Programs at Colleges and Universities, Washington, D.C.: American Council On Education, 1976.

general expectations to be met under institutional administration, and individual institutions would design and implement their own procedures to meet these federal expectations within the operational style of that institution. Federal investigations could be undertaken in individual cases where evidence indicated the spirit of the law or regulation was not being addressed in good faith.

Institutions of higher education must face the reality that administering these social programs is very costly. Business and industry can pass these costs along to consumers or they can alter their management and production processes in order to find the resources to implement these programs. Higher education, as a non-profit endeavor, is in a very different position. We do not like to pass along these costs to our consumers in the form of higher tuitions; we ought not to alter our resource allocation in any way that will endanger educational quality, and yet as a result of these federal mandates, we are faced with the need to increase our administrative capacities.

II. CURRENT EFFORTS UNDERWAY TO ALLEVIATE THE BURDEN OF FEDERAL REPORTING.

Several governmentally and privately sponsored studies have recently been made which focus on general and specific aspects of federal regulatory, administrative, or reporting requirements.

Within the Administrative branch we have witnessed the report of the HEW Work Group,[3] and the Interagency Task Force,[4] as well as the policy guidelines announced by OMB.[5] HEW Secretary Califano has recently announced "Operation Common Sense", a major attempt to reassess all regulations within the Department of Health, Education and Welfare; Commissioner Boyer of the U.S. Office of Education has also ordered a reduction to no more than three data reports per year for each program administered through USOE.

On October 9, 1977, President Carter approved, in principle, a plan to change the way in which the government prepares and issues regulations. A provision of that proposal requires all agencies to publish semi-annual notices describing the areas in which new regulations are being considered. A second provision would require new regulations, the economic consequences of these regulations and possible alternatives

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(3) Report of the Secretary's Work Group for Consolidation and Simplification of Federal Reporting Requirements for Institutions of Higher Education, Washington, D.C.:October, 1976.

(4) Report of the Interagency Task Force on Higher Education Burden Reduction, Washington, D.C.: December, 1976.

(5) Statistical Policy Division, Office of Management and Budget, Federal Statistics - Coordination, Standards, Guidelines, Washington, D.C.: 1976.

Statistical Policy Division, Office of Management and Budget, Framework for Planning U.S. Federal Statistics 1978-1989, Section III, Functional Area (Education), Washington, D.C.: May, 1977.

to them. A third provision would require the agencies to make periodic reviews of their regulations to see which could be eliminated or simplified.[6]

Within the Legislative branch, the Commission on Federal Paperwork was established by the Congress in December of 1974

> "to look into paperwork requirements and recommend changes in federal information policies and practices toward minimizing federal reporting burdens while still providing government with necessary and, where possible, better information." (7)

This Commission has been chaired by Representative Frank Horton (R-NY) and has included thirteen other congressmen, government officials and leaders of private industry and labor. In addition to examining several areas that parallel those being studied by the Interagency Task Force, the Commission has reviewed a number of topics. Their report was issued in April 1977 and their recommendations focus on four problem areas: grants and contracts, student aid, non-discrimination, and management controls.

In the area of student consumer protection, the Fund For The Improvement of Postsecondary Education (FIPSE), supported the work of a National Task Force which conducted a series of

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(6) On November 18, 1977, after this paper was delivered at the annual meeting of the Northeast Association for Institutional Research, President Carter issued a new executive order on the topic of improving government regulations (see The Federal Register, Volume 42, Number 223, November 18, 1977, p. 59740-59746.

(7) NACUBO Special Report 77-3, National Association of College and University Business Officers, Washington, D.C.: February, 1977.

studies relating to the information needs of students and potential students, the kinds of information institutions provide to students and potential students, and the ways in which institutions can better serve the student decision making process.[8] Although this was a demonstration project, the Task Force did offer a set of recommendations relating to student consumer information efforts. Three in particular are directed toward governmental policy makers:

-- "Recognize that better information requires flexible response and that widespread voluntary action by institutions could produce significant improvements in the information that students receive.

-- Support programs to improve counseling, advising and consumer education of students and to increase student skills in evaluating and deciding among their options for postsecondary study.

-- Sponsor research to clarify what information is needed by students for intelligent decisions and to determine how that information can be provided effectively."[9]

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(8) El-Khawas, Elaine H., Better Information for Student Choice: Report of the National Task Force, National Task Force On Better Information for Student Choice, funded by the Fund for the Improvement of Postsecondary Education, Conference Review Copy, March, 1977.

(9) Ibid, p.80.

The National Task Force on Student Aid Problems, also known as the Keppel Task Force, was an independent effort to address student aid issues.[10] This Task Force focused primarily on student aid delivery systems and sought ways in which applicant confusion could be reduced, management procedures could be improved and made more efficient, and decision processes could be facilitated. The fundamental recommendation of this group was to adopt a Student Common Data form -- that is, a single form for application for financial aid that would be adopted by all agencies giving out aid awards.

The major force of all these recommendations may be summarized as concentrated on six important topics:

-- Costs of administering federal programs: Cost implications should be evaluated for all new laws and regulations. There is real question about whether some current policies would have been adopted if policy makers had been aware of the cost impact.

   Administrative cost subsidies to institutions should be funded for federally mandated administrative requirements.

-- Participation: In order to best meet the needs of both the federal agencies and the higher education institutions, there must be greater institutional involvement in the entire legislation/regulation-making processes.

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(10) Keppel, Francis (Chairman), National Task Force on Student Aid Problems, 1975.

-- Oversight: Administrative regulations and data collections frequently do not coincide and go beyond legislative intents. Congressional oversight is essential to this process.

-- Centralized coordination: All the groups studying the education paperwork burden have recognized that a fundamental problem is the lack of a single coordinating unit for federal education data collection and dissemination.

-- Terminology: Inconsistencies exist in data definitions and classifications across agencies and from year to year. This significantly increases the reporting burden, since for each difference or change in terminology, additional personnel and computer resources must be devoted to revising and modifying the institution's reporting processes. Standardized data elements, terms and definitions to be used by all federal agencies should reflect the commonly or generally accepted usages within the higher education community.

-- Timeliness:

Lead Time: Institutions need to be given sufficient lead time in order to adequately respond to governmental requests for information.

Timely Availability: Institutions and others concerned about education need to have timely access to the data and information collected by the federal government in

order to plan and coordinate educational policies and programs.

III. SUMMARY AND CONCLUSION

The preceding discussion identified a taxonomy of the kinds of federal reporting requirements and a framework for assessing the implications for institutions of higher education. A wide range of congressional, administrative and other study activities that address the burden of federal reporting requirements have also been reviewed.

The time has come for colleges and universities to shift from a reactive posture to a more direct role or we'll be accused of delaying tactics. We must move from criticism to performance and we are not very well prepared to do so.

We're not organized in a fashion which parallels the policy issues. For example, to respond to student consumer information regulations that require: financial aid/tuition policies, academic program descriptions, calendar of operations, student retention rates, job placement statistics, involves, at Syracuse University at least, the following people: the vice-president for admissions and records; the registrar; the director of admissions, the director of financial aids, the manager of student records; several placement directors; administrative data processing; budget and planning; deans; several vice-chancellors - in addition to ourselves. And, probably none of these offices presently receive the Federal Register.

This means, at the very least, that for institutions to respond they need an initiator, a convenor, a synthesizer -- and that suggests to me some possible roles for institutional research.

As Steve Bailey stated in his lecture "Higher Education Policy: The Unfinished Agenda",[11]

> "Few will question that the government's machinery for insuring compliance is grimly inefficient and often contraproductive. But there is no simple syllogism that moves from the premise of "government bungling" to the conclusion that we ought to drop the whole business and get back to the status quo ante.
> The unfinished policy agenda for government regulation is not to scrap all regulations. It is the maddeningly difficult task ... working with and through all three branches of the federal government in developing alternative and more effective ways of approximating the norms of the nation's evolving social conscience. This will mean placing a greater burden of self-policing on individual institutions and institutional systems."

Once we have recognized and accepted the fact that the institution's role is essential for any further serious consideration of reporting burdens, the next phase will require identifying an individual or group of individuals who will develop the capacity to respond, to perform, to analyze and to communicate the institutional reactions and proposals for governmental reporting requirements. This will be an important step in the institutionalization of university/govern-

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[11] Bailey, Stephen K., "Higher Education Policy: The Unfinished Agenda", Maxwell School Lecture, Syracuse University, July 19, 1977, reprinted in The Record, Syracuse University, Volume VIII, Numbers 4, 5, 6, 7, 1977.

mental interfaces.

-- If we argue that universities and colleges are over regulated and it is in the mutual interest of the government and academe to develop screening devices that will concentrate monitoring efforts where the incidents of abuse and/or neglect are more probable

-- If it is true that the purposes for regulation must be more clearly delineated by legislators and rule makers so that required information or mandated practices will actually curtail abuse, achieve social objectives and/or improve student choice

Then, institutions must understand the intentions of the law; students must take advantage of the information; and mandated practices must be purposeful and practical.

In order to best meet the needs of both governmental agencies and higher education institutions, there must be greater institutional involvement in the entire legislation/ regulation making process.

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SYMPOSIUM ON GOVERNMENT REGULATIONS AND REPORTING REQUIREMENTS

"The Institutional Viewpoint"

Lois E. Torrence
University of Connecticut

A short piece of commentary titled "Get Rid of the People and the System Runs Fine" in the August, 1977 Smithsonian Magazine[1/] included several examples of systems impact on common sense which I want to share with you. First, a British bus company received complaints about drivers who blithely passed up queues of waiting passengers. The bus company response was simple: drivers can't meet their schedules if they have to stop for passengers! In another case, a Middle Eastern country experienced a local shortage in other than "standard" dress shoes sizes for airmen -- so locally controlled air force promotion was decided on how well foot size matched dress shoe supply.

Finally, the author cites the story of George Birmingham, novelist, essayist and clergyman in Ireland years ago. In his capacity as a clergyman he had to report annually on the educational activities and facilities of his parish. After reporting for two years on the dimensions of the schoolroom, he responded in the third year by saying, in effect, "the same as last year". The authorities refused to accept that response -- they had to have "numbers". Over the next several years, George Birmingham reported figures which doubled the size of the classroom each year. In a few years, the classroom was reported as larger than St. Paul's Cathedral. Then he reversed the process and eventually reported a classroom the size of a tourist trunk. At no point did the authorities question the figures. In fact, no one needed the information but the system called for it and therefore the system had to be satisfied.

1/ Patrick Ryan, "Get Rid of the People and the System Runs Fine", Smithsonian Magazine, August 1977.

There are lessons here for all of us -- both at the institutional level and at the various governmental levels.

On the campus, how many of us ask each year for departmental or school data which are either obviously the same as the previous year (space assignments on a small campus) or which we do not use but we continue to request "because we always have". Before we challenge our local, state, and federal colleagues, we do need to take a good look at our own practices on the campus. But that is not the purpose of this panel.

What are the points of conflict -- the issues -- in federal/state/institutional relations?

Without attempting to be definitive, I would mention:

Legislative extension of social policy decisions to higher education.

Executive regulations going beyond the clear intent of Congress.

Failure of federal and state officials to recognize the fact that the increased costs generated by reporting requirements can be recovered in higher education only by higher tuition or reduced services.

Encroachment on institutional "autonomy" and on internal operations.

Failure of institutions to help define what is needed at state and federal levels for monitoring, enforcement, and evaluation.

Reliance on quantitative measures -- without reference to the context and, indeed, without reference to the "footnotes" which should be appended to every set of data.

More and more detailed reporting, recordkeeping, assurances, and other paperwork.

Higher education is not structured to be an effective special interest group at any level, but this is particularly the case at the federal level. And I doubt if it should try to be -- this would suggest a conformity, a commonality which in fact exists only in the most fundamental of our responsibilities, that is, the instructional function. But our diversity means that even that function is handled differently from institution to institution. In my judgment this is the way it should be. But in the absence of the image presented by strong special interest groups, higher education institutions will have to cast their lot with the self-help category.

We need to challenge our own institutions to take advantage of the broader opportunities we now have to react to proposed regulations -- indeed, to the notice of intent to propose regulations which HEW, for example, is now utilizing. We need to develop a means for sharing the burden of monitoring the Federal Register and of preparing the subsequent comments. We also need to document -- through case studies, perhaps -- the problems, and costs, entailed in meeting present regulations. A recent article in the Educational Record by Henry Solomon is an excellent example of the kind of study federal bureaucrats say they must have if they are to believe our complaints. Dr. Solomon spells out the impact of federal regulations on George Washington University.

Two examples will suffice to illustrate the problems.[2/]

> ...By far the most serious example ... of inconvenience occurred in June 1975 when the Office of Civil Rights (OCR) notified us that they had not had time to undertake the required compliance review prior to awarding federal contracts, and they therefore in effect required as a condition of receiving funds that the university agree to submit an affirmative action plan based on the "Berkeley model."

[2/] Henry Solomon, "The Growing Influence of Federal Regulations", Educational Record, Summer 1977.

> This agreement could not possibly have been signed by the university because it contained untrue admissions of noncompliance as well as a waiver of the rights of hearing and due process, which are guaranteed by the legislation. ... Obtaining the data would have cost the university thousands of dollars -- if it could have been obtained at all. After we and about thirty other affected institutions raised a storm of protest, the responsible federal agencies jointly modified ... the agreement ... The reasonableness of the final documents when contrasted with the initial requirements highlights the unreasonableness of those original demands.
>
> ...
>
> In responding to a complaint against our law school, investigative offices asked for records of all students who had attended the law school during the previous three years. ... This initial demand, which amounted to more than 3,000 records, was modified after discussion to about 1,400 records. The law school then had to go to great lengths to make individual records anonymous. One team of investigators did not even take this stack of records with them after their visit. The District of Columbia compliance agency asked for the same data at least four times, for four different investigators. Apparently these duplications were caused by investigators' resignations or reassignments or by inadequate record keeping.

Dr. Solomon concludes -- after extensive review of the George Washington University experience -- that while there certainly are significant plusses from the federal-institutional relationship, the costs are difficult to measure, but they are indeed real, not imaginary.

Among the kinds of institutional "costs" most difficult to measure are those related to "over-kill" and those stemming from needless frustration.

The Federal Paperwork Commission report related to education includes the following[3/]:

> Self-evaluation. In addition to surveys and assurances, Title IX required every institution receiving Federal financial assistance to conduct a self-evaluation by July 21, 1976, ...

3/ A Report of the Commission on Federal Paperwork: Education, April 29, 1977. U.S. Government Printing Office, Washington, D.C.

> HEW did not prescribe the exact mode of conducting a self-evaluation. However, a recommended format, prepared under an Office of Education contract and used by many institutions, was promulgated in a 148-page book, *Complying with Title IX/Implementing Institutional Self-Evaluation*. Conducted nationally, the suggested format would have required some 13,546,292 pages of paper (148 pages per school, multiplied by 91,529, the approximate number of public elementary and secondary schools, and colleges and universities in the country).

Small wonder that the federal government decided that the Title IX self-evaluation should remain in local hands and not be submitted to OCR.

The University of Connecticut experience with Title IX assurance of compliance has been exasperating. First, a bit of background. Until three years ago, the University completed separate HEGIS reports for enrollment at Storrs and each of our five two-year branches. We did not report staff or financial data by location, however. It seemed to me better to drop the separate branch reporting for enrollment and thus have single reports for all of HEGIS [except, I must admit, for our Health Center which includes the Schools of Medicine and Dental Medicine.] At any rate, I followed the proper procedure, obtained NCES concurrence with the change and I settled down to what I believed would be a simpler life.

Then came EEO-6 with its instructions to report each location separately. EEO finally agreed to accept one consolidated report after I had supplied them with copies of the NCES correspondence. While this process created some paperwork, it was resolved fairly expeditiously. Then came Title IX, administered through the Office of Civil Rights in HEW. We initially received six requests (Storrs and five branches) for assurances of compliance. Our President signed one form for the University and submitted copies of the

letters from NCES agreeing to single HEGIS reporting for the University. Our branches, however, continued to receive progressively more threatening form letters from OCR insisting we had not filed. Indeed, the form the University had filed was "lost." In the ensuing months, the University assurance was lost twice. After it was sent by certified mail and received, we then were asked to complete the controversial and outdated form which would have committed the University to assurance of compliance with all future regulations as well as those now in effect. We demurred. We think -- but we can't be sure -- that we are now properly on file with one University form for compliance with current regulations and that our branches have been saved from "extinction" via the heavy hand of the federal government. To the extent that this is a typical experience, institutions and the agency are diverting significant amounts of energy from the substantive program intent.

The growing demands by governmental bodies may place public institutions in greater jeopardy than private institutions. But even that is less clearcut than it used to be. The jeopardy I am referring to is that which stems from the institutional effort and manpower required to meet the increasing demands from the "system" for data, for reports, for indices, for pre-audit and for post-audit, for open-ended assurances of compliance with future, undefined conditions, for -- well, each of us can continue the litany. Dwight Smith's reference yesterday to the new reporting requirements on space utilization in New York are illustrative of the problem.

How much of this needed? How much is requested just to fill in another blank on yet another form? How much of the information is actually used? How much should be used? Does the requestor already have the information in another "pocket?" I recall the story my father told. When a young

man in college, he was careful with his money and, knowing this, fellow students often asked him for a small "loan", but with little intent to repay. He solved the problem by "naming" one pocket "The World", then keeping his money in another pocket and, quite truthfully, responding to requests with "I haven't a cent in 'The World'." Agencies -- and our own institutions -- often act as if data do not exist even when they, or we, have them in "another pocket."

Many of the institutional problems with federal regulations, reporting and record-keeping requirements are mirrored at the state level. And the mirror analogy is an apt description of what often happens. State reporting or accountability requirements may be the reverse of the federal requirements -- or they may be the image from the mirror of the "fun house" with its distortions, either subtle or grotesque. The needs do differ but the real needs often are not well-defined at either level. Even when well-defined, the match between needs and available data may be marginal.

The challenge to the institutional researcher is to find ways to describe our institutions in meaningful terms and then to demonstrate that our professional judgment and competence have value externally as well as internally. Numbers -- without an analytical context -- simply will not do the job which must be done. We must be able to counteract the continuing pressures for conformity. We must be able to say why certain oft-used, and abused, "measures" do or do not accurately reflect our institutions. We must not forget, nor let others forget, that behind every number, every index, are people whose obligations and aspirations cannot be captured in an "average".

Dollars per student tell us more about mission than they do about management. Student credit hours tell us more about size than they do about style. Course offerings tell us more about opportunities than they do about operations. Average class sizes tell us more about the institutional researcher than they do about the institution.

And yet we continue to produce numbers as if they were answers -- as if they had some intrinsic value and meaning. And agency personnel continue to use these numbers with discouragingly little evidence that they understand the slenderness of the reed on which they are leaning.

We can start by de-emphasizing the simplistic "count" in the use of accountability. We should stress accessibility, acceptability, responsibility and just plain ability -- not just "count-ability".

We need a shared definition of responsibility based on awareness that responsibility is not a one way street for either party. If we do not make our case, no one will.

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New England Regional Office

TWO-YEAR COMPARISON OF THE CHARACTERISTICS OF NEW ENGLAND COLLEGE-BOUND SENIORS AND PROSPECTIVE APPLICANTS TO NEW ENGLAND INSTITUTIONS OF HIGHER EDUCATION

Prepared by
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For presentation at the:

Fourth Annual Conference
of the
Northeast Association for Institutional Research
New England Center for Continuing Education
Durham, New Hampshire

October 29, 1977

Secondary and Post-Secondary Students in New England

High on any list of New England's major attractions stands its reputation as a center of higher learning for the nation. Annually, the College Board provides information about the activities, interests, socio-economic background, test scores and educational plans of the approximately one-million high school seniors who participated in its Admissions Testing Program (ATP) sometime during their high school years. Through the Summary Report Service of the Admissions Testing Program, profiles of these college-bound seniors are provided for the nation, for each of the six geographical regions as delineated by the College Board, for each state and for many high schools.[1] Additionally, colleges receive summary reports describing students at five consecutive stages of the admissions process: prospective applicants (those who request that an ATP score report be sent to an institution), those who apply, those who are accepted, those who enroll, and those who continue through their freshman year (persisting freshmen).

In 1976, the New England Regional Office of the College Board, in cooperation with the New England Board of Higher Education, "a public agency established and ratified by U.S. Congress in 1955 to develop, direct and promote activities which increase educational opportunities and efficiently utilize all of the region's higher educational facilities",[2] created three profiles of prospective applicants to the more than 260 public and private post-secondary institutions in New England. The three profiles are for, prospective applicants to <u>all</u> New England post-secondary institutions, prospective applicants to <u>private</u> New England post-secondary institutions, and prospective applicants to <u>public</u> post-secondary institutions in New England.

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1. A summary report is sent to each high school from which at least 100 seniors participated in the ATP during their last three years. An abbreviated version of the report is sent to each high school from which 50 to 99 seniors participated during those years.

2. New England Regional Student Enrollment Report 1976-77, compiled and edited by Jeanne M. Burns, Feb. 1977.

Our comparison of these three profiles with that of the New England college-bound seniors for both 1976 and 1977 has served to confirm the nationwide appeal New England higher education has for college-bound students.

In 1977, there were 121,030 New England college-bound seniors, about 62% of the graduating high-school seniors in New England, who had registered for the ATP anytime during their high school years. (124,239 or about 64% in 1976). New England institutions of higher learning received 186,541 ATP score reports in 1977 (prospective applicants) and in 1976, 188,021 ATP score reports from the national population of graduating seniors. In each instance, the count was unduplicated.

If one were to make the assumption that every New England college-bound senior was a prospective applicant to at least one of the region's post-secondary institutions, that would account for about two-thirds of the expressed prospective interest in the pursuit of higher education in New England in both years.

- In 1977, New England produced 5.9% of the nation's high school graduates (165,169 in New England, 2,823,023 in the nation).[3] In 1976, New England produced 6.3% of the nation's high school graduates (193,127 in New England, 3,062,000 in the nation).[4]
- New England produced 11.8% in 1977 and 11.7% in 1976, of the college-bound seniors nationally who participated in the ATP (121,030 in New England and 1,027,962 in the nation in 1977, 124,239 in New England and 1,063,488 in the nation in 1976).
- New England institutions received more score reports, 18.1% (186,541) from the national pool of prospective applicants (1,027,962) in 1977 than in 1976 when they received 17.7% of the total (188,021 out of 1,063,488).

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3. Digest of Educational Statistics, 1976 edition, U.S. Dept. of Health, Education and Welfare, Table #65, 1974-1975

4. Digest of Educational Statistics, 1976 edition, U.S. Dept. of Health, Education and Welfare, Table #61, 1973-1974.

The interest of prospective applicants appears to be a good indication of future enrollment. An extensive study of the residence and migration of students in New England institutions of higher education in the Fall of 1975, found that 18.1% of the total enrollment, both undergraduate and graduate, was from other parts of the United States and foreign countries. Although a greater number of students was attracted to the region's higher educational institutions from outside New England in 1975 (124,499) than in 1968 (97,775), they constituted a smaller percentage in 1975, 18.1% of the region's total enrollment compared with 22.6% in 1968. This represents a decline of 4.5% in the relative percentage of out-of-New England total enrollment from 1968 levels.[5]

What do we know about the background, educational and socio-economic interests and aspirations of the students coming to New England for their post-secondary education? A comparison of the summary report profiles of New England college-bound seniors and prospective applicants to all New England institutions, public institutions, and private institutions, offers insight into the characteristics of those students attracted to the region in pursuit of higher education. Student profiles were derived from summaries of the responses students supplied to the Student Descriptive Questionnaire (SDQ) which they completed when registering for the Admissions Testing Program (ATP), from their test results, and from registration form information.

In 1977, 79.0% of the college-bound seniors in New England (73.8% in 1976) and 85.2% of the prospective applicants to all New England post-secondary institutions (81.5% in 1976), responded to some part of the SDQ. From an

5. The Residence and Migration of Students in New England Institutions of Higher Education Fall 1975 with New Migration in the Northeast and Comparisons to 1968, Robert L. Melican, New England Board of Higher Education, 40 Grove Street, Wellesley, MA 02181.

examination of these two major sets of profiles (New England College-Bound Seniors for 1976 and 1977, Prospective Applicants to all New England Post-Secondary Institutions 1976 and 1977) summarized SDQ information, and test results, we are able to make some comparisons as to the background, test scores, class rank, educational goals, intended area of study and finances.

BACKGROUND:

	1977	1976	
Males Comprised	46.5%	49.3%	of college-bound seniors in N.E.
Males Comprised	52.5%	53.4%	of prospective applicants to all post-secondary schools in New England
	52.8%	53.8%	of prospective applicants to private post-secondary schools in New England
	50.1%	50.8%	of prospective applicants to public post-secondary schools in New England

1977	1976	
81%	81%	of college-bound seniors in N.E. attended public secondary schools
78%	79%	of prospective applicants to all post-secondary schools in New England
76%	76%	of prospective applicants to private post-secondary schools in New England
83%	83%	of prospective applicants to public post-secondary schools attended public schools

	1977	1976	
New England Residents Comprised	100%	100%	of college-bound seniors in N.E.
New England Residents Comprised	50.4%	50.8%	of prospective applicants to all post-secondary schools in New England
	47.1%	47.4%	of prospective applicants to private post-secondary schools in New England
	79.0%	78.0%	of prospective applicants to public post-secondary schools in New England

1977	1976	
6.4%	6.0%	of all college-bound seniors in New England described themselves as members of an ethnic minority
10.2%	9.5%	of prospective applicants to all post-secondary schools in New England described themselves as members of an ethnic minority
11.3%	10.6%	of prospective applicants to private post-secondary schools in New England described themselves as members of an ethnic minority
6.1%	5.8%	of prospective applicants to public post-secondary schools in New England described themselves as members of an ethnic minority

For each of the prospective applicant groups and for the N.E. college-bound seniors, the minority representation is higher for males than for females.

TEST SCORES:

TABLE I

TEST MEANS

Test	New England College-Bound Seniors		Prospective Applicants to N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	197
SAT-Verbal (SAT-V)	432	435	472	474	483	486	437	44
SAT-Math (SAT-M)	468	477	513	517	524	558	478	48
Test of Standard Written English (TSWE)	43.6	43.8	46.6	46.7	47.5	47.6	44.1	44.
Achievement Test Average (ACH $\overline{X}$)	508	516	544	552	549	558	502	51
English Composition Test (ECT)	496	516	526	547	532	554	487	51

The Scholastic Aptitude Test (SAT) is a 2-1/2 hour multiple-choice examination, made up of verbal and mathematical questions. The verbal questions measure how well the student understands and interprets what he reads and the extent of his vocabulary. The mathematical questions measure quantitative abilities closely related to college work.

The Test of Standard Written English (TSWE), is a thirty-minute multiple-choice exam administered with the SAT. The questions evaluate the student's ability to recognize standard written English, the language of most college textbooks and the English the student will probably be expected to use in the papers he will write for most college courses. In 1976, the TSWE was recommended for placement purposes.

Achievement Tests are offered in fifteen subject areas; American History and Social Studies, Biology, Chemistry, English Composition, European History and World Cultures, French, German, Hebrew, Latin, Literature, Mathematics - Level I and II, Physics, Russian, Spanish. Each is a one-hour multiple-choice test made up of questions that measure knowledge in a particular subject and the ability to apply that knowledge. Colleges that require achievement tests of their applicants for admission, usually suggest that the student takes the English Composition Test and any two others. Both individual ACH test scores and an ACH average are reported on the student's score report.

- In both years, means for all tests were higher for prospective applicants to private New England colleges than for the two other prospective groups and for New England college-bound seniors.
- There was a decline of all test means in Table I from 1976 to 1977.
- New England college-bound seniors had lower SAT-V, SAT-M and TSWE means in both 1976 and 1977 than any of the three prospective applicant groups.
- In both 1976 and 1977, New England college-bound seniors had higher means for Achievement Test Average and the English Composition Test than did the prospective applicants to public colleges in New England.
- In both years, New England college-bound seniors had lower means for Achievement Test Average and the English Composition Test than did the prospective applicants to all New England and private New England colleges.

TABLE 2

PERCENTAGE OF SAT VERBAL SCORES AT TWO EXTREMES

Score Range	New England College-Bound Seniors		Prospective Applicants to N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
600 and above	8	8	16	17	19	19	8	8
400 and below	39	39	27	27	23	24	34	35

TABLE 3

PERCENTAGE OF SAT MATH SCORES AT TWO EXTREMES

Score Range	New England College-Bound Seniors		Prospective Applicants to N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
600 and above	14	14	28	28	30	32	16	17
400 and below	29	28	19	19	16	15	26	23

- There was little change in the proportion of students in both high and low SAT score ranges from 1976 to 1977. In 1977, 30% of the prospective applicants to New England's private institutions had SAT-M scores of 600 or above compared with 32% in 1976; and 26% of the prospective applicants to New England's public institutions had SAT-M scores of less than 400, an increase of 3% over the 1976 proportion.

CLASS RANK:

TABLE 4

STUDENT SELF-REPORTED RANK IN CLASS (PERCENT)

Self-Reported Rank in Class	New England College-Bound Seniors		Prospective Applicants to N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
Top-Tenth	17.9	17.8	30.1	29.9	33.8	33.8	19.0	19.2
Top-Fifth	39.4	40.8	53.2	54.6	56.9	58.5	42.3	44.2
Median Percentile Rank (MPR)	72.6	73.9	81.3	81.8	82.9	83.4	74.7	76.2

- Almost three-fifths of the prospective applicants to private colleges in New England reported themselves in the top-fifth of their high school class, compared with two-fifths of New England college-bound seniors and slightly more than half of the prospective applicants to all New England colleges.

- In all four groups studied, proportionately fewer students ranked themselves "top-fifth" in 1977 than in 1976, and the median percentile ranks (that point above and below which stand 50% of the students) decreased in 1977.

EDUCATIONAL GOALS:

TABLE 5

STUDENT PLANNED COURSE OF STUDY (PERCENT)

Planned Course of Study	New England College-Bound Seniors		Prospective Applicants to N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
2-yr Program	9	10	5	6	4	4	7	7
BA or BS	32	30	27	26	25	23	34	32
Graduate Study	34	34	49	49	54	54	37	38
Undecided	25	26	19	20	18	19	22	23

- Prospective applicants to New England colleges are less likely to be undecided about their future educational plans than are New England college-bound seniors.

- For all four populations studied, graduate work is planned by a majority of the students.

INTENDED STUDY AREA:

TABLE 6

FIVE MOST POPULAR INTENDED STUDY AREAS (PERCENT)

Interest Area	New England College-Bound Seniors		Prospective Applicants for N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
Health and Medical	17.6	18.6	16.6	17.0	16.8	17.3	17.0	17.2
Business and Commerce	14.8	12.9	12.6	11.0	13.2	11.5	13.6	11.9
Engineering	7.4	7.3	9.8	9.5	9.9	9.6	8.8	8.6
Social Sciences	8.8	7.4	10.6	8.7	11.7	9.4	8.6	7.5
Education	9.9	9.7	6.8	7.5	6.0	6.5	9.7	10.3
Total	57.7	55.5	56.4	53.7	57.6	54.3	57.7	55.5

- Health and Medical continued to be the most frequently mentioned area of intended study for all four populations, and Business and Commerce again ranked second.

- In 1977, Education remained third in popularity for prospective applicants to N.E. public colleges and for N.E. college-bound seniors and remained fifth choice for prospective applicants to all and private New England colleges.

- In 1977, a greater proportion of prospective applicants to all N.E. and private N.E. colleges ranked Social Science ahead of Engineering as an intended study area. In 1976, Engineering was ranked before Social Science by these two groups.

- In 1977, a greater proportion than in 1976, of all four groups intended to specialize in one of these five study areas.

TABLE 7

MALE AND FEMALE INTEREST IN FIVE INTENDED STUDY AREAS
PERCENTS IN 1977

Interest Area	New England College-Bound Seniors		Prospective Applicants for N.E.					
			All		Private		Public	
	M	F	M	F	M	F	M	F
Health and Medical	8.3	25.7	11.0	22.6	12.4	21.7	7.8	25.8
Business and Commerce	17.0	12.9	14.6	10.6	15.3	10.8	16.1	11.2
Engineering	14.9	1.1	17.0	2.1	16.8	2.3	16.9	1.2
Social Sciences	9.8	8.0	11.2	10.1	12.3	11.0	9.1	8.1
Education	4.6	13.1	3.1	10.8	2.7	9.6	4.6	14.5
Total	54.6	60.8	56.9	56.2	59.5	55.4	54.5	60.8

- Academic interest area preferences exhibit differences by sex, with the greatest differential for all four populations in Engineering.

- Males in all three prospective applicant populations chose Engineering most often as their intended field of study, followed by Business and Commerce. College-bound male seniors in New England preferred Business and Commerce and then Engineering.

- Females in all four populations studied chose Health and Medical most often, followed by Education for all but prospective applicants to the private sector. The latter group designated Social Sciences and Business and Commerce before Education as an intended field of study.

FINANCES:

TABLE 8

MEAN PARENTAL INCOMES FOR THREE ETHNIC GROUPS

Ethnic Group	New England College-Bound Seniors		Prospective Applicants for N.E.					
			All		Private		Public	
	1977	1976	1977	1976	1977	1976	1977	1976
Minorities	$11,821	$11,460	$16,316	$15,031	$16,780	$15,361	$12,750	$12,218
White	$19,900	$18,500	$24,500	$22,700	$25,600	$23,800	$20,500	$19,100
All Students	$19,400	$18,100	$23,700	$22,000	$24,600	$22,900	$20,000	$18,700

- New England college-bound seniors reported lower mean parental incomes in both years than any of the prospective applicant groups studied.

- Prospective applicants to New England's private institutions reported the highest mean parental incomes for all four populations in both years.

- In 1977, 20% of parents of prospective applicants to all New England post-secondary institutions were able to contribute $4,800 or more for their son's or daughter's education, compared with 22% and 12% respectively, of the parents of prospective applicants to private and public institutions in New England. Eleven percent of the parents of New England college-bound seniors were able to contribute $4,800 or more towards their offspring's education.

- Twenty-five percent of parents of prospective applicants to all New England institutions were able to contribute a maximum of $300 for their son's or daughter's education, compared with 23% and 29% respectively of the parents of prospective applicants to private and public institutions in New England. Thirty-two percent of the parents of New England college-bound seniors were able to contribute a maximum of $300.

LOOKING AHEAD:

The Summary Report Service of the College Board's Admissions Testing Program provides a uniform and comprehensive admissions data base for New England institutions of higher education due to their adherence to the ATP as an admissions requirement.

Individual institutions and groups of institutions can employ summary reports in making comparisons of the different admissions stages; comparisons

with other colleges or groups of colleges; comparisons with college-bound seniors at the state, regional and national levels; comparisons over time; and comparisons of up to six different sub-groups in each of the last four stages of the admissions process.

The profile of New England college-bound seniors was first produced in 1973. Among its many features is its description of the regional "market" from which institutions of higher education recruit students.

The three profiles of prospective applicants to New England institutions described in this paper were first produced in 1976 and will be produced each year to provide a continuous opportunity for comparisons over time. New England admissions officers and researchers will have available to them on an annual basis twenty-one tables of data for each of the three populations of prospective applicants.

Used separately, the profiles of college-bound seniors and prospective applicants will allow users to identify changes in both the numbers and characteristics of these important student populations. However, by commonly employing two sub-groups of the profiles of applicants, accepted applicants, enrolling freshmen and persisting freshmen to identify New England students and non-New England students in each of those stages, the Summary Report Service could easily follow student migrations and changes in student characteristics throughout the admissions process for individual institutions and the three populations of institutions of higher education identified in this paper.

Anyone interested in obtaining one or more of the following profiles of prospective applicants should contact the College Board's New England

Regional Office at the address found on the title page.

1976 All New England Higher Education

1977 All New England Higher Education

1976 Private New England Higher Education

1977 Private New England Higher Education

1976 Public New England Higher Education

1977 Public New England Higher Education

VARIOUS PERSPECTIVES ON THE GEOGRAPHIC DISTRIBUTION OF NEW ENROLLEES IN THE MASSACHUSETTS STATE COLLEGE SYSTEM 1975-1976

JEAN PAUL BOUCHER
MASSACHUSETTS STATE COLLEGE SYSTEM

In a time of retrenchment with enrollments stabilizing or declining and with costs rising faster than income, numerous alternative courses of action must be considered. For most institutions of higher education, the principal options are to increase student recruitment efforts, to reduce student attrition, to increase tuition, to reduce costs by staff reductions and by more efficient operation, and to secure additional funds from external sources.

The purpose of this paper is to examine the geographic distribution of new enrollees, freshmen and transfer students, to discover the major sources of new enrollees, the relative geographic concentration of new enrollees, those areas from which a relatively high or low percentage of students are attracted and the relative competition for students among the ten State Colleges and other public institutions of higher education in Massachusetts. It is assumed that this study with a visual presentation will facilitate the successful recruitment of students, the adequate provision of residential facilities, the determination of relative competition and the planning for programmatic specialization.

A few words about the distribution of state population and the location of the State Colleges provides a useful background. The total population of the Commonwealth in the 1970 Census was 5.7 million. Extrapolating from the Census data, we find 425,000 residents in the college age group 18-21 in 1975 with over 100,000 eighteen year olds. The Department of Education reported over 78,000 high school graduates in 1975 of which

half continued their education. The State Colleges enrolled 8,415 freshmen in fall 1975 of which approximately 6,000 were eighteen-year-old residents of the state. This represented approximately 15% of the college-bound high school graduates, 8% of all high school graduates and 6% of the freshman age group.

Since the number of eighteen year olds will peak in 1978, it is probable that enrollments in the State Colleges will decline unless change occurs in one or more of the following ways: an increase in the percentage of college-bound students attending the State Colleges, an increase in the percentage of high school graduates going to college, an increase in part-time enrollment at the State Colleges, an increase in transfer students, and an increase in the percentage of older students attending the State Colleges. Each of these five possibilities is affected by recruitment efforts.

Twenty-five percent of the state's population is west of Middlesex and Norfolk Counties while 16% is south of Norfolk County. Thus, 59% of the population lies in Essex, Middlesex, Norfolk and Suffolk Counties constituting 22% of the state's land area. The total enrollment of the four State Colleges in this area constitutes 47% of the total System enrollment. If Fitchburg's enrollment is added to the other four institutions, 58% of the total enrollment is represented. This leaves 16% of our enrollment on the south shore and 26% of our enrollment in the west.

Comparing the percentage distribution of our new enrollees by county of residence and the percentage distribution of college age population by county reveals where we are relatively successful or unsuccessful in attracting students. In Essex, Suffolk and Worcester Counties we attract a larger

percentage of new enrollees than the percentage of college age population in these Counties. However, in Bristol, Hampden, Middlesex and Norfolk Counties, which contain 60% more college age students than the three Counties above, our percentage of new enrollees is considerably less than the percentage of college age population in these four Counties. This may be a result of competition with other institutions of higher education in the latter four Counties, yet competition must also be high in Suffolk and Worcester Counties where our percentage was higher. It is possible that the population for Suffolk and Worcester Counties is underestimated, failing to take into account a sizeable influx of students from outside these two Counties establishing residence in these two counties.

Another factor may be per capita income. Middlesex and Norfolk Counties have the highest per capita income in the Commonwealth and provide relatively few students to the State Colleges. Available data from the Student Descriptive Questionnaire suggests that the State Colleges are the choice of the lower middle class. The self-reported family income of freshmen coming into the State Colleges is roughly four thousand dollars below the national average for four-year public institutions. In spite of this pattern, it would seem that recruitment efforts would be fruitful in those Counties providing a relatively low percentage of new enrollees.

On the third map we have placed the ten Standard Metropolitan Statistical Areas (SMSA's) designated by the Census Bureau in Massachusetts. As most of you know, an SMSA contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. The Census Bureau includes in an SMSA the central city and contiguous areas that are socially and economically integrated with the central city. The

Census Bureau publishes much data by SMSA as well as by county and municipality. The SMSA's reveal the major concentrations of population with some regional identity and integration. The Boston SMSA contains 48% of the total state population and the ten SMSA's combined contain 78% of the total population. Every institution except North Adams State College and the Maritime Academy are within an SMSA. Clearly, surrounding and nearby SMSA's are promising areas for increased recruitment efforts. With Census Bureau data on SMSA's, recruitment efforts can be targeted to specific population characteristics.

We have attempted to show the main sources of new enrollment by three visual devices. 1) The county lines are the first visual means for presenting the geographic sources of new enrollment. 2) A thick red line has been drawn around the cities and towns surrounding each State College that provide one-third of each State College's new enrollment. Each delineated area includes the cities and towns closest to each State College and most of the large sources of enrollment. The choice of one-third of the new enrollment instead of one-half or some other fraction was based on the fact that one-third of the new enrollment at Bridgewater, North Adams and Westfield constituted a large geographic area including cities and towns beyond easy commuting distance. A second reason for this smaller fraction is that county divisions provide additional components of the enrollment picture. 3) The colored circles provide the third means of demonstrating the sources of new enrollment. With each State College represented by a different color, the smaller circles are placed in the cities and towns that contributed 25 to 99 new enrollees, while the larger circles are located in cities and towns that contributed 100 to 316 new enrollees to a given College.

We have not drawn a red line around the Maritime Academy because its surrounding area does not contribute significantly to its new enrollment. The red line around the City of Boston includes 44% of Boston State College's enrollment and Suffolk County contributes 45% of the new enrollees at the College of Art.

The variations in the size of the one-third blocks surrounding each State College provide an impression of the density of its local enrollment. In the cases of Bridgewater and Fitchburg, the delineated areas would appear to encompass most of the commuter population. In the case of North Adams State College, Berkshire, Franklin and Hampshire Counties contribute only 36% of the College's total enrollment. However, large parts of these three Counties are beyond easy commuting distance of the College.

Westfield State College obtains only 39% of its new enrollment from Hampden and Hampshire Counties which contain some parts beyond easy commuting distance. The Maritime Academy is a residential institution drawing only 22% of its new enrollment from the surrounding Counties of Barnstable, Plymouth and Bristol.

Since colleges generally are more open to commuter students, it seems reasonable to conclude that Westfield, North Adams, Fitchburg and Bridgewater State Colleges are most dependent upon enrollment outside their surrounding geographic areas. Since this data is based on the residential address of enrollees, it does not indicate the demand for residential facilities which has generally been very high. A public institution is often required to demonstrate objective need as well as demand. The data shows clearly that

North Adams and Westfield State Colleges are dependent upon enrollees outside of their geographic regions. New enrollees from the four Counties in this area would barely meet the new enrollment of one of the two Colleges. However, less than a third could commute because of the distance.

An important reason for this study, as mentioned in the beginning, was to examine the relative competition for students among the ten State Colleges. Competition within the System is of considerable concern to members of the System and is often suggested by critics of the State Colleges. Even with the data available to a system of institutions, including programmatic choices of individual students from each municipality in the state, it is not possible to resolve the question definitively.

It is clear that the one-third blocks do not overlap. The location of colored circles illustrating the major sources of enrollment for each College shows overlap in only a few municipalities. Considering county data, new enrollees from Suffolk County constitute over 19% of the new enrollees at Boston, Bridgewater, Framingham and Salem State Colleges as well as the College of Art and the Maritime Academy. Looking at the data from a different perspective, we find that Boston State College received 46% of the residents from Suffolk County enrolling in the System, while Salem received 18% and Bridgewater received 11%. Does this represent heavy competition? It does demonstrate a relatively high enrollment from Suffolk County. Yet, in four nearby Counties, the ten State Colleges have obtained a relatively low percentage of enrollees considering the percentage of college age students in these Counties.

We explored in some detail the competition in the middle of the state between Fitchburg, Framingham and Worcester State Colleges. Framingham received only 11% of its new enrollment from Worcester County which provided 78% of Worcester's new enrollment and 36% of Fitchburg's new enrollment. Framingham attracted only 5% of its new enrollees from the municipalities providing 54% of Worcester's freshman enrollment. Worcester State College attracted 5% of its freshmen from Fitchburg's one-third area and 8% from Framingham's one-third area.

These figures do not indicate great overlap in sources of enrollment in the middle of the state but competition is a more difficult question. The percentage of enrollees from applications was examined to reveal differences and possible competition. Framingham enrolled 17% of the applicants from Worcester County, 22% from Middlesex County and 15% from Norfolk County. Fitchburg enrolled 32% of the applicants from Worcester County. These figures suggest a normal yield for Framingham and a relatively high yield for Fitchburg State College.

This data does not show the number of students who applied to only one of the three Colleges because of competition. Since our application process permits applicants to apply to one, two or three Colleges for the same application fee, it can be assumed that applicants will generally apply to the three local Colleges. This assumption was tested by scrutinizing the applications from one municipality surrounded by the three Colleges. Most applicants applied to two of the three Colleges. Of the majority who indicated their intended major, few students selected a program available at all three Colleges, and only half selected programs available at two Colleges. Thus, programmatic specialization appears to be an important factor.

The data does not provide a definitive answer to the degree of competition and the operation of programmatic specialization in this area. A sample survey of applicants would provide considerable insight into the perception of competition and the perception of programmatic specialization.

The last overlay displays the location of the fifteen Community Colleges, the University of Massachusetts at Amherst and Boston, Southeastern Massachusetts University and the University of Lowell. The overlap of some of these institutions with significant sources of new enrollees for the State Colleges suggests some competition, but also may indicate significant sources of transfer students. A study exclusively of freshmen should be revealing on this point.

In conclusion, these maps developed from available data through the application process present several dimensions of the new enrollment into the Massachusetts State Colleges. The analysis underlines areas of relatively successful recruitment and promising areas for future recruitment efforts. The variation in size of the one-third areas provides documentation of commuter population and the need for residential facilities. The competition and overlap of enrollment sources is suggested, but does not appear to be a major problem.

We clearly need to continue developing a comprehensive data base on enrollment patterns and sources. Furthermore, we need an external agency such as the Board of Higher Education to collect and disseminate data on public and private institutions of higher education to permit and encourage comprehensive and systematic planning. Unnecessary duplication and real and imagined competition can be avoided through clarification of institutional missions and goals and increased communication among institutions of higher education within regions and within states.

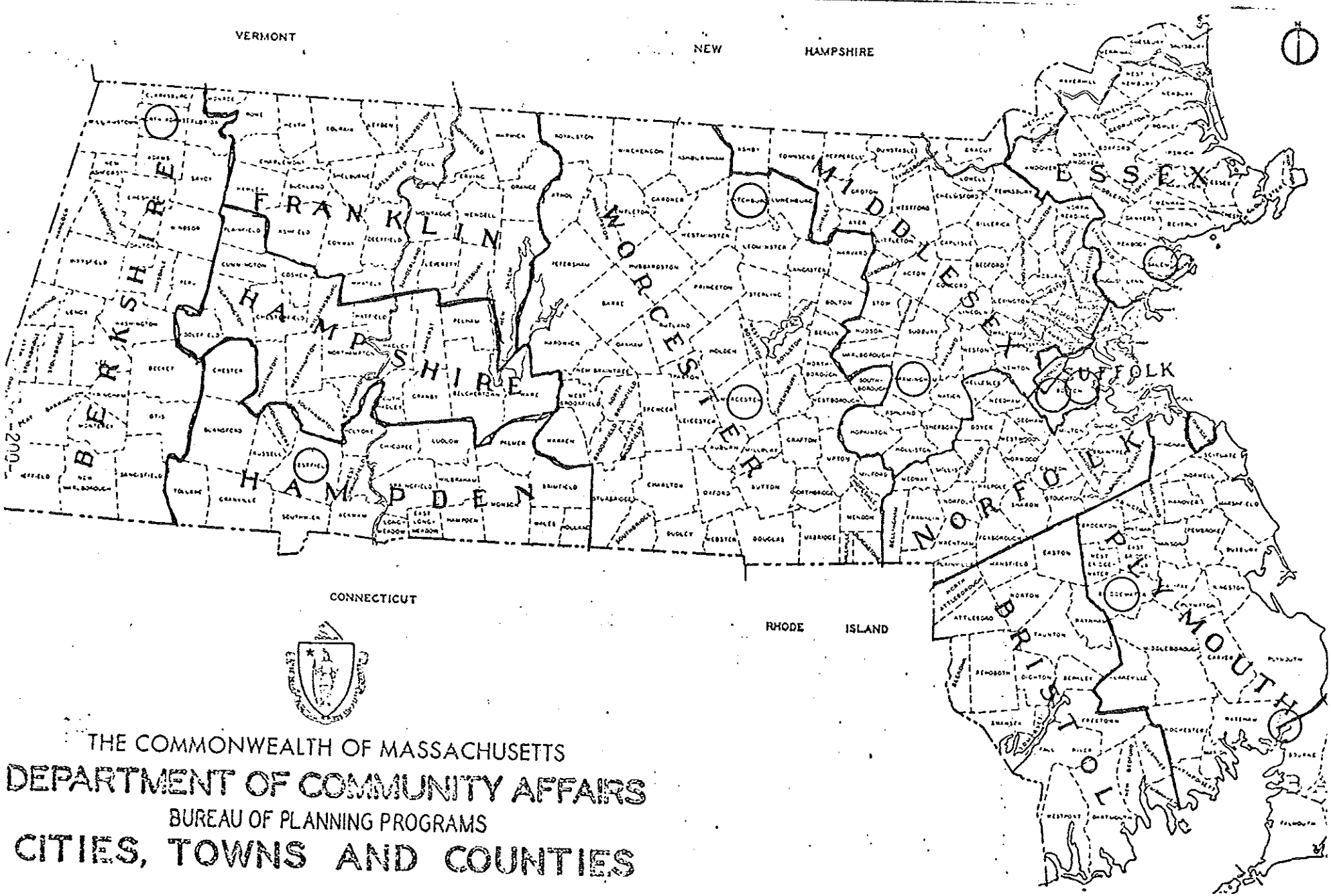
MASSACHUSETTS STATE COLLEGE SYSTEM

PERCENTAGE DISTRIBUTION OF NEW ENROLLEES FROM EACH COUNTY
SPRING AND FALL 1975

COUNTY	Five State Colleges Receiving Largest Percentage of County Residents					Total Number	% of Total New Enrollees	% of Total State Population Age 16-20
BARNSTABLE	BRI - 40%	NAD - 10%	SAL - 10%	WES - 9%	MMA -9%	164	1.3%	1.7%
BERKSHIRE	NAD - 68	WES - 11	BRI - 6	FRA - 5	FIT - 4	456	3.7	2.7
BRISTOL	BRI - 56	FRA - 8	SAL - 7	FIT - 7	WES - 6	416	3.3	7.8
ESSEX	SAL - 64	BRI - 7	NAD - 6	BOS - 6	FIT - 6	1663	13.3	11.4
FRANKLIN	NAD - 34	FIT - 26	WOR -14	WES -12	SAL - 8	50	.4	1.1
HAMPDEN	WES - 60	NAD - 14	FIT - 6	FRA - 6	BRI - 5	668	5.4	8.3
HAMPSHIRE	WES - 37	NAD - 27	FIT -13	SAL - 7		90	.7	1.9
MIDDLESEX	FRA - 26	FIT - 18	SAL -17	WOR - 9	BOS - 8	1513	12.1	25.0
NORFOLK	BRI - 32	BOS - 17	FRA -14	NAD - 9	WES - 9	763	6.1	11.5
PLYMOUTH	BRI - 60	BOS - 12	NAD - 6	SAL - 6	FRA - 5	777	6.2	6.5
SUFFOLK	BOS - 46	SAL - 18	BRI -11	FRA - 7	FIT - 5	3303	26.5	10.7
WORCESTER	WOR - 54	FIT - 21	FRA - 6	WES - 5	NAD - 5	2065	16.6	11.3
OTHER						543	4.4	.2
TOTAL						12471	100.%	100%

SOURCE: MSCS ADMISSIONS STATISTICAL FILE

JPB/lmc JANUARY 28, 1977



THE COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF COMMUNITY AFFAIRS

BUREAU OF PLANNING PROGRAMS

CITIES, TOWNS AND COUNTIES

A STUDY OF THE AVAILABILITY OF PROGRAM-ESSENTIAL COURSES AT THE SEVENTEEN TWO-YEAR BRANCH CAMPUSES OF THE PENNSYLVANIA STATE UNIVERSITY

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A STUDY OF THE AVAILABILITY OF PROGRAM ESSENTIAL COURSES AT THE SEVENTEEN TWO-YEAR BRANCH CAMPUSES OF THE PENNSYLVANIA STATE UNIVERSITY

ABSTRACT

Among the more important reasons why institutions engage in academic planning is to improve program quality and relevance and increase efficiency and effectiveness of course offerings to the student consumer. Efficiency for the student entails the ability to schedule the required courses with appropriate timing and sequence for normal degree progress. At The Pennsylvania State University a study was defined to identify the availability of program essential courses at the seventeen 2-year branch campuses. These campuses function primarily as a "feeder system" to the University Park Campus. Since these campuses offer courses for the first two years of essentially all baccalaureate programs, it was deemed necessary to ensure that their students obtain a "common preparedness" for continued study at the central campus. The decisions reached as a result of this study have influenced the student flow patterns from the 2-year campuses and increased the overall efficiency of course scheduling to ensure normal degree progress of students.

INTRODUCTION: PENN STATE

The Pennsylvania State University is the land grant institution in the state of Pennsylvania. In addition to the large parent campus at University Park, there are seventeen two-year branch campuses located throughout the State as well as several specialized campuses offering upper-division, graduate, or medical programs. The academic department chairmen, college deans, and all senior University administrators for the branch campuses are physically located at the University Park Campus. The chief administrative officer at each of the seventeen two-year branch campuses is the campus director who is responsible for academic affairs, fiscal matters, student affairs, and physical plant operations at the campus. The faculty at the branch campuses are members of their respective academic departments. No separate departmental structure exists at the campuses.

Fiscally, each campus director operates with a comprehensive budget which covers salaries, supplies, utilities, travel, and other normal operational expenses. Any increase in this operating budget from one year to the next must be approved by a central budget committee at University Park. In particular, requests for new faculty must be weighted against all other such requests by the central budget committee.

The University maintains an IBM 370 Model 168 computer at its University Park Campus. Each branch campus interacts with this computer via a medium-speed DATA 100 Reader/Printer terminal which utilizes dedicated telephone lines. This computer serves all University instruction and research needs and provides the administrative computer support services required by the branch campuses.

In addition to the DATA 100 Reader/Printer terminals, all campuses have IBM Communicating Magnetic Card (CMC) typewriters which collectively form an intra-University communications network. The typewriter, with the magnetic card feature, is a "power" typewriter designed to increase typing productivity. It has the capability to communicate with CMCs at other campuses and interact with the computer as a remote terminal.

MOTIVATION FOR THE PROJECT

Despite their many similarities, the two-year branch campuses differ in many ways. These campuses, due to geographical location and other local competitive institutions, have grown at different rates. While the Academic Policy Plan of the University states, "The principal enrollment growth at the lower-division level will be at the Commonwealth Campuses," (p. 41) it goes on to note that:

> Students entering one of the University's Commonwealth Campuses should normally complete the first two years of their college education at these campuses except where local program offerings will not permit. Enrollment at the lower-division level will develop at

different campuses, however, with the more fully developed Commonwealth Campuses achieving a stabilized enrollment level early in the decade. Because of the demonstrated relationships among the enrollment size of a campus, breadth of academic program, and efficiency of operation, the enrollment of each of the Commonwealth Campuses should develop to an optimum level as quickly as possible.

This optimum level, about 800 - 1,000 students, is one which some campuses have yet to reach while other campuses already have achieved enrollment levels of 1,500 - 1,800.

Naturally, the smaller campuses cannot provide the richness of course offerings that can readily be provided at the larger ones. Those campuses with limited course offerings are thereby less able to retain baccalaureate students for the prescribed first two years thus necessitating a premature transfer to the parent campus. These premature transfers began to engender the following institutional problems:

1. The enrollments in courses the students might have scheduled at the branch campus were diminished. This resulted in inefficient section sizes and necessitated the cancellation of some low-enrollment courses which might have otherwise been able to operate.

2. The enrollments at the parent campus were prematurely increased in not only the specialized course for which the students transferred but also in more general courses that the students might have readily obtained at their branch campus.

3. There was a growing tendency on the part of some campuses to retain students longer than their program allowed. This increased the campuses' ability to operate other courses that these students would schedule, and it satisfied the student who wanted to stay the full two years <u>but</u> it jeopardized the student's normal degree program.

4. There was a growing tendency on the part of some deans and department chairmen at University Park to either not seek or not heed the input from the campuses concerning the requiring of new freshman-sophomore level courses that heretofore had not--and could not--be offered at the campuses. There was limited accountability on the part of some college deans and department chairmen for the "ripple-effect" at the campuses of a new freshman-sophomore requirement that could easily be accommodated at University Park but would be fiscally impossible at the campuses.

As these problems came into focus, it became increasingly necessary to identify: 1) courses that were absolutely essential in the freshman-sophomore year program, 2) campuses that were not currently offering these courses, and 3) resulting enrollments and operating costs that would occur if the courses were to be offered at the campuses. This study, then, was a response to those needs within the University.

APPROACH

The Office of the Vice President for Undergraduate Studies requested detailed lists of program essential courses from each program chairman. To provide for uniformity throughout the system, a format was recommended for the lists which identified program essential freshman courses (and acceptable substitutes) on one page followed by program essential sophomore courses (and acceptable substitutes) on a second page. These pages, representing the official course essential list, required the signatures of the program chairman and the college dean.

This first phase not only provided the University with lists of program essential freshman-sophomore courses but also initiated a new perspective on program requirements. The lists identified courses which are absolutely essential to the freshman-sophomore program and the several courses which had heretofore been considered "nice-to-have" or "toe-dipping" courses. Some of the courses on the lists, many felt, could be delayed until the junior-senior years at University Park. However, these were to be discussed later at the consultation between departmental chairman and branch campus representatives. These meetings would be held after the branch campuses responded with their individual "unavailable course" lists.

Through the Office of the Dean for Academic Instruction at the Commonwealth

Campuses, the branch campus administrators responsible for academic programs (usually the Associate Directors for Academic Affairs) were asked to respond to the lists of program-essential courses by indicating, for each major and/or option, the courses unavailable at that campus. The goal was to assemble all of the seventeen campuses' responses to each of the 114 majors (including options) for which program-essential courses had been listed by the program chairman. After joint consultation meetings with department personnel and campus representatives, recommendations would be made to assist in resource allocation and academic planning. However, it was readily apparent that for seventeen campuses to respond to 114 majors (a freshman and sophomore page for each!) the yield would be a staggering quantity of paper with no hope of anyone digesting it. The need for the use of the computer was obvious to everyone.

DESIGN OF THE COMPUTER SYSTEM

A primary consideration in the design of any computer system (particularly where users have limited computer experience) is its ease of use and simplicity of instructions for understanding by the "nontechnical" individual. Since individual branch campuses have no administrative data processing departments and little administrative experience with batch processing on the DATA 100 terminals other than registration activity, it was decided that the campuses should enter their data via the communicating magnetic card (CMC) typewriter terminals. The CMC was operated by a full-time secretary at each campus who used it as a power and communicating typewriter.

The system design utilized the campuses' typewriter terminals for data entry. Data from these terminals are captured on seventeen magnetic tapes at University Park. Reports are subsequently generated from these data tapes by the Institutional Research Office.

If the CMCs were to be used efficiently, there was a need to develop a form that would accommodate a listing of unavailable courses for a given academic program in a format which an administrator could read and discuss and which would provide the proper format for the magnetic card which would be used to transmit the data to the computer. It was to this end that the CCCU76 form was developed.

The form itself (Figure 1) was professionally printed. Its format design permits the administrator to read it with understanding, discuss it with a colleague, and make comparative judgments regarding the course entries. Except for line numbers, it requires no extraneous characters to be typed (which is unlike many computer data entry systems). Also, as the secretary types the form, a magnetic card is simultaneously recorded with only the typed entries. These magnetic cards are accumulated for all majors, and when connection with the computer is made, these same magnetic cards permit a "rapid-fire" data entry to the computer, without any modification or retyping.

Another significant feature of the system design was the error checking capability and user ability to resubmit data. Thus, as errors were detected, a campus simply corrected the identified errors and resubmitted this data with the next input stream. Tape records were flagged with date and time of entry permitting acceptance of the record with latest date and time as the intended entry by the campus. This feature has the added long-range benefit of permitting the campuses to update the courses for a given academic program while leaving other tape records intact. The tape file is, therefore, responsive to new program modifications and course requirements. In addition, the files can be monitored at predetermined times to evaluate the impact of these program modifications on the seventeen branch campuses.

Mag Card
Typewriter Copy

THE PENNSYLVANIA STATE UNIVERSITY
COMMONWEALTH CAMPUS SYSTEM

PROFILE OF CAMPUS PROGRAM/COURSE UNAVAILABILITIES

A. ␣ (10) ␣␣ (14) (CAMPUS TWO-LETTER CODE) ␣␣␣␣␣␣␣␣ (42) (DATE)

B. ␣ (10) ␣␣␣␣␣␣ (14) (MAJOR) (USE D.A.R.S. ABBR.) ␣␣␣ (34) (CODE) (USE D.A.R.S. CODE) ␣␣␣␣␣ (52) (OPTION) (USE OFFICIAL CODE)

C. ␣ (10) ␣ (14) (NUMBER OF TERMS STUDENTS IN THIS MAJOR CAN CURRENTLY BE SCHEDULED AT THIS CAMPUS)

	Course(s) Unavailable			Rationale for Unavailability					
	ABBR. (USE D.A.R.S. ABBR.)	NO.	CODE AND CODE	STUDENT ENRLMT. (NUMBER)	INITIAL COSTS EQUIP. ($)	INITIAL COSTS FACILITIES ($)	RECURRING COSTS FACULTY ($)	RECURRING COSTS OTHER RECRG. COSTS ($)	COST TOTAL ($)
D. ␣ (10)	␣␣␣␣␣␣ (14)	␣␣ (21)	␣␣ (26)	␣␣ (34)	␣␣␣␣␣␣ (42)	␣␣␣␣␣␣ (52)	␣␣␣␣␣␣ (64)	␣␣␣␣␣␣ (76)	␣␣␣␣␣␣ (90)
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣
D. ␣ (10)	␣␣␣␣␣␣	␣␣	␣␣	␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣	␣␣␣␣␣␣

Figure 1

A final important feature of the system was its simplistic operational design. Operational procedures and data-entry requirements can be carried out by the regular secretarial staff. While these typists were familiar with the magnetic card feature and with techniques of communicating with other CMC typewriters, they had no prior experience with computer interaction. However, by prerecording computer log-on instructions, account identifiers, and execute instructions on magnetic cards, it was possible for these typists to successfully accomplish the data transmittal to the computer. Each typist had a user's manual with no instruction more complicated than "dial the computer," "feed in the first magnetic card," and "depress the AUTO button."

As campuses completed their data transmittal, several programs were written by the Institutional Research staff at University Park to capture, sort, and summarize the mass of information on the seventeen campus tapes into meaningful, workable reports. The Commonwealth Campus (CWC) Program Matrix was produced which identifies the number of terms (six terms or two years being the ideal) that the students could remain at a given campus in a given academic program if the courses listed by the program chairman were in fact essential at the freshman-sophomore level.

The Unavailable Courses by Major Report and the Major Impact by Campus Report provided two views of the data to determine majors that were in the best (or worst) shape regarding courses unavailable at the campuses. These reports assisted in determining what course(s) could be offered at what campus(es) to achieve the greatest retention of students for the least cost.

ACCOMPLISHMENTS AND INSTITUTIONAL IMPACT

Using the reports generated by the Institutional Research staff, the first

and perhaps most significant accomplishment was the joint consultation meetings held in the Office of the Vice President for Undergraduate Studies. These meetings permitted branch campus representatives to meet with every college dean--one at a time--and to present their case for retention of students in accordance with program-essential requirements. Absurd program requirements that had "slipped through" earlier were now identified in the reports and eliminated. Specialized program requirements which were not prerequisites for upper-division work were questioned and in most cases permission was granted for delaying them until the student arrived at University Park. Courses with essentially similar content were identified and, if campuses could offer at least one of them, it was allowed as an acceptable substitute for the others. "Toe-dipping" courses were virtually eliminated if requiring them resulted in a premature transfer for the students. In short, this study has established a mechanism by which colleges and campuses can discuss program course requirements and systematically study the impact these may have on the individual campuses.

Another consequence of this project which cannot be overlooked is the "hands on" experience that the secretaries at the campuses obtained in transmitting data directly to the computer. Apprehensive at first, they clearly developed confidence--and competence--as the project progressed. At York the CMC secretary learned the remote job entry techniques for the computer so enthusiastically that she now routinely enters data, saves files, and generates monthly reports for several campus administrators on a variety of lesser projects.

The reports generated by the project have become excellent planning aids. With firm agreements on when students will transfer, the campuses as well as the University Park departments can tailor course offerings to this student flow.

Although the budget hearings for this year preceded the issuing of the reports, some striking inequities in course offerings were identified which will be a basis for budget massage throughout the year.

FUTURE PLANS

The study has generated a data base--the seventeen campus tapes--of tremendous importance to future studies. For some studies it is desirable to develop reporting capabilities which permit specific majors or specific courses to be viewed without the bulk of the reports heretofore available. The ability to provide this will be particularly important as cost information is formalized and appropriately integrated into the study.

For this first study phase, cost information was not included because there existed sufficient consultation meeting material--namely, the listing of unavailable courses for each academic program. Future consultation meetings, however, will not have to readdress these basic issues. Therefore, the meeting participants may spend more time dealing with a microscopic analysis of cost data. In fact, assuming a general agreement exists between the branch campuses and the college deans that a given course is indeed essential, there would be very little justification other than cost for its not being offered. The CCU76 form, the tape records, and the reports available from Institutional Research are all designed to permit cost data to be entered and analyzed.

Another desirable feature for future development is the ability to generate a report from any campus within the University. The reports hitherto generated and those planned for the immediate future have been produced centrally and are the responsibility of the Institutional Research Office. The information on these tapes can be sorted and "sliced" in several ways so that deans, department chairmen, and campus administrators will be able to obtain certain reports--especially

when the "specific" capabilities are operational--at their own campuses without the intervening assistance of the Institutional Research Office.

CONCLUSION

This study has had, and will continue to have, great impact on University planning, resource allocation, student flow, and the budget process itself. Program chairmen have become more sensitive to constraints at the campuses and the corresponding need to adjust program requirements in accordance with the goal of retaining students at the campuses for the full first two years. The study demonstrated that noncomputer-oriented personnel could successfully interact with the computer without diminishing the integrity of the data or the results. While the study accomplished its intended goals, additional enhancements should be developed if the project is to be an annual part of the University planning process.

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THE EVALUATOR IN AN INSTITUTIONAL RESEARCH SETTING: ...CAN IT WORK?

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The answer to the question "Can an evaluator function effectively within the framework of an Office of Institutional Research?" is "Sometimes." In this paper I will attempt to analyze some of the "When's" and "How's" by discussing four major issues related to the question. These are:

1. What is meant by "function effectively"?
2. What is required of both the evaluator and the decision makers for this ideal to occur?
3. What circumstances would strongly suggest the need for an "outside" evaluator?
4. What circumstances would strongly indicate that no evaluator would be successful?

I will use examples from my experiences as an outside evaluator, an evaluation consultant to "Special Programs" at a four-year university, and the resident evaluator of the Office of Institutional Research at a community college to illustrate these four points.

Assumptions. Before the effective functioning of an evaluator within the setting of an Office of Institutional Research can be discussed, I should mention certain assumptions that I am making about the nature and purpose of evaluation. First, the definition of evaluation which I use is that of "providing data for decision making" which appears frequently in the literature (Cronbach, 1963; Stufflebeam, 1970). Implicit in this definition is the need for the evaluator to work closely with those serving in a decision making capacity in the program, project, etc. in order to know what data they want and will

use. The evaluator must not, however, attempt to influence or change in any way the normal decision making pattern, no matter how disorganized it may appear.

Going along with this definition, I further believe that the framework for any evaluation activities should be the goals the decision maker(s) has for the program. This, then, also indicates the need for much interaction and cooperation between evaluator and decision maker in order to fully identify these goals in a precise manner.

Throughout the rest of this discussion, I will be referring to the context of a full program evaluation. I believe, however, that most of my remarks will be equally applicable to smaller-scale evaluation activities or to the individual components of an evaluation such as goals identification or the design of evaluative instruments.

Effective functioning. In the best of all possible worlds, the evaluator will be seen by those requesting the evaluation--usually faculty or administrative program decision makers--as an expert in the field who can be of great potential value to them by supplying, in a systematic fashion, the important information about their programs which they do not have the time to collect themselves. The evaluator will be trusted and will receive the utmost cooperation whenever he/she needs to work with decision makers to specify goals or in any way clarify the evaluation design.

The evaluator would, ideally, not be hampered by external constraints such as political pressures, or strong suggestions as to what the evaluation results should look like. The data from the

evaluation would be used to make decisions about program improvement, even if the results were not those which were originally hoped for.

Further indications that the evaluator was functioning effectively would be that evaluation activities would be engaged in more frequently, especially by those who have already attempted them. Also, evaluation services would be requested by decision makers on several levels, e.g., faculty, chairperson, deans, and president.

An example of such effective functioning came about as I was engaged in a study concerning two modes of instruction for an introductory psychology class at a community college. As the development of the mediated format for the course was funded by federal grant money and I had been hired to evaluate such activities, I, and everyone who had worked on the project, knew that I would be conducting this evaluation. The instructor for the course and the chairperson of the department cooperated fully with me. The focus of the evaluation was on whether or not students in the mediated classes could perform as well as those in the "traditional" classes on identical tests. The goal was that the former would be able to do so.

As it turned out, the data indicated that those in the traditionally-taught sections did significantly better than their counterparts in the newly-developed sections. While nobody wanted to hear this, after the considerable outlay of money as well as faculty time and production resources, serious efforts were made to improve the lot of students in the mediated classes in the future based upon recommendations in the evaluation report.

Requirements for effective functioning. What are some of the factors which led to the success of the evaluation effort described above? There are some things the evaluator can do to help promote a climate receptive to evaluation. The evaluator should naturally be straight-forward about the evaluation process and stress that its purpose is to provide program decision makers with data they want and will use. The evaluator should also be sure decision makers understand the usefulness of "negative" data, i.e., information which shows their goals for the program are not being accomplished. While it isn't possible for an evaluation to be completely non-threatening, a recognition of the liklihood of negative findings and a willingness on the part of the evaluator and decision makers to use these results constructively can do much to insure success.

It is also important for the evaluator to specify at the outset those persons who will be receiving copies of the evaluation reports. If the evaluation is truly in-house, it should be left up to the discretion of the program decision makers to disseminate the results.

As is probably evident from the very brief description of this evaluation model, the great amount of evaluator-decision maker interaction benefits greatly from an open-minded decision maker. Someone who is not afraid to specify his/her goals truthfully, to assist the evaluator in the determination of the data to be collected, and to think seriously about the program immeasurably improves the evaluation process. A decision maker's willingness to accept even unfavorable data and to work toward the improvement of the program is the best insurance of a successful evaluation available.

When to use an "outside" evaluator. The ideal cooperative relationship described above may sometimes be impossible to achieve within an institution, even if the evaluator and decision makers are genuinely open with each other and interested in the process and outcomes of the evaluation. There may be factors unique to the particular institutional setting and to the role of the Office of Institutional Research within that setting which militate against a rational, systematic approach to the evaluation problem.

There are probably as many different roles for institutional research offices as there are institutions. Let us take the example of such an office for which the main objective has historically been to meet the management needs of the top levels of the administration, e.g., to provide data on institutional enrollments by head-count, full-time equivalent, and academic program; to provide program cost data; to describe the results of the administration of placement examinations to entering students; and to collect information on the employment and transfer of graduates. An evaluator in this type of office would inevitably be seen by faculty members as strongly aligned with the administration. Should the faculty and administration have had a history of an adversarial relationship, it would be particularly difficult for the evaluator to interact effectively with faculty during the conduct of an evaluation.

I witnessed the resulting fiasco when the evaluation of an English course which was being taught via "traditional" and television modes was carried out in an environment similar to that described above. To make matters worse, the data presented in the evaluation report seemed cautiously to support the television mode which members

of the administration had originally strongly promoted. Those members of the English faculty present at the meeting called to discuss the results of the evaluation totally refuted the evaluation process, although they had been involved in it throughout. Since they were, in essence, refusing to base decisions concerning the course on these data, the evaluation resources had been wasted.

While this kind of situation is probably fairly common with "in-house" evaluations, the reverse could also be imagined. That is, an Office of Institutional Research which had traditionally served faculty needs extensively might be seen by the administration, when the time came for course or program evaluation, to be biased. In either case, a mutually agreed-upon outside evaluator who is seen as relatively "objective" should be selected to carry out the evaluation activities.

When no evaluation is likely to succeed. It is sometimes possible to spot situations such as the one mentioned above in time to avoid wasting evaluation resources. There are other factors, however, which are more subtle and are very often not recognized until it's too late.

A fairly common circumstance occurs when the administrator in charge of the evaluation resources tries to make one process serve a range of decision making levels. That is, while the evaluator may be working closely with the program decision makers on the faculty level, higher level administrators who may have different goals and priorities, want to use the evaluation data for their own ends. While it is certainly legitimate for those to whom the faculty members are responsible to wish to see the results of the evaluation, the

problem comes when the administration's goals are left unstated. Again, depending on the history of the faculty-administration relationship, this secrecy may make the faculty too suspicious to engage openly and honestly in the evaluation activities. The knowledge that there are hidden agendas coupled with a history of less-than-peaceful coexistence may convince faculty that the administration is more concerned with hatchet work than with program improvement.

Such an environment generally fosters suspicion on all sides. Very often administrative decision makers are unwilling to let program decision makers have free rein to carry out evaluations without outside intervention. There is the belief that the faculty will try to manipulate the evaluator's recommendations to support their own time-worn complaints, e.g., the need for more staff and facilities.

It is virtually impossible for an evaluation taking place in such a setting to be truly successful. Strong suspicion and biases on all sides can render any recommendations based upon the evaluation data ineffective. While an outside evaluator's report may carry more weight than one coming from the Office of Institutional Research, it is unlikely that any suggestions will be heard above the din.

I am currently working on a system which was purportedly designed to monitor academic programs in order to determine when they fail to meet the standards set by their own program coordinators. At such a time, program evaluation would be instituted. It seems, however, that the system as originally designed will never be fully realized. The desires of high-level administrators to have information which they can use to make program comparisons seem to be taking precedence over the original intent which was to provide program decision makers

with data to be used for program improvement. Once the focus is changed, I feel it will be impossible to maintain faculty cooperation, as they will be well aware of the uses to which such data will be put.

One final situation in which evaluation is not likely to succeed has already been alluded to above. This occurs when one or more program decision makers are too threatened by the evaluation process to cooperate with the evaluator. I experienced this when I was serving as an outside evaluator for a Title III project, so it is a situation by-no-means unique to the in-house evaluation. The project director, although agreeing in advance to the general structure and extent of the evaluation activities, nevertheless failed to identify her true goals for the project and, in fact, was able to stonewall the specification of her goals. She, therefore, neglected the opportunity to specify data collection which, if it had occurred in time, would have saved her program which ultimately failed due to the lack of students voluntarily electing it. It can be almost impossible to recognize this is happening until the evaluation is over, especially if the person is outwardly cooperative.

Final comments. Having one or more persons with expertise in evaluation procedures available on campus has definite advantages. He or she can offer workshops on evaluation topics to interested faculty and staff members or help when needed with goals identification and specification, the design of questionnaires or other evaluative instruments, or the collection of program-related data. The evaluator can also provide a valuable perspective by serving on curriculum, long-range planning, and/or instructional development commit-

ties. If other factors do not short-circuit it, the effect of having sensitive, effective evaluation expertise available could be eventually to interest more and more people in the systematic collection of data about courses and programs.

A decision about whether or not to bring such a person into an existing Office of Institutional Research, however, should take into consideration the above caveats. While most evaluators could effectively provide educational and consulting services, it is the institutional environment and the role of the Office of Institutional Research within that institution which will ultimately decree the effectiveness of any evaluation activities attempted.

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ACCOUNTABILITY AND CONTROL OF STUDENT FEES

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MASSACHUSETTS STATE COLLEGE SYSTEM

In fiscal year 1976, each State College charged its students a Student Activity Fee, an Athletic Fee, an Educational Services Fee, a Library Fee, and a Placement Fee. The five common fees generated an income of $3,292,580. Other student fees (see footnote I) increased the total income generated by student fees in fiscal year 1976 to $4,716,646. This amount is more than the individual maintenance budgets of five of the Massachusetts State Colleges in the same fiscal year.

Since student fees and student fee trust funds involve relatively large sums of money, it is quite understandable that numerous questions have been raised by students, faculty, administrators, Trustees and auditors about the use and management of these funds. In a period of retrenchment there is increasing concern for accountability, efficiency and economy.

The purpose of this paper is to clarify the terms involved, to explore the rationale for student fees, to review legal constraints, to review the policies and practices of similar institutions and to provide guidelines and policies to improve accountability and management of student fees.

Beginning at a level that may seem obvious to some, it is important to determine the meaning of a fee and tuition. The American Heritage Dictionary defines a fee as "a charge fixed by an institution or by law." Tuition is "a fee for instruction, especially at a formal institution of learning." Though these two definitions may seem obvious to us here in the Northeast, a recent study prepared for the 17th Annual Forum of the Association for Institutional Research reveals the lack of common and universal usage of these terms. In

examining the charges at twenty major universities, Joe L. Saupe and Russell E. Blagg discovered that while "most assess a basic, comprehensive, multipurpose, undesignated-as-to-specific-purpose charge ...," only nine of the twenty refer to the general charge as tuition and five "make no use of the term tuition in stating student charges."[2]

This situation undoubtedly reflects the desire of many public universities to continue the impression of providing free instruction to state residents. Public colleges and universities have a continuing commitment to provide instruction at little or no cost to state residents. Consequently, many public institutions have established a wide variety of required student fees separate from tuition to help support athletic programs, student unions, libraries and placement services.

Another critical factor in Massachusetts and several other states is the fact that tuition collected by public colleges and universities is returned to the state and is not available for use by the collecting agents. Student fees, however, are deposited in trust funds or institutional accounts and are administered by the institution.

The two factors mentioned above do not exist at private institutions and, thus, they generally do not have the variety of separate required student fees found in the public sector. Although both sectors must balance income and costs, the private sector is more likely to increase tuition than create a required student fee. In the public sector required student fees have usually been introduced to meet clear and pressing needs for generally accepted

services and activities that have either not been addressed or not addressed adequately by state appropriations. In the case of the Massachusetts State Colleges, this lack of adequate funding has led to the establishment of an Athletic Fee, an Educational Services Fee, a Library Fee and a Placement Fee. The difficult judgement that must be made at public and private institutions is whether a given service or activity is sufficiently important to warrant a reallocation of existing funds or the introduction of a required fee or an increase in tuition.

In addition to the two circumstances mentioned above encouraging the development of separate required student fees in the public sector, the identification of the separate costs involved in the higher educational experience can be justified in terms of providing the student with a better understanding of the relative costs of the services rendered. George B. Weathersby and Frederic Jacobs extend this argument to the point of suggesting that the complexity of services provided by higher education (assessment, academic advising, career planning and certification) be made available to students separately with appropriate costs and not as a single package or entity.[3]

Having explored the rationale for student fees, it is worthwhile to briefly comment upon the legal constraints in this area. Although a case by case discussion is beyond the scope of this paper, it should be noted that the courts have upheld mandatory student activity fees and clarified several areas of student rights. First Amendments rights, especially the right to free expression in college newspapers and the right to peaceful assembly, have been affirmed. Thus, required student fees do not permit college officials to interfere with free expression in newspapers or to arbitrarily deny official recognition to an organization. Student publications and

student activity funds would seem to require primary leadership from students. Student rights do not appear to restrict college officials from developing sound management practices, determining the amount of fees, deciding upon the appropriateness of new fees and determining the use of fees aside from the student activity fee.[4]

Earlier in this paper we examined the meaning of the terms tuition and fee. Another label requiring clarification is the student activity fee. A student activity fee may encompass a wide variety of activities, including lecture courses, concerts, athletic programs, cultural programs, recreational programs, forensics, dramatics, student government and student newspaper. Narrowly defined, a student activity fee should support the student government organization, the student newspaper and recreational and entertainment activities. Student clubs and organizations are also usually supported through this fee.

Unfortunately, the Massachusetts State Colleges do not have clearly defined fees and do not have a reporting mechanism that reveals the major uses of student fees. Though this condition reflects the evolution of each College's needs, it is a major impediment to proper oversight by the Board of Trustees. Thus, an important improvement in the area of student fees would be uniform nomenclature, clearly delineated purposes, objectives and uses and a more detailed reporting form.

In an effort to learn from the experience of other institutions, we examined the student fees of the state colleges in the five other New England states plus New Jersey, Illinois and Minnesota. Also considered were the policies and practices at the University of Massachusetts and the Regional Community Colleges of Massachusetts.

In general terms, the State Colleges in Massachusetts are similar to other state colleges in the variety of fees, in the total dollar amount of fees and in the degree of specificity regarding policies and guidelines governing fees. All institutions charge tuition and a student activity fee. However, the universal student activity fee varies greatly in its comprehensiveness. Most state colleges have a student union fee, a health fee, and a variety of other fees. A few have an athletic fee separate from the student activity fee. Only the Connecticut State Colleges and the Massachusetts Community Colleges collect laboratory fees from all students. Considering the eight states examined, fees constituted an average 25% addition to tuition. (See Attachment A)

With the exception of Minnesota and Vermont, each state has a variety of fees among its state colleges. In Minnesota, the legislature has set a ceiling on the total charge for common fees and has determined the kind of fees that may be charged. Vermont has a ceiling on the student activity fee. The Massachusetts Regional Community College System has established ceilings on several fees.

In Minnesota and Vermont, fees are part of a unified budget, and at the University of Massachusetts, a REVENUE-BASED BUDGET is reviewed and approved by the Trustees. In Maine and Illinois, tuition is set at roughly one-third of instructional costs.

The essential purpose of this paper is to recommend guidelines and policies to improve accountability and management in the area of student fees. Since organization theorists disagree about the meaning of accountability and control and provide different approaches to the improvement of management, it

is necessary to specify the perspective of this paper. In simple terms, the chief executive exercises organizational control to the extent that subordinates perform according to executive orders. Control is based on the ability to hold persons accountable for their actions and to distribute rewards and sanctions according to conformance or non-conformance to executive commands. Control and accountability require clearly defined responsibilities, duties, objectives and rules and an adequate monitoring or evaluation system.[5]

The improvement of management involves many variables. In this paper we will recommend guidelines to clarify responsibilities, duties, objectives and rules and thus enhance accountability. We will also recommend a detailed budget document in which each student fee is separated into program elements. This program budgeting process will provide far more information to participants and Trustees and permit proper oversight and decision-making by the Board of Trustees.

To improve the review process in the area of student fees and trust funds, the Board of Trustees should consider the following policies and guidelines.

RECOMMENDATION I The Board of Trustees is committed to providing quality education at the lowest possible cost to the citizens of the Commonwealth.

THEREFORE:

A. Tuition and fees will be maintained at the lowest possible level.

B. Required student fees should not exceed one-third of the tuition charge.

C. Each President shall exert every effort to insure that student fees are managed efficiently, achieving every possible economy.

D. Every expenditure from a Trust Fund exceeding $1,000 and not previously approved by the Board of Trustees will be reported to the Chancellor with an explanation of the relationship of the expenditure to the purpose of the fund.

E. Income from student fees shall not be used for capital expenditures.

F. Each President is responsible for monitoring Trust Fund operations in accordance with established state procedures.

G. The Board of Trustees shall continue the current practice of approving services by private concessionnaires who are required to pay a percentage of profits to the General Purpose Fund or other suitable fund and who are evaluated periodically for performance.

H. No fees shall be required of all students unless such fees will benefit more than 50% of the student body and potentially benefit all students.

I. Those charged with administering Trust Funds derived from student fees should direct that students be amply informed of the benefits to be derived from such fees.

J. The planning for and setting of all student fees shall involve input from students, faculty and administrators.

RECOMMENDATION 2 The Board of Trustees must have sufficient information presented in an orderly fashion and on a timely basis to appraise the activities and programs supported by student fees more adequately. It is necessary to implement a process to improve management in the area of student fees.

The establishment of a FEE-BASED PROGRAM BUDGET and its review by the Board of Trustees incorporates the successful practice of other institutions and systems. It will provide a comprehensive view of student fees and related Trust Funds in sufficient detail to improve and facilitate oversight by and accountability to the Board of Trustees.

THEREFORE:

A. The Trustees shall continue to review all new fees and all Trust Fund operations.

B. Each President shall prepare a FEE-BASED PROGRAM BUDGET in addition to the current operating budget. The FEE-BASED PROGRAM BUDGET shall describe and review the major activities or items supported by each student fee in the current fiscal year and present the programs proposed in the next fiscal year. The various services, programs and activities anticipated for the coming year will be delineated separately for each individual fee and appropriate sub-categories.

All changes in fees will be included for review in this document. The FEE-BASED PROGRAM BUDGET will be submitted two months before the June meeting of the Board of Trustees and will review both the current year's revenue and expenditures and anticipated revenue and expenditures in the fiscal year beginning the following July 1.

All new fees shall be reviewed by the Board of Trustees at its April meeting.

In addition to reasonable guidelines, the Board of Trustees should address the organizational aspect of centralized control versus decentralized control.

FUTURE POLICY OPTIONS

If the Trustees want greater control, then:

1. The Trustees should continue to review all fees and all changes in fees.

2. The Trustees may want to require uniform charges and uniform sub-categories among the State Colleges except perhaps the Student Activity Fee and the Athletic Fee.

3. The Trustees may want to impose ceilings on each student fee or a maximum on total fees.

4. The Trustees may want to indicate, suggest or require the allocation of some funds from some fees for certain specific purposes.

5. The Trustees may want to review new fees or changes in fees only once or twice a year.

If the Trustees want decentralization in the area of student fees, then:

1. The Trustees may want to delegate to the Chancellor or the Presidents the final decision on changes in user fees or new fees deposited in the General Purpose Fund.

2. The Trustees may want to set ceilings for all fees and delegate to the Chancellor or the Presidents authority to approve changes in fees and new fees within these ceilings or within an overall ceiling.

3. The Trustees may want to delegate to the Chancellor or the Presidents the authority to approve changes in fees of $5 or less directed to the General Purpose Fund.

FOOTNOTES

1. Other student fees assessed at one or more State Colleges include Health, Student Union, I.D., Orientation, Physical Education, Parking, Graduation, Commencement, Program Council, Breakage, Registration and Testing, Winter Study, Physical Education Facilities and Graduate Student Portfolio Evaluation.

2. Joe L. Saupe and Russell E. Blagg, "Student Charges at Twenty Major Universities: Can the Data Be Compared?" University Office of Institutional Research, University of Missouri, Paper prepared for the 17th Annual Forum of the Association for Institutional Research, May 8-12, 1977, Montreal, Quebec, Canada, p.3.

3. George B. Weathersby and Frederic Jacobs, Institutional Goals and Student Costs. Washington, D.C.: American Association for Higher Education, 1977, pp. 33-35.

4. Terrence N. Tice, Student Rights, Decisionmaking, and the Law. Washington, D.C.: American Association for Higher Education, 1976, pp. 33, 42-43.

5. Kenneth P. Mortimer, Accountability in Higher Education. Washington, D.C.: American Association for Higher Education, 1972, pp. 3-9.

RANGE OF ANNUAL TUITION AND FEES
MASSACHUSETTS STATE COLLEGES AND IN SELECTED STATES
FISCAL YEAR 1977

State Colleges	In-State Tuition	Required Common Fees ***					Total Tuition & Common Fees
		Student Activity	Athletic	Health	Library	Other*	
Connecticut	$ 390	$28 - 60				$218-278	$648-708
R.I. College	504	40	14	10		42	610
Maine	550	20-35					570-585
N.H.	700	70		0-15		26-45	796-830
Vermont	670	50		23		50	793
New Jersey	$22/credit 704					139	843
Illinois	510	30-40				70-106	610-656
Minnesota	444	45		24		60	573
U/Mass- Boston	345	30	10	44			429
U/Mass-Amherst	345	53	30	77		130	635
Community Colleges	300	25-40				32	355-370
Mass. State Colleges	500	25-50	25-60	0-24	10-20	0-35	570-657 ****
Public 4-Yr Colleges (AASCU)							$582 *****
Private 2-Yr. Average **							2,345
Private 4-Yr. Average **							2,823

* Connecticut has a $150 fee for the operation of auxiliary services and a variable General Service fee.
Many Systems have student union fees.

** College Scholarship Service of CEEB

*** Required Common fees are those charged to all students on a yearly basis

**** In addition to tuition and fees which will range from $581 to $678, it should be noted that room and board costs will add between $1220 and $1434 in academic year 1977-78, bringing the total range from $1801-$2112 for tuition, fees, room and board at the Massachusetts State Colleges.

***** Room and Board costs nationally for 4-Yr public colleges averaged $1211, bringing the total for tuition, fees, room and board to $1793 in fiscal year 1977.

JPB/lmc
September 9, 1977