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ABSTRACT

This document is one of five manuals designed to improve management practices in Ohio two-year colleges. This manual provides administrators with an organized and logical discussion of the planning process, examples of effective practices, practical and useful ideas to improve planning practices, and criteria for effective planning which can be used by individual colleges in evaluating and improving present planning processes. A chapter on planning processes presents a detailed discussion of how to write planning objectives, how to identify planning needs, how to calculate and forecast income and expenditures, how to determine priorities, how to allocate resources, and how to implement plans. A chapter on planning organization discusses where to begin, who should participate, and how to identify long- and short-range planning needs. A chapter on prerequisites for successful planning discusses the needs for an information data base and the criteria with which to evaluate it. The final chapter contains examples of the various products of the planning process. A detailed description of the techniques used to develop institutional goals and objectives, sample plans developed by two- and four-year colleges and a bibliography of planning literature are appended. (Author/DC)

PLANNING

Two Year Colleges

Management Improvement Program
Ohio Board of Regents

MIP

Prepared by a task force of two year college representatives with direction and staff assistance provided by the Ohio Board of Regents

July 1, 1973

Additional copies of the manual are available for $3.00 from the Ohio Board of Regents, 88 East Broad Street, Suite 700, Columbus, Ohio 43215.

Foreword

This manual is one of ten completed in the Management Improvement Program (MIP) during the 1971-73 biennium. In this project, Ohio's 34 public universities and colleges, in an effort directed and staffed by the Ohio Board of Regents, have developed manuals of management practices concerning institutional planning, program budgeting, personnel management, computer services, and schedule building and registration. The project is unique in at least two ways—the improvement of internal management processes is the objective of the program, and the method of undertaking it was mandated by the Ohio General Assembly to be participatory.

House Bill 475, the appropriation act passed by the 109th General Assembly in December, 1971, created the MIP, directing that it be conducted by and within the system of state assisted universities and colleges under the direction of the Ohio Board of Regents. This legislative action culminated more than four years of active interest by the legislators in improving the management practices of these schools.

In 1967, a joint House-Senate committee, called the Education Review Committee, was created by the General Assembly. Included in its charge was that of monitoring the management practices of the public universities in Ohio. This committee, in conjunction with the Department of Finance, hired a management consulting firm to perform a management study of the nonacademic areas of the 12 public universities and of the state system as a whole. The report of the consultants, published in December, 1969, made about 100 specific recommendations for management improvement. The Education Review Committee remained interested in appropriate follow-up of the study. With the aid of another individual consultant, language was introduced in the General Assembly which was included in the appropriation for the biennium. Some excerpts of the actual language are as follows:

> "The purpose—shall be to design, test, and install, in each such institution, the most efficient feasible internal organization, planning process, financial management, budget preparation and management, auxiliary services management, space management and plant operation, purchasing procedures and inventory control procedures, student data systems including admission procedures and student registration procedures, management reporting systems, data processing, personnel management, and library management.
>
> Each project is to be conducted in cooperation with a committee of representatives from state assisted colleges and universities.
>
> The director of each project is to be a staff specialist in the employ of the Board of Regents.

FOREWORD

For guidance in the conduct of each Management Improvement Project, the participants are to consult the findings as set forth in the 1969 Consultant's Report."

Primarily because the appropriation to carry out the program was not commensurate with the depth and breadth of the tasks spelled out in House Bill 475, the scope of the Management Improvement Program in this biennium was restricted to five central areas (Institutional Planning, Program Budgeting, Computer Services, Schedule Building and Registration, and Personnel Management). In addition, the original mandate of H. B. 475 was "to design, test and install the most efficient, feasible procedures" in each of the areas in each of the institutions. Because of the limited time, only 18 months, and the participatory method of undertaking the project prescribed in the bill, the immediate objective set forth in the past biennium was the generation of a manual of best practices in each of the five areas.

As stipulated by the legislature, task forces of institutional representatives were appointed and actively participated in the process. Ten such groups were formed—five for the universities and five for the community and technical colleges. Each task force consisted of representatives qualified in the particular subject matter under study. Each group had at least one member from every school. In total, more than 175 college and university personnel from all over the state were directly involved, as well as many others at each institution through formal and informal contact with the appointed members. Each task force met 8-10 times in the year and a half devoted to the project.

As specified in the legislative bill, the Ohio Board of Regents provided direction and staff for the project. Four professional management analysts, two secretaries, and limited part-time analytical and clerical help constituted the manpower to fulfill that charge.

Three major phases constituted the project:

1. **Inventory the current practices.**
   This phase involved compiling the existing practices and procedures in the five areas at each state-assisted school in Ohio. Approximately five months were devoted to this task.
2. **Determine the issues to be addressed in the manuals.**
   Three months were devoted to discussions about the specific issues to be covered.
3. **Write manuals.**
   Nine months were devoted to writing the manuals. This phase included extensive and detailed discussions by the task forces, much drafting and re-drafting by the staff and task force members, and finally concurrence with the manual contents.

The Manuals are practical, informative and useful. For the most part, all of the manuals contain general guidelines, principles and broad recommendations for good management within the universities and colleges, rather than detailed and specific procedures. They also include recommendations which call for direct action by the Board of Regents. Basically, the recommendations seek more effective internal management and accountability, while recognizing the autonomy of each school.

Literally hundreds of people have been involved in this project. All members of the Ohio Board of Regents staff, especially former Chancellor John Millett, and Vice Chancellor William Coulter, have made significant contributions to the entire project. The Regents were particularly fortunate in gathering together the staff for the MIP. Dr. Ronald Lykins, Mr. Lawrence O'Brien, Mr. Douglas Smith, and Dr. Joseph Tucker brought with them considerable experience and knowledge from administrative and academic aspects of colleges and universities, as well as from private industry. Their perseverance and leadership in directing and staffing the task forces were superb. Special thanks must be given to Mrs. Betty Dials, the secretary for the program, who was an inspiration to all.

Many agencies in other states, including colleges, universities and state systems, were contacted and in some cases contributed helpful data to the program. Applicable professional organizations were also contacted and did help.

But more than any other, however, the contributions made by the individual task force members must be mentioned and expanded upon. The more than 175 personnel from the 34 colleges and universities who were the official representatives for their schools contributed long hours, data, ideas, constructive criticisms, changes, and encouragement. They not only worked collectively in the task forces, but also were required to spend considerable time on the respective campuses gathering data together and communicating with many campus constituencies to make sure that their schools were fairly and adequately represented.

The two-year college planning task force members were:

Harry H. Carter, Dean
Clark Technical College

H. R. Fallerius, President
North Central Technical College

Tom F. Foti, Vice President
Scioto Technical College

Harvey W. Graham, President
Washington Technical College

E. Earl Greer, Director
Belmont Technical College

Walker Huffman, President
Muskingum Area Technical College

Russell W. Jordan, Vice President for Education
Columbus Technical Institute

Murray Kenna, Institutional Research Director
Sinclair Community College

Willis P. Kern, Vice President
Lakeland Community College

FOREWORD

Roy W. Klay, President
Terra Technical College

John G. Lepp, President
Marion Technical College

John J. Light, President
Hocking Technical College

Alfred M. Livingston, Executive Vice President
Cuyahoga Community College

Larry Manahan, Dean of Instructional Services
Northwest Technical College

William T. Mills, Administrative Dean
Muskingum Area Technical College

Gary B. Price, Associate Director of Newark Campus of
Ohio State University
Represented. Central Ohio Technical College

Fred S. Robie, President
Jefferson County Technical Institute

Richard C. Romoser, Director of Institutional Research and Planning
Cuyahoga Community College

Jacob H. See, President
Michael J. Owens Technical College

Clyde E. Stiner, Dean of Instruction
Lorain County Community College

Charles Warman, Director of Research and Planning
Cincinnati Technical College

Fred A. Yenny, Director
Stark Technical College

Woodford Zimmerman, Associate Director of Ohio State University—Lima
Campus
Represented. Lima Technical College

William B. Coulter, Vice Chancellor for Administration
Ohio Board of Regents (Chairman)

Gerald L. Shawhan, Director of Management Studies
Ohio Board of Regents (Task Force Director)

Without their sincere participation, this manual would not exist.

Gerald L. Shawhan, Director
Management Improvement Program

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1. Introduction to Planning

Need for Emphasis on Planning

PLANNING IN THE EDUCATIONAL ENVIRONMENT

Planning is one of the most important functions of management. Although planning has long been an everyday part of college management, little attention has been given to the "planning process" as a major element until the past few years. Three major forces have created this concern. First, major strides have been made by corporate, defense and urban planning agencies in developing tools, technology and approaches to the management process. Operations Research (OR), Planning Programming Budgeting Systems (PPBS), Management Information Systems (MIS), and Systems Analysis, all coupled with improved computer support, represent major examples. Second, the ever growing involvement of students, parents, legislators and taxpayers in matters which were formerly considered to be "institutional", and the corresponding demand of these voices for the college to "account" for its activities, expenditures, and the like. Such demands force the schools to relate results with objectives and thus put more emphasis on the planning phase. And finally — perhaps as a partial result of the other two — colleges are being forced to compete with other societal organizations for a share of the tax dollar and the privately contributed dollar; while at the same time expenses continue to rise.

Definition and Role of Planning

In this manual, planning is defined as that part of the management process which attempts to predetermine a course of action. The planning process is characterized by a systematic consideration of goals and objectives, identification of programs; calculation and allocation of resources, determining priorities and alternatives, and evaluation.

Planning is a cyclical process which results in plans. A plan is a document which outlines a complete program of action to be followed in attaining goals and objectives. It is important to distinguish between plans and the planning process. The planning process results in a plan. It is possible, but not desirable, to have a plan which does not reflect all of the steps in the planning process. To be of most value, a plan should indicate all facets of the planning process. Finally, the planning process does not stop with the first draft of a plan. They must be redrafted, evaluated, revised and changed even after implementation to meet changing conditions and needs.

INTRODUCTION TO PLANNING

Purposes of Planning

Planning exists to assure that resources are available and used in the best way to obtain a college's goals and aims. In state institutions of higher education in Ohio, this assurance is necessary to students, faculty, administrators, boards of Trustees, the Board of Regents, the Governor, Legislature, Federal agencies and bodies, and the ultimate authority—the taxpayers.

Comprehensive Planning

The planning process must comprehend all elements of the school. As well, it must be concerned with the larger world: Instructional support planning with instructional planning; and the college planning with that of the state. Planning must reflect a multi-ranged view; it must present a long-, medium-, and short-range perspective. Planning must be an integral part of college management: at all levels, especially at the top, there must be a conscious, purposeful, commitment to planning. Finally, planning must reflect qualitative, as well as the quantitative concerns.

Goal of a Plannings Process

A planning process is necessary in order;

1. to insure that planning does take place throughout the college
2. to show the results of planning in a series of plans which set specific directions for the school
3. to assign responsibility for the development, implementation and evaluation of plans and the planning process
4. to provide evidence to anyone that the school is planning effectively, and thus using available resources in the fulfillment of its mission.

INTRODUCTION TO THE PLANNING PROCESS

Planning is one of the most important functions of the management process. It supports the other functions which are organizing, implementing, and controlling. The effective organization, implementation and controlling doesn't just happen — these functions themselves require planning. In this manual, we will refer to the concept of planning for organizing and implementation as program management. Planning for controlling will be called evaluation.

Steps in the Planning Process

Planning is a cyclical process which calls for every unit in a school to systematically

1. **Set Goals and Objectives**
2. **Establish Programs**
3. **Calculate Resource Requirements**
4. **Determine Priorities and Alternatives**
5. **Allocate Resources**
6. **Manage programs (Planning for Organizing and Implementing)**
7. **Evaluate (Planning for Controlling)**

Definitions of the foregoing terms used in the planning process:

Goals — the desired end results set for a program. Goals are generally set for long periods of time (e.g., ten years). The words goals and

objectives are often used interchangeably. This is unfortunate and incorrect. They differ in terms of time frame, measurability and sequence. Goals are long run and the end result; objectives are short range and are steps in the direction of attaining a goal.

Objectives — the measurable attainments or desired results set for programs over a short period of time (e.g. one year). Objectives are generally thought of as progressive steps toward a goal. Thus, a series of objectives should lead to one's goal.

The requirements of written objectives are that they:

1. Relate to a goal;
2. Are measurable or observable;
3. Specify the method of measurement and criteria for evaluation; and
4. State the time period for achievement.

Programs — a group of related activities used to achieve goals and objectives.

Resources — personnel, space, support services and equipment.

Priorities — setting the relative importance of goals, objectives and programs.

Alternatives — a choice of programs to achieve goals and objectives.

Program Management — the organization and implementation of programs.

Evaluation — a systematic process to determine or estimate the effectiveness of a particular program.

The ingredients of the planning process are not mutually independent. No step can stand alone. Thus, it is important for administrators to use the total process in all existing and conceived programs. Indeed, it should permeate every organizational unit in the school.

Chapter Topics in the Manual

In Chapter 2, a detailed discussion of the planning process is presented. Examples are shown.

Chapter 3 concerns the organization of the planning process in a college.

Chapter 4 outlines the resources needed for planning.

Chapter 5 outlines specific types of plans which schools should consider.

A glossary of planning terms and a bibliography of planning literature are shown in the Appendix.

Purposes of the Manual

PURPOSES OF THE PLANNING MANUAL

The purposes of the planning manual are:

1. To provide administrators with an organized and logical discussion of the planning process.

2. To share effective planning practices.
3. To provide practical and useful ideas to improve planning practices at individual two-year colleges.
4. To provide some criteria of effective planning which can be used by individual schools to evaluate and improve present planning processes.
5. To identify and describe specific plans which are recommended for two-year colleges.
6. To provide a taxonomy of planning terms as used by schools in Ohio.
7. To provide a bibliography of planning literature.

Disclaimers

Some things are best described by indicating what they are not. In that sense the Manual of Best Practices can be described by saying:

1. It is not a description in all cases of the one best practice or procedure.
2. It is not a push for uniformity, for uniformity's sake. In fact, in more cases than not, this manual recognizes real and significant differences in emphasis, organization, tradition, environment, etc. which lead justifiably to different practices.
3. It is not the ultimate in recommended practices. We are not so naive as to think there is no room for improvement. Yet the manual does represent a consensus of the MIP staff and Task Force members who themselves are practitioners on the front lines of the operational battles.
4. It is not a wholly self-contained, complete, step by step process of items which if copied verbatim results in an accomplished planning process. It is not a "cookbook."

Recommendation to Document the Planning Process

As minimum evidence of planning, every two-year college in Ohio should file with the Ohio Board of Regents a Comprehensive Institutional Plan. Furthermore, there should be some evidence that this plan is used as a management guide and that it is updated at least on a biennial basis. The school should be able to:

1. Demonstrate that a planning process does exist throughout the institution.
2. Identify and show examples of the specific plans needed and used by the institution.
3. Identify personnel and resources involved in the planning process.
4. Identify personnel responsible for implementation and evaluation of the plans.
5. Identify results of the planning process.

PLANNING IN RELATION TO THE MANAGEMENT IMPROVEMENT PROGRAM (MIP)

Planning, an indispensable ingredient of the management process, is an

integral part of Program Budgeting, Personnel Management, Registration and Scheduling, and Computer Services. Although all other MIP manuals will refer to the planning process, the Program Budgeting Manual will be most closely related.

This planning manual is designed to provide general guidance in any type of planning process and thus in the development of any plan. The Program Budgeting Manual focuses on financial elements and considerations of management, including those in the planning process, but is primarily concerned with the calculation and allocation of resource requirements. These are usually expressed in terms of dollars and cents and ultimately set down in a budget.

2. Planning as a Cyclical Process

GOALS AND OBJECTIVES

Role of Goals and Objectives in the Planning Process

A weak link in planning has often been the failure to identify and agree upon goals and objectives. Establishing goals and objectives is difficult for several reasons:

1. Uncertainty as to the meaning of goals and objectives. The two terms are often vague and used interchangeably.
2. Methods for defining and agreeing on goals and objectives are not well developed.
3. Faculty members and administrators are sometimes not trained in the principles of management, and thus are not acquainted with the concepts of goals and objectives as used in a management context.
4. People on one level often "point out" that the next higher level does not have satisfactory goals and objectives to relate to.

Goals and objectives are necessary because they:

1. are the imperative first steps in establishing the direction in which a unit is to proceed.
2. tend to require a rational study by those responsible for managing.
3. provide a means of selecting programs.
4. provide a focus of evaluation.
5. provide targets to which all parties can relate.

Goals and objectives are the foundation of the planning process, and it is vital for them to be clearly defined. Goals are defined as the desired end results over long periods of time (e.g., 3-10 years).

Goals and objectives are often used interchangeably, but this is wrong. They differ in terms of their time frame, measurability and sequence. Goals are long run and the end result; objectives are short range and are steps in the direction of attaining a goal. Objectives are the measurable attainments or desired results over a short period of time (e.g., one year). Objectives are generally regarded as progressive steps toward a goal. Thus, a series of objectives should lead to one's goal. Goals must be established before objectives are specified.

Requirements of Goals

Goals must:

1. Be in agreement with the school's philosophy
2. Be compatible with the aims and mission of the school

3. Be divisible into objectives
4. Be realistic or attainable
5. Select predictable consequences
6. Be long-term

Requirements of Objectives

Objectives must:

1. Relate to a goal
2. Be measurable or observable
3. Identify the specific group to which they apply, i.e., the target group
4. Specify the method of measurement
5. Specify the criteria for evaluation
6. State the conditions under which measurement is to be accomplished
7. State the time period for achievement

Written Goals and Objectives

To be useful, goals and especially objectives must be specified in writing. Writing requires specificity, and enables later comparison, evaluation and change.

Guidelines for Developing Goals and Objectives

As previously stated, methods of defining goals and objectives are not well developed at most schools. In fact, the process of meaningfully developing goals and objectives and distinguishing between the two, is difficult, usually time consuming, and requires patience and practice. Because very few college administrators have experience doing this, a detailed technique is offered in the appendix. It is an example of how an individual can arrive at genuine goals and objectives and distinguish between the two.

Institutional Goals and Objectives

Most techniques of determining goals and objectives work well with relatively small organizational units. However, the problem of defining and agreeing on college-wide goals and objectives is more difficult. This is so, primarily because of the broader range of clientele involved (OBOR, trustees, local citizens, local industry).

As departmental goals and objectives should be predicated on college-wide goals and objectives, it is most important that such goals and objectives be delineated, and understood by everyone. But such delineation is difficult. Two-year college administrators, like their counterparts in industry and the rest of higher education, often find all of their time consumed by day-to-day problems and concerns. In the hustle and bustle of operating, controlling, and putting out fires (both brush and forest), the tasks of planning — especially intermediate and long range — are often shelved for action at a later time. And all too often that later time does not appear. Thus, **we recommend that at least once a year, the President, his senior administrators, and others of his**

choosing, reserve adequate time to consider among other items, the three below:

1. Reviewing current plans
2. Reviewing current progress
3. Updating and delineating college-wide goals and objectives.

This activity could easily be conducted over a weekend, on or off the campus. Once completed, the college-wide goals and objectives should be referred to the Board of Trustees, faculty, and perhaps students for critique, review and information. Then these goals and objectives become the basis for the rest of the management process as described above.

Process of Identifying Programs

To be a useful planning concept, the term program must be given a more precise identifiable definition than such examples connote. They appear to be suitable, at the highest level, for developing an Educational Plan. Sub-programs have been identified for Departmental Instruction, e.g. by level of instruction and discipline, or by type of degree. But sub-programs have not been generally defined for noninstructional activities such as public service, administration, etc. It is not important for all two-year colleges to follow or structure the exact same programs. As is discussed in the following section, each school in its planning and operation must structure its own programs. But for purposes of statewide reporting, and interinstitutional comparisons, it is important for all two-year schools to follow one reporting system for its programs.

The current OBOR Uniform Information System set of programs was designed with the universities primarily in mind. It has proven not to be satisfactory for the colleges. It is recommended therefore that the OBOR constitute a group of two-year college representatives to modify the UIS, including the program structure, to make it more meaningful to the two-year system of higher education in Ohio.

Criteria of a Program

To help define a program, certain questions should be answered. They are:

1. What action is necessary?
2. Why is it necessary?
3. Where will it take place?
4. When will it take place?
5. Who will do it?
6. How will it be done?

When these questions are answered carefully and completely, for every goal and objective, descriptive programs can be set forth in any planning document, for any organizational unit or level.

The answer to the first question, what action is necessary, indicates the type and order of activities necessary to achieve the desired end result. Also included in this answer are descriptions of the facilities and equipment which will be required to carry out the proposed activities.

Why is it necessary, alerts the planner to include only necessary activities. An activity not supporting the objectives is excluded.

Where will it take place, designates the specific physical location for the performance of each activity of the plan.

The answer to **when** will it take place, emphasizes the timing considerations. A definite beginning and ending time should be determined, not only for the entire course of action, but also for each separate activity included in the plan. All facilities must be available at the proper time in order for the planning to be meaningful.

Who will do it, establishes assigned duties and responsibilities for the members of the group.

Finally, **how** will it be done, not only describes the manner of doing the work, but also serves as a review regarding the thoroughness in answering the first five questions. This last question actually checks the entire plan for completion and for direction toward the desired goal.

It might be said by some people that programs can be identified by simply answering the first question — "What action is necessary?" This may be true in some circles, but we believe that a program is not a program until all six questions can be thoroughly answered. For example, why identify a program if one doesn't know why it must exist; or "How can one have a program if it is not known **who** will undertake the program?" Perhaps a trained person is not available on campus or one cannot be recruited? Thus, an activity that is described as a program and only answers the first question of **what**, is only a skeleton and not a program as used in this manual.

In summary, the planner who can thoroughly answer the questions of what, why, where, when, who and how, can clearly identify the activities necessary to attain the goals and objectives. These activities are referred to as programs. After programs are identified, the planner can then proceed with the next step in the planning process — calculation and forecasting of resources.

CALCULATING AND FORECASTING INCOME AND EXPENDITURES

Any well designed planning system must include well designed procedures to forecast both student enrollments and revenues. Because of the importance of these two items, we will first cover enrollment forecasting.

Importance of Enrollment Forecasting

The importance of good enrollment forecasting was never more evident than in the early 1970's when several state schools in Ohio, and many throughout the country, enrolled far fewer students than had been projected. As a result, revenues, both in the form of student fees and state subsidy, were significantly less than that which had been used to determine budgets and commitments.

Suggestions to Improve Enrollment Forecasting

Several suggestions are offered to improve the process of enrollment projections.

1. **The Ohio Board of Regents must give and maintain detailed attention to enrollment forecasting. The recently formed advisory committee on statewide enrollment projections should be made permanent. Per-**

sonnel and other resources should be specifically funded by the Ohio Board of Regents for enrollment studies. Included in its charge should be that of reviewing, annually, each institution's enrollment projections and methodologies. It should also be charged with advising the schools concerning better methods of enrollment projections.

2. Specific responsibility and resources must be assigned by each two-year college for continuous enrollment studies.
3. Enrollment goals and objectives must be long term, realistic and constantly evaluated to meet changing trends, needs and supply.
4. The institutional methodology of projecting enrollments must be documented.
5. The data base for making projections must be clearly identified. Factors which may be considered include, but are not limited to, high school graduates by district, percent of high school graduates enrolled, age groupings, population — census data, employment data, industry projections of jobs, etc.

In addition to considering the foregoing suggestions, it is recommended that each two-year college document its enrollment projection process. Also, every plan involving students which is submitted for administrative consideration should have a section explaining projection assumptions.

Forecasting Income and Expenditures

After programs have been defined, it is necessary to forecast income and expenses for each one.

It is common in educational literature to emphasize the forecasting of resources rather than income and expenses. Resources have been defined as personnel, space, equipment and support services. It is true that the calculation of resources is very important. However, this concept is too narrow by and of itself to be of maximum value in the planning process. Attention must be given both to income and expense. In fact, a criticism of some educational administrators is that they often focus much attention on how monies will be spent with little or no consideration of the sources of money.

When the planner examines expenditures, he should think of personnel, space, equipment, and support services and convert these to dollars and cents. At the same time, if not before, the planner must think of the possible sources of income. Thus, it appears to be more meaningful to talk first in terms of income and expenses rather than the allocation of resources.

Any plan submitted for review should include an estimate of income and expenditures. Too often proposed plans are reviewed and even approved without due consideration to both income and expenditures. The results may be evident in a building program never completed, a building without adequate equipment or which cannot be properly maintained, an academic program without operating support, etc. The sources of income should be designated and the expenditures should be expressed in terms of required resources. When a plan is first conceived and submitted for review, the forecast of income and expense may be only a guess. However, as plans are refined, forecasts should become more accurate and reliable.

The planner must consider three stages of income and expense. The first stage reflects funds necessary for the development and refinement of plans. The second stage indicates income and expense necessary for implementation, and the third stage considers the actual operational phase of a plan.

Often too little attention is given to the income and expenses (both dollars and time) necessary just to develop and refine effective plans. The result may be acting without a plan, or with ill-conceived ones.

Methodology of Forecasting Income and Expenditures

The first important step in projecting income and expenses is to clearly designate responsibility. The responsibility may be assigned to the person(s) preparing the plan, the Financial Vice President or others. The responsibility may be shared, but it must be spelled out.

Depending upon circumstances, the actual forecast of income and expense may be based on one or more of the following sources:

1. **Guess.** If very little or absolutely nothing is known about the proposed plan, an educated guess may be the only basis for making a projection. In the preliminary stages of planning, a guess may also be the most appropriate basis for a projection. However, as plans are refined and become more certain, the projection will involve additional support from other steps listed below.
2. **Past Experience.** If the plan is a refinement of an old plan, then the projection may be based on past experience. Such experience is not always indicative of the future, but certainly must always be an important factor.
3. **Similar Situations.** The projection may be based on plans which have been instituted at other schools. Circumstances nearly always vary, but similar situations do in fact provide some insight.
4. **In-House Personnel.** Faculty and staff members who have expertise in matters pertaining to the plan may provide help. For example, a faculty member may have in-depth knowledge of a subject under consideration.
5. **Consultants.** Proper use of outside consultants may be an excellent basis for making projections. Care must be exercised to insure that reputable and knowledgeable consultants are used. Also, 100% reliability on consultants must always be avoided—faculty, staff and in-house planners must always be involved. Consultants can often be an excellent supplement but never a substitute for proper educational planning.
6. **Models and other Mathematical Techniques.** Models such as those developed by the Ohio Board of Regents, Systems Research Group, National Center for Higher Education Management Systems, and others may help. Models in many cases can be an excellent departure point for making projections. Also, projection techniques such as curve fitting, regression, etc. may be used.
7. **Ohio Board of Regents Staff.** The Ohio Board of Regents has a number of personnel who can offer assistance based on their own experi-

ence as well as on data from other schools. In particular, the Vice Chancellor for Two-Year Campuses and his staff are recommended.

Any or all of the above may be appropriate for a given situation. In many situations, the best predictor is a combination of several methods.

Format for Forecasting Income and Expense

The format to use for forecasting income and expense will vary according to the school and to the type of plan. (The Program Budgeting manual contains examples of budget formats for the Financial Plan.)

Because it is so important for a planning unit to consider all aspects of income and expense in a plan, **it is recommended that an official, standardized format for forecasting income and expense be developed by each school.** (Figure 1 is an example of one such form.) The form should incorporate the three different stages of planning; (1) Development, (2) Implementation, (3) Operational.

Figure 1

EXAMPLE OF FORMAT FOR FORECASTING INCOME AND EXPENSE

	Projection			
	1 Year	2 Years	5 Years	10 Years
I. Income				
1.0 Direct				
1.1 State Capital Funding				
1.2 Operating Funds — State Subsidy				
1.3 Student Fees				
1.4 User Charges				
1.5 Reserves				
1.6 Dept. of Vocational Education				
1.7 Gifts				
1.8 Federal Government				
1.9 Local Funds				
2.0 Special Grants				
2.1 Loans				
2.2 Other (Specify)				
II. Expenditures				
1.0 Direct				
1.1 Personnel				
1.11 F T Unclassified Personnel				
1.12 Classified Civil Service				
1.13 Other Salaries and Wages				
1.14 Other Personnel Directly Assigned to Planning				
1.15 Consultant's Fee				
1.16 Benefits				
1.2 Support Services				
1.21 Supplies				
1.22 Equipment				
1.23 Travel				
1.24 Computer Services				
1.25 Institutional Research				
1.26 Other Research Services				
1.3 Other Direct Cost (Specify)				
2.0 Indirect Cost				
2.1 Personnel Outside of the Major Planning Area ,e.g., deans, departments heads, vice presidents, presidents, and others				
2.2 Significant Outside Support Services, Equipment, Supplies, etc.				
2.3 Institutional Overhead				

Some educational administrators argue that reliable projections cannot be made for some plans — particularly in the early stages of planning. This is not an acceptable position. No matter how early in the planning stages, and no matter the amount of uncertainty, premises and assumptions should be stated and projections made. This policy forces planners to think about who is involved and affected, the sources of funds, and how they are to be spent.

Projection Values

Projections of income and expense can reflect a number of possible values:

(1) Best estimates of anticipated income and expenditures
(2) Alternative Levels — High, Medium, & Low
(3) High side
(4) Most likely value with a variance range, e.g., $100,000, plus or minus $10,000.

The appropriate value to use will depend upon the stage of development, the amount of known information, the philosophy of the planner, and a host of other variables. The most important point to make is that the value level be clearly specified.

Factors to Consider when Forecasting

It is helpful when preparing income and expense projections to record the considerations and assumptions used, and the data of preparation. For example:

(1) Personnel costs will generally comprise the greatest expenditures in any activity.
(2) Consider the influence of inflation — particularly in long term projections.
(3) Consider the generally increasing rate of interest particularly when going to the bond market.
(4) Consider the value of time. Every day lost may save or cost money — the question is which and how much.
(5) Every income and expense estimate will generally vary to some degree.
(6) Unexpected emergencies will arise, eg., strikes, weather, etc. How much will they cost and what contingency plans are made?
(7) Nothing is free. Even if matching funds or some other direct expense commitment is not required, planning and start-up costs will usually be involved.
(8) What are the consequences if anticipated income does not come in at the rate anticipated or not at all?

Scope of Priorities and Alternatives

DETERMINING PRIORITIES AND CONSIDERING ALTERNATIVES

The determination of priorities and consideration of alternatives is a vital aspect of the planning process. As with other steps in the planning process, isolating these two is extremely difficult. All of the steps are interwoven, con-

tinuous and dependent on each other. Thus, when goals, objectives, programs and resource requirements are determined, consideration is inherently given to setting priorities and considering alternatives. This section will focus, however, on the evaluation of alternative programs, and the determination of which plans have highest priority.

When programs are considered, there is often more than one which will serve to reach the objectives set. These alternative ones must be evaluated and compared to one another. At least four questions are usually addressed during this phase of the process.

— How well does the program relate to overall goals and objectives?
— Is the program well defined?
— What is the projected quality of the product?
— What is the cost-effectiveness?

The meaning of cost-effectiveness deserves special attention. Cost-effectiveness analysis is essentially the comparison of two or more alternatives with regard to their cost and effectiveness in performing some functions. There are actually five distinct criteria by which one of the alternatives could be judged superior in cost-effectiveness to the others.

1. **Lower cost, equal effectiveness** — The superior alternative is less costly than the others but equally effective.
2. **Equal cost, higher effectiveness** — The superior alternative is no more costly than the others but is more effective.
3. **Higher cost, higher effectiveness** — The superior alternative is more costly but it is also more effective. The increase in effectiveness is judged to be worth at least the increased cost.
4. **Lower cost, lower effectiveness** — The superior alternative is less costly but it is also less effective. The cost saving is judged to at least compensate for the reduced effectiveness.
5. **Lower cost, higher effectiveness** — (the best possibility)

Which of these criteria is to be satisfied in a given analysis will depend on the objectives and constraints of the decisior. maker. If the budget is fixed, criterion 2 is appropriate. If it is important to save money, either criterion 1 or criterion 4 is appropriate; and if increased effectiveness is essential, criterion 2 or criterion 3 is appropriate.

The Table Below Illustrates a Cost-Effectiveness Comparison

Alternate	Cost*	Effectiveness*	Criterion from above by which alternate is more cost-effective
Current situation	10	10	—
Alternate A	9	10	1
Alternate B	10	15	2
Alternate C	12	20	3
Alternate D	9	9	4

*Cost and Effectiveness specified in some units

The other possible criterion that seldom arises is not illustrated in the table. It is where costs could be reduced (i.e., 5) and effectiveness increased (i.e., 15).

After all of the programs have been evaluated by the appropriate personnel, the weights can be totaled and ranked in order of priority weight. An administrative decision can then be made to determine if the weights reflect the desired priorities. If not, justification should be given by the administrator as to why any weighted priority should be changed.

Having set goals and objectives, determined programs, projected income and expense, and evaluated from among the alternative programs, one must at some point judge between two or more plans. This judgment process is what we refer to as determining priorities among plans. A number of factors are usually considered.

- — Relationship to school goals and objectives
- — Expected output benefits
- — Consequences of not implementing
- — Economic savings
- — Probability of attaining necessary income
- — Managerial skills to implement and operate the plan
- — Improved efficiency and productivity
- — Quality improvement
- — Priority set by persons outside the school such as donors, legislature, Ohio Board of Regents, etc.

Each of these factors must usually be judged on the basis of short-term, intermediate-term, and long-term periods.

In summary, it is recommended that each plan include references to alternate programs considered. Each school should determine priorities among all of its plans using guidelines discussed above.

RESOURCE ALLOCATION

Scope of Resource Allocation

Resource allocation is often associated with the dollars expressed in an operating budget. In a comprehensive planning concept, resource allocation is concerned with more than that. True monies are an important consideration and in the final analysis will strongly influence the plans approved. However, the planning process encompasses much more than the operating budget; it must focus on all types of plans, i.e., educational, capital, etc. Furthermore, the impetus of analysis should be focused on total resources. Thus, the educational administrator who is engaged in planning must think and analyze in terms of personnel, space, support services and equipment.

As described in the previous section of this manual, an orderly process for projecting income and expense must be incorporated in the planning process. These projections will generally be revised and updated a number of times before a plan is submitted for approval. At that point, a decision must be made to determine resources (if any) to be allocated.

Considerations for Installing an Effective Resource Allocation Process

There are four major considerations for installing an effective resource allocation process. First, it must be made clear who has responsibility for allocating resources; second, systematic procedures must exist to allocate and approve resource requests; third, criteria must be established to insure that rational consideration is given to a request; and fourth, the allocation decisions must be given appropriate distribution.

The first consideration concerns the indication of who has responsibility for resource allocation. Though the president must shoulder the ultimate responsibility, he may wish to delegate much of that function to other administrators. The question of how much he delegates, to whom, and/or if he views some or all of the others as strictly advisory to him, depends a great deal on the president's personal administrative style, the size and complexity of the school, and the confidence he places in his subordinates. **But without question, it is recommended that whatever the delegation of such responsibility, it must be made clear to all parties involved.**

Systematic Procedures For Allocating Resources

It is not the purpose of this manual to set forth detailed instructions on how to allocate resources. The program Budgeting Manual treats this phase in much greater detail. However, there are some general guidelines which each institution should follow when developing allocation procedures.

First, it is recommended that procedures for allocating resources should be expressed in writing, distributed throughout the college community and updated on a regular basis. These procedures should encompass **all** resources — personnel, space, equipment and support services.

Two additional items which should be considered in resource allocation procedures are:

1. A table of responsibilities, due dates for submitting budgetary requests, and also clear instructions which describe the components necessary to support requests, goals and objectives, program description, alternatives, method of evaluation, etc.
2. Narrative statements or charts to identify the process of approving the use of resources, e.g. President, Board of Trustees approval, Ohio Board of Regents review, etc.

Criteria for Allocation Procedures

The third major consideration in the budgetary process **is to develop and use a set of criteria in judging requests. Generally, the same set of criteria used to set priorities for plans is used for making final allocations.**

After resources have been allocated, an orderly process must be developed to inform appropriate people. First, it is recommended that all such decisions should be expressed in writing, dated, and signed by the appropriate officer of the school. Second, it is important to make the whole school aware of at least the major allocation decisions.

It is specifically suggested that all budgetary increases (down to department level) be published within the college. Furthermore, the rationale for the decision should also be published with specific allusion to the factors mentioned earlier under the heading of setting priorities.

After resources have been allocated, plans must be developed for implementation and actual management. These steps in the planning process fall under the scope of program management.

PLANNING FOR PROGRAM MANAGEMENT

Planning and Management

Planning actually established the groundwork and background for organizing, implementing and controlling. The plans certainly influence the organizational structure which is built and used. Approved plans must be implemented and they must be controlled to insure that the plans are being realized as intended. In fact, a manager organizes, implements and controls in order to realize goals and objectives as set forth by his planning efforts.

Planning for Implementation

The Planning and organizing do not accomplish the work. The plans and the organized efforts must be implemented. To implement means to put the plan into action. No tangible output is achieved until the plan is implemented.

Among the more important factors concerning planning for implementation are: (1) relations between the President, other administrators, faculty, and students, as well as the local community and Board of Trustees, (2) the period of time in which the plans are to be implemented, and (3) the money and resources for implementation.

Steps in Implementation Planning

For every plan that is approved and funded, it is recommended that specific responsibility be assigned for implementation. The following guidelines should provide some direction for individuals charged with the responsibility of implementation:

(1) **Recognize the Goals and Objectives.**
Make certain the goals and objectives are compatible with efforts in other major areas and are attainable — not impractical dreams.

(2) **Establish a Detailed Program of Activities**
This should include a step-by-step listing of all activities to take place in their prescribed sequence. Participation by all involved personnel is encouraged; their feelings and ideas regarding the plan can influence its formulation.

(3) **Estimate the Time and Cost**
Completion dates should be set for each step of the plan, with provisions for the unexpected. Some will require longer periods than anticipated, and others will be successfully concluded in shorter time. In addition, estimates should be prepared to show expenditures involved as well as income.

(4) **Obtain Approval and Put the Plan into Operation**
Gaining approval of an implementation plan assists communication and aids in securing the backing of the President and other administrators. Initiating the plan into action begins with a thorough understanding by those affected by it. Employee participation, as

mentioned under Step No. 2, usually assists in gaining greater acceptance. Converting the idea into reality is frequently difficult; sufficient time and flexibility to enact the plan must be allowed.

PLANNING FOR CONTROL EVALUATION

Planning for Control (Evaluation)

Planning of control is concerned with evaluating performance and informing managers of comparisons between what is being accomplished and what was planned. Usually there are many means available to determine whether an assignment is being executed as intended, but they are often not readily available or timely unless planned for. Effective controls don't just happen; they must be planned for and given careful consideration.

Controlling is defined as the process of determining what is to be accomplished, the standard; what is being accomplished, the performance; evaluating the performance; and if necessary applying corrective measures. Controlling is the natural follow-up to the other three fundamental functions of management. There can, in fact, be no controlling without previous planning, organizing and implementing.

Control is related to all other fundamental functions of management, but especially so to the objectives set. When correctly stated objectives are determined, control is simplified because of the measurability and time deadlines associated with such objectives.

Steps in the Control and Evaluation Process

The control process consists of several fundamental steps.

(1) Determining the standard or basis for control. (This should be done when objectives are set.)
(2) Measuring the performance.
(3) Comparing performance with the standard and ascertaining the difference, if any.
(4) Correcting deviation by means of remedial action.

Types of Standards to Formulate

Any activity can be controlled with respect to any one or all of the following factors:

1. Quantity
2. Quality
3. Cost
4. Time

To illustrate, consider the activities of a school. Quantity can refer to the number of credit hours produced, the number of graduates, the ratio of faculty to students, etc. Quality can be judged by standardized test results, number of graduates obtaining a job or transferring to a four-year school, number of dropouts, accreditation, educational level and experience of faculty and administrators, and others. The cost of graduating students, expenses per student

credit hour, etc. are useful measurements. Finally, time can almost always be employed as a standard. Timetables or schedules are a kind of standard.

It is important to note that it is not essential that each activity be controlled with respect to all of the four factors. In many cases adequate control is obtained by the use of just one or two.

Because of the importance of and need for evaluation, it **is recommended that every plan contain a set of standards by which programs can be controlled. Clearly stated objectives will ease this task.** Every program will differ, but standards should generally be set in the areas of personnel, space, equipment and support services.

Standards are sometimes difficult to agree upon. Nonetheless, standards must be set forth and used to evaluate what actually happened. **It is recommended that before any plan is implemented, the standards of evaluation be understood and agreed to by the personnel who are implementing.**

3. Organization of the Planning Function

ESTABLISHING A FORMALIZED PLANNING EFFORT

Commitment to Planning

As previously stated, one of the major functions of management is to organize for planning. Responsibilities must be assigned, an effective communications network must be developed for those in the planning process, and channels and levels of decision making must be clarified.

The process of formal educational planning can proceed, once the commitment of the president and top level administrators is clearly established. Until a commitment to planning is made by the president, and it becomes clear that resource allocation decisions are a part of planning, little meaningful planning will occur. **For planning to be successful, the president must, in most cases, be fully involved in the planning process, and the depth of his commitment must be unequivocably impressed on the administrative staff, faculty and other members of the community.**

Where to Start Planning

After a commitment has been made to planning, the president may ask, "Where do we begin?" Simply stated, the place to start planning is to begin where the greatest needs exist. However, this decision cannot be effectively made until the president has reviewed the planning process and taken an inventory of planning needs. For example, a president's list of planning needs might look as follows:

1. Need a new enrollment plan
2. Need to educate administrators and faculty on the role and importance of planning
3. Need an improved statement of institutional goals and objectives
4. Need a director of planning and a staff
5. Need a comprehensive institutional plan — as requested from the Ohio Board of Regents

After such an inventory and evaluation of planning needs, the president should be in a better position to organize.

Planning may be highly centralized, very decentralized, or somewhere between depending upon the nature of the college.

Methods of Organizing

Some of the possible methods of organizing are as follows:

1. No effort is made to formalize planning. Planning is a part of each administrator's duties.

2. Formal planning is executed only in certain areas of the college, e.g., physical planning.
3. Centralized planning is handled in a planning department; no planning executives or staff exist in the departments.
4. Planning is carried out by a planning executive and staff at both the central administrative office and in the operating units.
5. Planning is coordinated and staffed, and the process is directed, by a central administrative officer. Actual plans are the product of a process involving all college personnel — especially all administrative personnel.

It is recommended that the two-year colleges in Ohio adopt an organizational model (#5) of a central planning coordinator. Furthermore, this coordinator must be the same person responsible for structuring the "budgeting process" for the school to insure that "planning" and "budgeting" are not carried out separately. The two processes must be carried out together or at the least closely coordinated. Planning as used in this manual includes the traditional "budget preparation process." For small colleges, the president may need to be the "coordinator" as recommended here.

Definition of Policy

A policy is a verbal, written, or implied overall guide establishing boundaries for the general limits and direction in which managerial action will take place. Policies are intended to produce some consistency in decision making — a uniformity of response to common problems.

Policies are usually broad, comprehensive, sometimes elastic, and sometimes specific guides. Some require interpretation, but for the most part, policies do enable personnel to react uniformly to recurring problems in a manner compatible with the schools' goals and objectives.

In a typical college, there are many kinds or types of policies. It is possible to classify policies by purpose, use, subject, extent of influence, function, written or unwritten, etc.

One classification of policies helpful in their review is by level in the organization. That is to say, there are policies which are used primarily by top level administrators, other policies by middle level administrators, e.g., division heads, and still other policies which are applicable to departmental heads and other supervisors. See Figure 2.

Figure 2

CLASSIFICATION OF POLICIES BY ORGANIZATIONAL LEVELS

Type of Policy	Mainly Used By	Extent of Influence	Scope	Importance
Basic	Top Administration	Affect every unit of the college	Very Broad	Greatest
General	Division Directors	Sometimes apply to all, but frequently to large segments of the colleges	Specific and somewhat limited	Medium
Departmental	Department Chairmen and Supervisors	Apply to activities of department for meeting everyday requirements	Definite and limited nature	Least

Another helpful classification of policies is by source; imposed, or originated. Imposed policies include those policies arising as a result of some external agencies such as local, state or federal government, the Oho Board of Regents, accrediting association, etc.

An originated policy includes those developed by the school.

Another common classification of policies is by function, e.g., finance, educational, personnel, planning, etc. Figure 3 supplies examples of these.

Figure 3

EXAMPLES OF POLICIES BY FUNCTION

Finance Policies
1. Have a balanced budget
2. Prepare long-term financial plans
3. Obtain as much outside financial support as possible
4. Maintain low tuition
5. Invest surplus cash

Personnel
1. Maintain a centralized personnel office
2. Post and advertise all job vacancies of the college
3. Promote from within when possible
4. Compensate employees at competitive wages
5. Actively recruit and place college employees

Planning
1. Maintain a centralized planning office
2. Budget and account for planning expenditure
3. Every administrative head and supervisor is responsible for planning
4. All plans must be documented
5. Every administrator and faculty person is to be introduced to the planning process

Educational
1. Every student should have the opportunity to take elective courses
2. Every student should have an academic adviser
3. Extra-curricular activities are encouraged to supplement formal classroom teaching
4. Every faculty member and course offering is to be evaluated on a regular basis
5. Faculty members are given time off and support for professional development

As one can infer from the foregoing examples, there is a wealth of policies at most educational institutions. All of these policies, some of which are implied rather than stated in writing, affect the planning process. Therefore, it is important that all policies within a college should be integrated so that uniform, orderly, and efficient execution of planning work can follow. Thus, **it is recommended that the planning coordinator or other responsible office be charged with the responsibility of compiling and maintaining an inventory of college policies.**

Other Internal Factors Affecting Planning

In addition to policies which affect planning, there are numerous other internal factors to consider. Some of these are: personnels' attitude and knowledge of the planning process, adequate staff for planning, growth or declining enrollments, size of the institution, types of educational programs offered, political power bases within the school, physical facilities, support services available for planning, and the overall financial ability of the college.

In addition to internal factors which affect planning there are a number of external factors to consider. Some of these are:

1. Legislative action and interest. Legislated faculty work loads, support levels, and the like directly affect college planning.
2. The Ohio Board of Regents is the official planning and coordinating agency for higher education in Ohio. As such, it maintains a close liaison with the schools, the Legislature, and the governor. Obviously, planners must pay close attention to and be very familiar with Ohio Board of Regents policies and standards.
3. Other external factors. There are many other external factors, such as alumni, federal agencies, foundations, and local government which affect planning.

Time Horizons

All planning deals with the future, measured in time. The classifications of Long-range Planning (LRP), and Short-range Planning (SRP), have come into common use and are so used in this manual.

Differences of opinion exist concerning the number of years for each. In this manual, we have assigned time values as follows:

Short-range	2 years or less
Long-range	3-10 years or longer

Long-range planning and short-range planning should be integrated. The latter should fit and contribute toward the achievement of the long-range goals. Examination from time to time should reveal whether proper integration is being achieved.

The usual problem is that short-range planning is adopted but does not contribute to the long-range plan. An immediate opportunity is seized; and in the urgency of the situation, the long-range goals and objectives are ignored, slighted or even changed. On the other hand, short-range planning may suggest that changes be made in long-range plans. This only points out that conditions do change, that planning should contain the element of flexibility, and that planning must be a continuous process.

Intermediate Range Plans

Consideration of the effect of short-range plans upon long-range plans emphasizes the step-by-step approach to the future and suggests consideration of intermediate-range planning. Indeed there are planners who maintain that the planning process is not weak in long-range planning, but rather in a lack of attention to intermediate-range planning. In this manual, we have focused on the long-range and the short-range, for convenience sake, but it

does not mitigate the need to focus on intermediate planning. For those institutions desiring to subdivide plans into three time horizons, the following guidelines could be used.

Short-range	2 years or less
Intermediate-range	3-6 years
Long-range	7 years or longer

The amount of data and accuracy in projecting plans will vary inversely to the length of time. That is, we should have more facts and knowledge today in making projections for the short-term than we will for the long-term. Thus, more detailed and accurate projections with fewer undocumented assumptions should be more evident for the first few years of a plan than for the last years.

PARTICIPATION IN PLANNING

If planning is to succeed, there must be participation and a commitment to the process. In many cases, participation and commitment go hand-in-hand.

Because of a number of factors, it is almost impossible to specify who should be involved in every planning effort. Rather, each college must decide the question of involvement on an individual basis. **Generally speaking, participation by representatives of faculty, staff and students is recommended in planning. The determination of involvement should be made on a systematic basis for every plan developed. Non-staff members should serve on functioning advisory committees for technical education programs.** Figure 4 might be used as a guideline in determining who is to be involved.

Figure 4

Check off Form to Assist in Determining Involvement

Name of Plan _____

	Is this group affected? Yes or No	If no, why not? If yes, how?	If yes, who should represent this group?	How can they participate?	What will be their responsibilities & authority
1. Central Planning Staff					
2. Top Administrators					
3. Middle Managers — deans, division heads, etc.					
4. Department Heads					
5. Faculty					
6. Non-academic personnel					
7. Students					
8. Board of Trustees					
9. Alumni					
10. Citizens					
11. Ohio Board of Regents					
12. OTHERS					

4. Prerequisities for Successful Planning

Commitment

Successful planning doesn't just happen, it must be planned. As previously stated, the single most important aspect of successful planning is to have the commitment and enthusiasm of the president and the top administrators. If a commitment exists, then the college president will ascertain that there is a well defined planning process (See Chapter Two) at his institution.

To complement and implement the planning process, there must also be a well-defined planning organization (See Chapter Three). In addition to the planning process and the planning organization, there are a number of other prerequisites for successful planning. Some of these are: guaranteed State support, an information data base, planning and resource allocation aids and techniques, cooperative planning with other institutions, and the use of outside help where needed.

Guaranteed State Support

One of the most important factors for successful college planning has to do with the money provided by the State for operating support. Under the present system, schools receive State subsidy based on the number and level of students enrolled in a current year. The support levels per student are set in the biennial legislation which appropriates money for higher education support. From the Ohio scheme, two unfavorable items result.

1. The legislation is usually not passed by the State until just prior to the beginning of school. The appropriation for 1971-73 was not passed until December, 1971 — 3 months **after** schools began operations.
2. The specific support to be received by a school for a particular year cannot be set until students are actually enrolled.

Thus, a college does not know how many resources it will have until after the fact. Yet it must plan and make final decisions about staffing well before school starts. Faculty and other professional personnel must be appointed up to a year in advance. Good planning implies therefore at least an 18 month to 2 year lead time prior to school starting. This lack of knowledge about the magnitude of state support — the largest single source of funds — is felt to be the greatest single detriment to good planning by the individual schools.

It is **recommended** that the **Ohio Board of Regents, with representatives from the State Finance Department, Governors Office, State Legislature, and all of the public colleges and universities, undertake a study of the method of state support. This study should result in ways of support which will give a**

school detailed information of its subsidy well in advance of the start of school — hopefully at least two years.

Information Data Base

An information data base is a collection of discrete items of information, called data elements, which describe specific systems; e.g., the data elements which describe students, faculty, etc. In this planning manual, we are specifically concerned with data elements of the Comprehensive-Institutional Plan and its major subcomponents, the Foundation Plan, the Educational Plan, the Physical Development Plan and the Financial Plan.

The desirable data for the data base will depend on several factors. They are (1) What types of data are desirable or required for a certain type of plan? (See Chapter Five — The Major Components of Plans). (2) What types of data from this plan will be required by outside agencies? For example, accreditation bodies, federal agencies, state government, national organizations, consortia groups and other sister institutions, state auditors office, OBOR, etc. (3) What types of data from this plan will be required for other plans, e.g., enrollment data is required for almost every plan.

Criteria to Evaluate Data Base

One word of warning in developing a data base is that too much or faulty data may be more of a handicap to good planning than too little data. To assist in the task of evaluating a data base, the following criteria are suggested.

1. Is there a need for the data base? How much of a need? Who uses the data? Can the need be fulfilled with other data?
2. Is the data base completed? Is data available to support the auditing, control and decision-making functions?
3. Is the data base flexible: Can data elements be easily added or purged from the files?
4. Is the data base accurate? Is the data in the files edited and verified on a regular basis to assure accuracy?
5. Is the data base timely? Are procedures for maintaining the data bases adequate to assure the user that data is current?
6. Is the data base accessible? Can information be easily extracted from the data bases when it is needed?
7. Is the data base compatible? Can data elements from different bases (files) be pulled together for reporting purposes. Is there an interface or linkage between all files composing the data base?
8. What is the cost of the data base? Are the benefits of maintaining the data base in line with cost?

Because of the complexities of developing and maintaining a data base, it is absolutely essential that systematic attention be given to this important function. A data base may be generated manually, by computer, or a combination of both.

The Ohio Board of Regents has gained much experience and already begun a statewide data system — the Uniform Information System. However, it is questionable as to how much of that data is being used by individual

schools for planning purposes. The UIS was designed primarily for Universities. It has not proven too useful by the two-year schools. **Therefore, the Uniform Information System should be examined, along with others, to ascertain how data could be better utilized in a management information system for individual institutions and the state as a whole.**

Planning Tools and Techniques

Educational administrators have at their disposal a wide array of traditional tools and techniques for planning. Knowledge about such tools and techniques is increasing at a fast pace. Figure 5 shows a list of tools and techniques used in many planning processes.

The first large group of Figure 5 consists of non-quantitative or subjective planning tools which are based on value judgment, experience and intuition. The operational descriptions of these tools lie in the realm of the behavioral sciences, and rely on individual or collective judgment.

The second category outlines some of the more conventional general systems methods and accounting techniques.

The third category includes methods of presenting analytical data in graphic form. The communication value of these visual tools cannot be overemphasized. A well-designed flow chart or a Critical Path Method (CPM) network can help administrators identify bottlenecks, dramatize the importance of making a decision about scheduling and identify the levels of administrative decisions involved.

The fourth category groups quantitative techniques based upon both old and new mathematical and statistical methods. The older techniques may be more appropriate for the management of smaller institutions, whose personnel may be more familiar with conventional methods of analysis. Newer mathematical techniques can be expensive and time-consuming, and thus more suitable for complex, large institutions. However, some planners may tend to oversell the potential of such sophisticated techniques as planning tools. Simulation models or game theory should be used only when the necessary preconditions for planning exist and then with extreme caution; otherwise, they can prove expensive, time-consuming, frustrating and often useless. There are times when limited planning, relying on the older, more easily understood methods and subjective judgment, may be more beneficial.

Adding any of these management tools and techniques will usually entail additional costs. It is not realistic for most schools to implement most or all of the above unless additional funds are spent for that purpose. Consideration of the use of any of them must, therefore, involve careful attention to its cost-effectiveness (see Chapter 2).

Help from OBOR

The Ohio Board of Regents has recognized the importance of the two-year colleges by appointing a Vice Chancellor for Two-Year Campuses with appropriate staff. This office is concerned with maintaining and improving the two-year system and thus is greatly interested in seeing that adequate planning takes place on every campus. It is **recommended that the assisting of two-year colleges in their planning processes be included in the duties of the Vice Chancellor.**

Figure 5

TOOLS AND TECHNIQUES USED IN THE PLANNING PROCESS

I. Nonquantitative
   A. Creative mental processes (hunches, creativity, experience, judgment, intuition, brain storming)
   B. Finding the Critical Factor(s)
      1. Simple decision chains and tables
      2. Asking the right questions
      3. Past experiences and knowledge
   C. Organization per se (planning, organi , and budget system)
   D. Rules of thumb
   E. Simple problem-solving steps
   F. Policies and procedures
   G. General knowledge in the field

II. General Systems Methods
   A. Problem design
   B. Nonquantitative simulation model building
      1. Logical-analytical frameworks
      2. Adaptive Search
      3. Work flows
   C. Accounting Systems and Models
      1. Responsibility Accounting System
      2. Balance Sheet and Income Statement, Balance of Funds
      3. Cash-flow analysis
      4. Accounting and Budget ratio analysis
      5. Break-even analysis
   D. Design of Information Systems
      1. Management Information Systems (MIS)
      2. Ohio Board of Regents Uniform Information System

III. Conventional Scheduling Models
   A. Timetables
   B. Manning tables
   C. Gantt (Bar) char
   D. Milestone charts
   E. Critical Path Method (CPM)
   F. Line of balance charts

IV. Quantitative (Mathematical-statistical)
   A. Older quantitative methods
      1. Quantitative forecasting
         a. trend extrapolation
         b. exponential smoothing
         c. correlation analysis
   B. Newer Mathematical Techniques
      1. Probability theory
      2. Computer simulation
      3. Linear programming
      4. Network analysis (Pert/time and Pert Cost)
      5. Heuristic problem solving
      6. Game theory
      7. Cost-benefit analysis
      8. Decision trees
      9. Utility profiles
      10. Statistical probabilities
   C. Complex methods combining several tools
      1. Delphi Technique
      2. Systems analysis
      3. Simulation models
      4. PPBS

5. Plans

PRODUCTS OF THE PLANNING PROCESS

This chapter delineates and describes the actual products of the planning process — the plans which result. Grouped under one heading, the Comprehensive Institutional Plan, they together comprise a rather complete description of the school, both present and future. The chapter has three parts — an outline of the plans, definitions of plans and their subcomponents, and finally, the types of information helpful in developing the plans.

The Comprehensive Institutional Plan

A. Foundation Plan
   1. Institutional role and mission statement
   2. Institutional goals and objectives
   3. Institution-wide enrollment projection by type and level of student
   4. Faculty and staff needs projections by personnel category
   5. Management Information System

B. Educational Plan
   1. Academic and related
      a. Instruction including instructional services
      b. Community (Public) service
      c. Library services
   2. Supporting Services
      a. Student Financial Aids
      b. Auxiliary Services
      c. Student Services
      d. General Administration

C. Physical Development Plan
   1. Development Concepts and Planning Parameters
   2. Land Use component
   3. Building component
   4. Development Capital

D. Financial Plan
   1. Operating Budget component (Income and Expenditures)
      a. Personnel

b. Expendable equipment
c. Material and operations

2. Capital Budget component
   a. Facilities
   b. Capital equipment

DEFINITIONS OF PLANS AND THEIR SUBCOMPONENTS

The **Comprehensive-Institutional Plan** encompasses the entire institution and has four major components: the Foundation Plan, the Educational Plan, the Physical Development Plan, and the Financial Plan.

The **Foundation Plan,** as one of the four major components of the Comprehensive-Institutional Plan, refers to those items which form the foundation or basis for the remaining three major segments of the Comprehensive-Institutional Plan. Included specifically are the Role and Mission component, Institution-wide Goals and Objectives, Enrollment Plan and the Faculty and Staff Plan. Also included, because of its fundamental role and importance in support of the total, is the Management Information System Plan.

The **Educational Plan** contains in a detailed manner plans which encompass the following aspects of the institution: instruction, community service, financial aid, auxiliary services, library services, student services and general administration services. This plan is one of the four major components of the Comprehensive Institutional Plan.

The **Physical Development Plan** is one of four major components of the Comprehensive-Institutional Plan. It consists of development concepts, planning parameters, land use, buildings and development capital components.

The **Financial Plan** is one of four major components of the Comprehensive-Institutional Plan. It consists of the Operating Budget component and the Capital Budget component, which are considered from both short and long range aspects.

The **Role and Mission Plan** is a statement in broad terms of the purposes of the institution. It describes its control, sources of support and history. Purposes usually include references to instructional and community service programs. The plan may indicate the role of the institution in the state plan, as well as its relation to other educational institutions in its geographical area (secondary, two-year colleges, senior institutions, public and private schools). It may indicate enrollment goals expressed in terms of number of students and/or fraction of the area population.

The Institution-wide **Goals and Objectives** portion of the Foundation Plan stems immediately from the Role and Mission Plan. Usually addressed are relationships between degree levels and disciplines and public service emphasis by discipline. It may consider support levels, income expense targets and gross enrollment targets. It should address the quality, as well as quantity, of its major programs.

The **Faculty and Staff Projections** portion of the foundation plan sets goals and objectives for faculty and staff members on an institution-wide basis. It

addresses the quality of its faculty and staff as well. It may set forth compensation levels, including salaries and all fringe benefits. It addresses the relative numbers of faculty and professional staff by rank and tenure. And it addresses workload standards.

The **Management Information System** portion of the Foundation Plan addresses the data needed to support an ongoing, viable planning process. It sets goals and objectives for data acquisition, inter-relationships, and responsibility.

EDUCATIONAL PLAN

The **Instructional Program** portion indicates all degrees and continuing education programs offered or planned by the school and identified by program management level. Included also are certificate programs, and preparatory and developmental instruction. It describes the program in the broad categories of general studies and technical. For each program there are goals and objectives with a definite curriculum or set of requirements which fulfill and accomplish the desired objectives. This portion of the Educational Plan also contains a plan of action for programs which are to be eliminated or phased out. It includes for each program its location and management in the institution and an indication of future implementation dates if such a program does not presently exist. The technology of instruction is also described.

Also addressed are instructional support categories such as media centers, CAI, and clinical support facilities.

The **Community Service Program** portion of the Educational Plan states community service goals and objectives, classified by discipline and organization, and describes the community service programs and activities. It relates these programs and activities to the instructional programs when applicable. Topics often addressed are non-credit adult and continuing education, workshops, and seminars. Specific population groups are often addressed.

The **Library Services Program** portion of the Educational Plan details the goals and objectives set forth for library support of instruction and public service programs. Considered are such items as level of support, quality and quantity of the collections, and the qualification of the professional library staff.

The **Financial Aids Program** of the Educational Plan describes the financial needs of students and outlines the financial aid goals and objectives. The Financial Aids Plan describes the categories of financial assistance to be provided students (scholarships, grants, work/study), the amount and source of financial support, and the total number and kinds of students to be assisted in the various categories. The Financial Aids Plan is an integral component of the Educational Plan.

The **Auxiliary Services Program** portion is an outline of auxiliary service goals and objectives and a description of such services now provided and planned. These normally include food and concessions and bookstores.

The **Student Services** portion of the Education Plan details the goals and objectives set for those programs which are designed to provide no instructional services to students. Such areas as student personnel affairs, orientation,

counseling and testing, student government, VA benefits, etc. are usually included.

The **General Administration Services** segment of the Education Plan addresses those services and functions normally described as plant operation and maintenance, general expense, and general (or central) administration. As in other segments of the Education Plan, goals and objectives are stated which, in particular, deal with the level, scope and quality of services provided to the campus community.

PHYSICAL DEVELOPMENT PLAN

The **Development Concepts and Planning Parameters component** of the Physical Development Plan explains the underlying bases of physical plans. Development concepts considered are environmental — physical features, quality, natural versus man-made; aesthetic — campus motif and development thence; and functional — activity areas, relationships and centroid. Planning parameters include design standards such as scale, materials, styles and color; density measures like GAC and FAR; and time and distance standards.

The **Land Use component** of the Physical Development Plan describes building locations, open spaces, circulation and parking.

The **Building component** of the Physical Development Plan describes in detail plans pertaining to specific buildings. It addresses such plans from the standpoints of preservation/renovation, modification, demolition and new constructions.

The **Development Capital component** of the Physical Development Plan is closely related to the Capital Budget component of the Financial Plan. Covered are the sources of funds, applications, and time schedules.

FINANCIAL PLAN

The **Operating Budget component** of the Financial Plan details how income and expenses will be acquired and utilized to support the Educational Plan. It should cover at least one three-biennium period, starting with the current biennium. The first or current year is very detailed. The amount of detail decreases in the latter years of the plan.

The **Capital Budget component** of the Financial Plan details how income and expenses will be acquired and utilized to support the Physical Development Plan. It, too, covers a three biennium period.

TYPES OF INFORMATION RELEVANT TO THE PROBLEM OF DEVELOPING THE FOUNDATION PLAN

1. Community measures: Historical, current, and desired levels of attainment
   a. Years of schooling, by race and sex
   b. Literacy levels
   c. Per capita personal income
   d. Employment rates
   e. Cost of living indices

f. Proportion of population segments using different services (% rural, % college grads, etc.)
g. Manpower demand indices by discipline
h. Postsecondary education attendance patterns by age, sex, race, etc.
i. Population — census data

2. Impact of existing education programs relative to objectives, current and historical
   a. Strengths and weaknesses of particular programs and kinds of institutions
      (1) Dispersion of benefits
         (a) Geographic
         (b) To socioeconomic groups and sub-populations
         (c) To cultural groups
      (2) Cost effectiveness
      (3) Duplication and overlap
   b. Impact on other programs and activities of the state and local community
3. Institutional aspirations
   a. Academic plans
   b. Priorities
4. Legal constraints and constitutional requirements
5. Relation of instructional programs to secondary and elementary education
6. Relation of programs to secondary and elementary education
7. Student demand for programs (historical, current and projected)
   a. Applicants and matriculants
   b. Student expectations
   c. Reactions to existing programs
8. Programmatic and departmental interactions
   a. Service relationships (i.e., extent to which departments draw on each other — induced course load matrix)
   b. Interdisciplinary programs and joint appointments
9. Community, state, federal government, and agency interests and expectations relating to higher education
10. History and traditions of the college
11. Faculty and staff needs and desires
    a. Need to establish and maintain leadership or expertise in field of study
       (1) Requirements for developing and applying innovative programs and processes in public service programs
       (2) Requirements for classroom instruction
    b. Personal and group preferences
12. Constraints
    a. Limitations of physical facilities — need for sharing
    b. Contract specifications

13. Capacity of Institution to accommodate students
    a. Current patterns of utilization of facilities and staff
        (1) Excess or shortage of facilities
        (2) Alternative use patterns (night, weekend, reorganization of academic periods, etc.)
    b. Resources available for students
        (1) Land
        (2) Facilities and equipment
        (3) Faculty and staff
    c. Time factors — start up lead times and slow down waiting periods
    d. Scale factors
        (1) Impact of size on quality of instruction
        (2) Impact on student-faculty contact
14. Capacity of surrounding community to accommodate students
15. Impact of financial charges and financial aides to students
16. Faculty measures
    a. Teaching effectiveness
    b. Salary and compensation levels
    c. Workload measures
    d. Description by age, degrees, sex, race, etc.

TYPES OF INFORMATION RELEVANT TO THE PROBLEM OF DEVELOPING THE EDUCATIONAL PLAN

1. Description of the programs
    a. General
        (1) Size — enrollments and number of degrees planned
            (a) Maximum feasible
            (b) Minimum feasible
        (2) Features not provided by other programs
        (3) Start up and shut down times
    b. Costs
        (1) Resources required, total and from particular fund sources — faculty. staff, facilities, instructional aides, etc.
        (2) Cost of the resources — total and per outcome indicators
        (3) Scale economics — cost differentials related to size of program
        (4) Start up and shut down costs
    c. Outcomes and impacts
        (1) Student growth and development
            (a) Knowledge and skills development
            (b) Social development
            (c) Personal development
            (d) Career development
        (2) Community development and service
            (a) Community development
            (b) Community service
            (c) Longer term community effects

(3) Relation to state/regional goals and objectives
(4) Development of new knowledge and art forms (this will not generally be an important factor for the 2-year colleges)
(a) Discovery
(b) Interpretation and application
(c) Reorganization

d. Links with other programs — service relations
e. Quality of program

2. Relation of programs to society
a. Student demand for program
(1) Current and historical enrollments and numbers of students refused admission
(2) Estimated future demands
(3) Alternative programs in which those not accepted do and would enroll

b. Labor market prospects — state and national
(1) Current and future supply of manpower
(a) Carry-over from prior years — death and other attrition are key factors
(b) New entrants — new degrees and immigration
(2) Current and future demand for manpower
(a) Existing industries and organizations
(b) New technologies
(3) Migration patterns — interstate and intrastate
(4) Job market prospects
(a) Unemployment rates
(b) Starting salaries
(5) Plans of other programs and institutions

c. General public support

3. Institutional role and mission
a. Legal requirements
b. Academic master plans and institutional aspirations and priorities

4. Alternatives — costs, advantages and disadvantages
a. Alternative programs
b. New delivery systems and technologies

5. Possible constraints
a. Total resources available
b. Faculty and staff commitments
c. Short supply of needed faculty and staff
d. Facilities and equipment, etc.
e. Construction lead times and delays
f. Prior projections
g. Need to move slowly enough to maintain support of faculty and staff

6. Developmental instruction parameters
a. Number and kind of students involved

b. Resources required — faculty, staff, equipment, counselors, financial aides, etc.
c. Relationship to other programs
d. Sources of support — government, foundations, donors, etc.

7. Additional parameters especially useful to Financial Aids Program
   a. Types and kinds of financial aids
   b. Relationship to programs
   c. Sources of support
   d. Organization for handling
   e. Student employment
   f. Attendance expenses
8. Additional parameters especially useful to Auxiliary Services Program
   a. Range of auxiliaries — bookstore, food, housing, etc.
   b. Number and kind of students affected
   c. Income/expense levels
   d. Policies
   e. Relationship to instructional programs
9. Additional parameters especially useful to Library Services Program
   a. Scope of collections and services
   b. Standards
   c. Organization
   d. Relationship to instructional and public service programs
   e. Space
10. Additional parameters especially useful to Student Services, Plant Operation and Maintenance Services, and General Administration Services program plans
    a. Scope of services
    b. Philosophy of services
    c. Standards
    d. Expense data
    e. Relationship to instructional and public service programs

Appendix A

TECHNIQUE FOR DEVELOPING GOALS AND OBJECTIVES

This method consists of three stages; goal and objective analysis, incubation and review period, and the contract stage.

STAGE I — GOAL AND OBJECTIVE ANALYSIS

Many of the basic ideas for Stage I came from two books by Robert F. Mager, **Goal Analysis and Preparing Instructional Objectives.*** It is important to note that the style of writing is from an individual's viewpoint. However, the proposed principles of writing goals and objectives apply equally to an organization.

STEP 1 The first thing in goal and objective analysis is simply to start a brainstorming exercise. Write down what you think or feel are goals and objectives. What is it that my organization unit wants to do or happen? Why does it exist? Write down as many statements as you can think of. Since this is a first step, use whatever words are comfortable, regardless of how fuzzy or vague they may be. At this stage, don't be concerned if each statement is a goal or objective.

STEP 2 Write down the indices of performance that would cause you to agree the goal or objective has been achieved without regard for duplication or fuzziness. Keep in mind that this is still a scratch paper exercise. There are three strategies that may help you complete this step of describing the achievement of the goal or objective.

1. Answer the question, "What will I take as evidence my goal or objective has been achieved?"
2. Answer the question, "Given a set of 'outcomes', what is the basis on which we would separate them into two groups: Those outcomes which had achieved our goals and those which had not?" Yes or no situations.
3. How would someone outside our organization know if we have attained our goals and objectives? What clues would they look for?

Again! Step 2 is for getting things down in writing — a brainstorming exercise.

STEP 3 Step 3 is a sorting out stage. Sort the things you have listed in Step 2, looking for abstract statements and duplications. Once a goal or objective has been written and a list has been drafted of the things you think would cause you to agree, the goal or objective has been achieved, the list is sorted out and separated into goals and objectives. Remember, goals are long-range and objectives are short-range. Write your goals on one sheet of paper and your objectives on another. Duplications are deleted, as are the items that, on second thought, are unwanted. Abstractions are made precise and performances are indicated. Each individual goal or objective is then written on a separate piece of paper. The process is repeated until every item appears to be a goal statement, an objective statement, or neither.

STEP 4 Step 4 is refining the criteria or level of performance that would cause you to say that your objectives have been achieved and progress is being made toward

APPENDIX A

attaining your goals. Write a complete statement for each goal and objective which describes the precise nature, quality or amount of performance you will consider acceptable when evaluating the success of your stated goals and objectives. Identify the time frame. Make coherent statements to describe what you intend for each of the performances on your list. For example, you must define precisely what you mean by terms used in your goal and objective statements. For example, broad terms, such as regular, testing, understand, etc. must be precisely defined. Remember, your statements must describe the outcomes you must achieve to be willing to say your goal or objective is satisfied. This step will facilitate your testing of the indices of performances to see if they truly reflect what you mean by the goal or objective and thus assist you in communicating your thought.

STEP 5 Test each appropriate statement in order to determine if it is a goal, an objective, or neither.

A. Apply the criteria for the determination of goals to each statement that appears to be a goal, see Figure 6. A "no" answer disqualifies the statement as a goal. Thus each goal statement will reflect a 100% "yes" response for all the criteria questions.

B. After tentative goals have been identified, apply each statement that appears to be an objective to the objective criteria, see Figure 7.

Figure 6

CRITERIA FOR THE DETERMINATION OF GOALS

GOAL CRITERIA	STATEMENT A		STATEMENT B		OTHER	
Is the behavior or expected outcome in agreement with the institution's philosophy?	YES	NO	YES	NO	YES	NO
Is the behavior compatible with the aims and missions of the institution?	YES	NO	YES	NO	YES	NO
Can objectives be established for the statement?	YES	NO	YES	NO	YES	NO
Does the action appear to be feasible?	YES	NO	YES	NO	YES	NO
Can the expected results of the action be identified?	YES	NO	YES	NO	YES	NO
Is the time frame long-term?	YES	NO	YES	NO	YES	NO

Figure 7

CRITERIA FOR THE DETERMINATION OF OBJECTIVES

OBJECTIVE CRITERIA	STATEMENT A		STATEMENT B		OTHER	
Does the statement relate to a goal?	YES	NO	YES	NO	YES	NO
Is the end result measurable or observable?	YES	NO	YES	NO	YES	NO
Can a specific target group be identified?	YES	NO	YES	NO	YES	NO
Can the method of measurement be specified?	YES	NO	YES	NO	YES	NO
Can the criteria for evaluation be identified?	YES	NO	YES	NO	YES	NO
Can the testing conditions be recognized?	YES	NO	YES	NO	YES	NO
Can a short time period for achievement be specified?	YES	NO	YES	NO	YES	NO

A "no" answer disqualifies the statement as an objective. Thus each objective statement will reflect a 100% "yes" response for all the criteria questions.

STEP 6 Rewrite a list of goals and objectives—each on a separate page. Look at your wording, qualify and explain specifically what you mean. The qualification for your goal statement will, by nature, not be so precise as your objective statements. Your goal statement will probably in many cases be qualified by a narrative response.
However, the qualification for the objective statements must be precise. For example, identify the specific method of measurement, establish the criteria, specify the time period, etc.

STEP 7 Test each goal and objective with the question. If someone achieved or demonstrated the specified indices of performances for each goal or objective, would we be willing to say that he has achieved the goal or objective: When you can answer "Yes" to each statement. this stage of goal and objective analysis is completed.

APPENDIX A

STAGE II — INCUBATION AND REVIEW PERIOD

STEP 1 Set aside what you have done in Stage I for a few days.

STEP 2 Review what you have done. Delete duplication and unwanted items, add others and finally, retest each goal and objective. Redraft your list.

STEP 3 Review what you have done with your associates. Can you communicate your goal and objective to them? If not, revise. When this draft is completed, you are ready for Stage III.

STAGE III — THE CONTRACT STAGE

STEP 1 Sit down with your department or division head and agree in writing what your goals and objectives will be and what measure of performance will be acceptable as to whether you attain your goals and objectives. Where necessary, revise.

STEP 2 Review the progress of goals and objectives with your department or division head on a regular basis throughout the fiscal year.

STEP 3 Have a formal review period with your department or division head at the end of the goals and objectives time frame. Did you or did you not attain your objectives and make progress toward your goal? Explain in writing.

STEP 4 Start with Stage I for the next fiscal year.

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* Robert F. Mager, Goal Analysis (Belmont, California: Fearon Publishers, 1972)

Appendix B

WICHE-NCHEMS Program Structure

The Educational Institution

I. Primary Programs

- 1.0 Instruction
  - 1.1 Regular Instruction
  - 1.2 Special Session Instruction
  - 1.3 Extension Instruction (for credit)
  - 1.4 Experimental Instruction
- 2.0 Organized Research
  - 2.1 Institutes and Research Centers
  - 2.2 Individual or project Research
- 3.0 Public Service
  - 3.1 Departmental Continuing Education
  - 3.2 Organized Extension Continuing Education
  - 3.3 Organized Extension Community Service
  - 3.4 Campus Community Service
  - 3.5 Agriculture Extension Service

II. Support Programs

- 4.0 Academic Support
  - 4.1 Libraries
  - 4.2 Museums & Galleries
  - 4.3 Audio/Visual Services
  - 4.4 Computing Support
  - 4.5 Auxiliary Support
- 5.0 Student Service
  - 5.1 Social and Cultural Development
  - 5.2 Supplementary Educational Services
  - 5.3 Counseling and Career Guidance
  - 5.4 Financial Aid
  - 5.5 Student Support
- 6.0 Institutional Support
  - 6.1 Executive Management
  - 6.2 Financial Operations
  - 6.3 General Administrative Services
  - 6.4 Logistical Services
  - 6.5 Physical Plant Operations
  - 6.6 Faculty and Staff Services
  - 6.7 Community Relations
- 7.0 Independent Operations
  - 7.1 Institutional Operations
  - 7.2 Outside Agencies

Appendix C

Ohio Board of Regents Programs

1.0 Departmental Instruction and Research
- 1.1 General Studies
- 1.2 Technical Education
- 1.3 Baccalaureate General
- 1.4 Baccalaureate Professional
- 1.5 Master's Programs
- 1.6 Graduate Professional
- 1.7 Doctor's Programs
- 1.8 Medical Programs

2.0 Research

3.0 Public Services

4.0 Auxiliary Services

5.0 Student Aid

Examples of Plans

The following pages show some examples of plans and planning processes which are relevant to this chapter. Samples from both two-year colleges and universities are included because they were most readily available. They are titled in order:

A. Example Planning Processes for Colleges and Departments
B. Planning Process Guidelines for Colleges and Departments
C. Example of Physical Development Plan — Building Portion
D. Example of Physical Development Plan — Building Portion Summary
E. Example of Financial Plan — Capital Budget Component — Capital Cost by Program
F. Example of Financial Plan — Capital Budget Component — Capital Costs by Category
G. Example of Part of Faculty and Staff Projections Component — Staff Requirements (FTE)
H. Example of Part of Faculty and Staff Projections Component — Staff Salaries
I. Example of Part of Faculty and Staff Projection Component — Ratios of Student Credit Hours to Faculty
J. Example of Financial Plan — Operating Budget Component (Expense only) — Detailed Breakdown of Operating Costs, by Program and by Object Expenditure.
K. Example of Restricted Funds Income Projection
L. Example of Financial Plan — Operating Budget Component. (This is a Program Budget including only direct expenses and income.)
M. Example of a college plan which addresses the instructional, research, and public service programs for a university.
N. Proposal which includes most of the information needed in a Foundation Plan.
O. Sample Goals for a Community College
P. Sample Role and Mission Statement for a University
Q. Sample Faculty and Staff Needs Projection Plan (for a University)
R. Sample Management Information System Plan

EXAMPLES OF PLANS

A. EXAMPLE PLANNING PROCESSES FOR COLLEGES AND DEPARTMENTS

Below are example planning processes anticipated by a sample of university units. The examples are included for illustrative purposes.

EXAMPLE 1

1. Appoint planning coordinators.
2. Meeting of administrative officers and members of the departmental faculty to establish divisions of responsibility for planning process.
3. Development of the outline, deadline dates, and procedures to be followed in developing a plan for 1971-77.
4. Review of all past planning reports of our unit.
5. Establish a methodology to permit input from students, departmental faculty, administrators, employers, and any other concerned parties in the formulation of the goals and objectives to be pursued within the framework of the plan. Review past evaluations, surveys, and recommendations from concerned groups.
6. Review of current University charge, goals, programs, resources, and needs.
7. Review of future needs to be met within the framework of a five-year plan. (Consideration of University commitment required to meet these needs.)
8. Establishment of overall priorities, thence establish specific goals on a yearly basis.
9. Planning Coordinators develop a preliminary draft of the total plan (1971-77).
10. Preliminary draft circulated to all members of unit for final review and comment.
11. Planning Coordinators review all faculty and staff comments and proposals. Final modifications will be made and the final plan developed.
12. Final draft presented to the unit Administrative Council for a final review relative to mission and university policy considerations.
13. Upon approval of the plan by the Administrative Council and Planning Coordinators, submittal to the Dean for review and transmittal to the appropriate university officials.

EXAMPLE 2

The deparment head will coordinate the planning function in our department.

Our long range planning process will be based on a cooperative effort including both faculty and student inputs. Initial efforts to survey current activities and formulate initial goals will be conducted by a faculty-student committee.

We will attempt to interact with other units both during the goal setting and the specific planning process. We will assess the relationship of our initial goals to other university units and the university mission before attempting to draft specific preliminary plans. Once our goals are clear we will proceed to develop specific plans.

Various faculty-student committees will be formed to develop specific plans of action designed to achieve the stated goals. Again we will attempt to allow other faculty and student inputs before selecting final courses of action.

A written document developed by this committee will be available for review by both faculty and students. After considering any modification suggestions, the committee will be charged with the preparation of a final draft of the department's long range goals and objectives.

EXAMPLE 3

The Institute is under the Office of the Vice President for Research and Development During the past several years, the planning and policy has been coordinated with the advice of a faculty advisory committee. In developing future long range plans our Institute is to continue to involve this committee in such planning together with the Vice President

for Research and Development. We are currently in the process of developing such long range plans.

The Assistant Director of the Institute will coordinate the development of these plans.

EXAMPLE 4

I anticipate identifying various units within the college, some academic and some support services, creating mini-task forces charged with developing plans for these units. A great deal of interaction will have to take place between and among the various units.

I expect to be the one to coordinate the development of these plans, rationalizing them into one college plan.

EXAMPLE 5

The Administrative Committee of the College will consider long range planning at its next meeting.

A plan will be developed whereby we will review the self-evaluation report prepared by the College in 1970. It is anticipated that the Administrative Committee will guiue the faculty in the development of a plan for long range planning within the College.

EXAMPLE 6

It should be possible for us to adapt the College planning process to the guidelines distributed on 3/21/72. Since we do not have a departmental structure to contend with, our task in this one respect is simpler than for most others. It should also be possible for us to follow the Program Area outline recommended by the Regents. As we proceed, we may come on problems; we will ask questions and make any suggestions as they occur to us.

We have already taken steps to develop a plan for our College. On January 25, 1972, the Dean announced the formation of a Committee on Long Range Planning. It consists of five Faculty members, three of whom were appointed and serve by virtue of their capacity as chairmen of college committees. The other two were elected by the Faculty; one from among members of the Faculty who had been in teaching seven or more years, the other from among those in teaching less than seven years.

The several chairmen will bring to the College Long Range Planning Committee's deliberations the thinking of the members of their various committees.

B. PLANNING PROCESS GUIDELINES FOR COLLEGES AND DEPARTMENTS

University units should determine the planning process and the nature of participation to be utilized in developing unit plans. Units are encouraged to make the planning process as thorough and comprehensive as possible, and provide for the maximum possible involvement of people at all levels in the organization.

The following are suggestions for steps in a planning process leading to the creation of unit plans. Whatever planning process a unit chooses, as a minimum, consideration should be given to the questions outlined below and such other questions as may be important to the unit.

1. At each level appoint one or more individuals to coordinate the creation of plans. (Subdivide up to and including College).
2. Begin with a review of current activities within the unit. Consider such questions as:
   a) What are we doing now?
   b) What needs is our unit filling (for members of our unit, within the university, and for the community)? How do we determine what needs to fill?
   c) Which of our needs do other units fulfill?
   d) What resources do we have and how are we using them?
   e) What are our major strengths and weaknesses?
   f) What criteria and measures do we use to determine the effectiveness of our activities?
   g) What criteria and measures do we use to determine quality of teaching and learning?
   h) What priorities do we assign to our activities?
3. Anticipate future activities within the unit. Include:
   a) How will these needs change in the future? (e.g., shifts in enrollment patterns and job markets; changing professional standards and requirements; expectations of your constituencies; changes in characteristics of student body; educational processes.) How will we determine these changes?
   b) Are current resources appropriate to fill future needs? (e.g., space, equipment, manpower, finances.) What modifications of resources will be required?
   c) What different educational methods and approaches should be instituted? (e.g., instructional techniques, research, counseling, service commitments, community involvement.)
   d) What current activities should be deleted or strengthened and which new ones initiated?
   e) What criteria and measures should be adopted for determining the effectiveness of present or future activities?
   f) Should we alter our present priorities and how?
   g) How will our future plans modify the present structure of our unit (e.g., table of organization, decision-making procedures, committee structures?
4. Proceed next to the process of developing specific plans. The length and specificity of plans will necessarily vary but should be specific enough to allow those unfamiliar with your activities to clearly understand them.
   As preliminary plans are being developed, you should continue to consider their relationship to the following:
   a) How do the plans and programs relate to the needs of students (e.g., sensitization of students to the future)?
   b) How do these plans and programs relate to the needs of faculty (e.g., faculty development)?
   c) How do the plans and programs relate to the needs of our discipline?
   d) How do they relate to the needs of other university units?
   e) How do they relate to university efforts to involve increasing numbers of minorities and women in the university community?
   f) How do they relate to the needs of the community?
   g) How do they relate to the overall university mission?
   h) Other
5. Consideration of the relationships in 4 above may lead you to further discussions with other units and to some alteration or modification of the plans. After appropriate consideration of these issues the plans should be finalized.

C. EXAMPLE OF PHYSICAL DEVELOPMENT PLAN—BUILDING PORTION

CONSTRUCTION SCHEDULE FOR REMODELING AND REHABILITATION PROJECTS THROUGH TARGET YEAR

Project Code	Description of Proposed Project	GSF	NASF	Ratio	Date Planning Funds will be requested	Date Construction will Begin	Date New Space Will be Available

D. EXAMPLE OF PHYSICAL DEVELOPMENT PLAN — BUILDING PORTION SUMMARY

TOTAL SPACE ADDITIONS OR REDUCTIONS FROM CONSTRUCTION ACTIVITY

Line Code	Item	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
						. . .	
	GROSS SQUARE FEET						
1	Space Additions, Total						
2	New buildings						
3	Additions to existing buildings						
4	Remodeling or rehabilitations						
5	Space Reductions, Total						
6	Razed buildings						
7	Remodeling or rehabilitation						
8	Net Space Additions or Reductions						
	NET ASSIGNABLE SQUARE FEET						
9	Space Additions, Total						
10	New buildings						
11	Additions to existing buildings						
12	Remodeling or rehabilitations						
13	Space Reductions, Total						
14	Razed buildings						
15	Remodeling or rehabilitation						
16	Net Space Additions or Reductions						
17	Gross Square Feet in Operation						
18	Net Assignable Square Feet in Operation						

E. EXAMPLE OF FINANCIAL PLAN — CAPITAL BUDGET COMPONENT

CAPITAL COSTS BY PROGRAM

Functional Classification	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
1. INSTRUCTIONAL ACTIVITIES						
2. ORGANIZED RESEARCH						
3. PUBLIC SERVICE						
4. ACADEMIC SUPPORT						
5. STUDENT SERVICES						
6. INSTITUTIONAL SUPPORT						
7. INDEPENDENT OPERATIONS						
Total						

F. EXAMPLE OF FINANCIAL PLAN—CAPITAL BUDGET COMPONENT

CAPITAL COSTS BY CATEGORY

Capital Category	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
DOLLAR REQUIREMENTS:					. . .	
Buildings, Additions, and/or Structures						
Funds to Complete Bond Eligible Buildings						
Land						
Equipment						
Utilities						
Remodeling and Rehabilitation						
Site Improvements						
Planning						
Cooperative Improvements						
Total						
SOURCES OF FUNDS:						
State Funds, Total						
General Revenue						
Other						
Income Fund, Total*						
Federal, Total						
Other, Total						
Auxiliary Enterprises						
Grants and Donations						
Bond Funds						
Other						
Total						

*Less refunds.

G. EXAMPLE OF PART OF FACULTY AND STAFF PROJECTION COMPONENT

STAFF REQUIREMENTS (FTE)

Staff Classification	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
ACADEMIC STAFF, Total						
Administrative						
Professor						
Associate Professor						
Assistant Professor						
Instructors						
Lecturers						
Graduate Assistants — Teaching						
Graduate Assistants — Research						
NONACADEMIC STAFF, Total						
Civil Service, Total						
Officials, managers, professionals						
Technicians and skilled craftsmen						
Office and clerical						
Operatives, laborers, service workers						
Non-Civil Service, Total						
Officials, managers, professionals						
Technicians and skilled craftsmen						
Office and clerical						
Operatives, laborers, service workers						
Total						
Memorandum:						
Student employees						

H. EXAMPLE OF PART OF FACULTY AND STAFF PROJECTION COMPONENT

STAFF SALARIES

Staff Classification	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
ACADEMIC STAFF, Total						
Administrative						
Professors						
Associate Professors						
Assistant Professors						
Instructors						
Lecturers						
Graduate Assistants — Teaching						
Graduate Assistants — Research						
NONACADEMIC STAFF, Total						
Civil Service, Total						
Officials, managers, professionals						
Technicians and skilled craftsmen						
Office and clerical						
Operatives, laborers, service workers						
Non-Civil Service, Total						
Officials, managers, professionals						
Technicians and skilled craftsmen						
Office and clerical						
Operatives, laborers, service workers						
Total						
Memorandum:						
Student employees						

I. EXAMPLE OF PART OF FACULTY AND STAFF PROJECTION COMPONENT

RATIOS OF STUDENT CREDIT HOURS TO FACULTY

Item	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
SCR per Total FTE Faculty						
Lower Division						
Upper Division						
Grad. I*						
Grad. II						
SCR per Direct Instruction FTE Faculty						
Lower Division						
Upper Division						
Grad. I*						
Grad. II						
FTE Enrollment per Total FTE Faculty						
Lower Division						
Upper Division						
Grad. I*						
Grad. II						

*Includes professional programs.

J. EXAMPLE OF FINANCIAL PLAN — OPERATING BUDGET COMPONENT (Expense only)

DETAILED BREAKDOWN OF OPERATING COSTS, BY PROGRAM

Functional Classification	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
1. INSTRUCTIONAL ACTIVITIES, Total						
General Academic Instruction						
Occupational and Vocational						
Special Session Instruction						
Extension Instruction						
Instructional Support						
2. ORGANIZED RESEARCH, Total						
Institutes and Research Centers						
Project Research—Funded						
Individual Research—Nonfunded						
Research Support						
3. PUBLIC SERVICE, Total						
Community Education						
Community Support						
Cooperative Extension Service						
Public Service Support						
4. ACADEMIC SUPPORT, Total						
Libraries						
Museums and Galleries						
Special Academic Functions						
Academic Support Not Elsewhere Classified						
5. STUDENT SERVICES, Total						
Social and Cultural Development						
Supplementary Education						
Counseling and Career Service						
Financial Aid						
Student Services Support						

DETAILED BREAKDOWN OF OPERATING COSTS, BY PROGRAM (Continued)

Functional Classification	Past Year (PY)	Current Year (CY)	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
6. INSTITUTIONAL SUPPORT, Total						
Executive Management						
Fiscal Operations						
General Administrative Services						
Logistic Services						
Faculty and Staff Services						
Community Relations						
Operation and Maintenance of Physical Plant						
Institution Support Not Elsewhere Classified						
7. INDEPENDENT OPERATIONS, Total						
Institutional Operations						
Outside Agencies						
Independent Operations Support						
Total						

J. OPERATING COSTS, BY OBJECT EXPENDITURE

Object Expenditure	Past Year (PY)	Current (CY) Year	Budget Year (BY)	BY + 1	. . .	Target Year (TY)
					. . .	
PERSONAL SERVICES, Total						
Academic Salaries						
Nonacademic Salaries						
EMPLOYER CONTRIBUTIONS, Total						
COMMODITIES, Total						
Maintenance and Operation of Plant and Equipment						
Other						
CONTRACTURAL SERVICES, Total						
Maintenance and Operation of Plant and Equipment						
Equipment Rental						
Facilities Rental						
Other						
TRAVEL						
EQUIPMENT PURCHASES						
DEBT SERVICE, Total						
IBA Rental						
Debt Retirement						
Interest on Outstanding Debt						
AWARDS AND GRANTS						
Total						
Memorandum:						
Refunds and Advances						

FINANCIAL PLAN

K. EXAMPLE OF A RESTRICTED FUNDS INCOME PROJECTION

Projection of restricted current funds
academic program for ten-year period beginning _____ _____

Division: _____

Department: _____ Academic year: _____

	Current commitment		Budget year	Planning	years
	19____		19____	19____	19____
	Planned	Actual			
A. Sponsored research projects:*					
Government — federal					
Government — state or local					
Foundations					
Other private sources					
B. Sponsored training projects:					
Government — federal					
Government — state or local					
Foundations					
Other Private sources					
C. Endowment income:					
Government — federal					
Government — state or local					
Foundations					
Other private sources					
D. Other restricted sources:					
Government — federal					
Government — state or local					
Foundations					
Other private sources					
Totals:					

*Identify specific projects when available

L. EXAMPLE OF A FINANCIAL PLAN—OPERATING BUDGET COMPONENT.

This is a Program Budget including only direct expenses and income.

DEPARTMENT · SOIL CONSERVATION
DIVISION : AGRICULTURE
(002001)

UNIVERSITY OF CINCINNATI
PROGRAM BUDGET SUBMITTAL FORM

DATE 4-15-73
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PROGRAM CODE NAME	BUDGETED AMOUNTS: STUDENT FTE	FACULTY FTE	ASSIGNED FACULTY COMPENSATION	UNASSIGNED FACULTY COMPENSATION	OTHER COMPENSATION	NON RECURRING EQUIPMENT	OTHER EXPENDITURES	TOTAL	FUND SOURCES: GENERAL	DESIGNATED	RESTRICTED	GRANTS AND CONTRACTS: AWARDED	APPLIED FOR
014 BAC PROF													
ACT 1972-73	60.0	3.0	51,000	5,355	15,000	4,500	12,000	87,855	87,855				
PROJ 1973-74	40.0	[illegible]	50,[illegible]		15,250	2,500	10,000	77,750	77,750				
REQ 1974-75	50.0	[illegible]	59,000		16,500	0	10,000	76,500	76,500				
REV 1974-75													
016 MASTERS													
ACT 1972-73	15.0	1.5	30,750	2,678	7,500	2,250	6,000	49,178	49,178				
PROJ 1973-74	20.0	[illegible]	36,432		7,500	1,[illegible]	5,000	50,182	50,182				
REQ 1974-75	30.0	1.5	40,836		10,000	0	6,000	56,836	56,836				
REV 1974-75													
021 SPONS RES		1.6	26,000		5,000	1,500		44,070					
ACT 1972-73		~~2.0~~	~~42,000~~	3,570	~~10,000~~	~~3,000~~	8,000	~~66,570~~	9,070		10,000	25,000	
PROJ 1973-74		1.[illegible]	26,000		5,250	0	8,750	40,000	0		10,000	25,000	5,000
REQ 1974-75		1.5	36,000		7,250	0	6,750	50,000	0		20,000	30,000	
REV 1974-75													
031 PUBLIC SVC		1.5	26,000		7,500	2,250		38,642					
ACT 1972-73		~~.5~~	~~10,000~~	892	~~2,500~~	~~750~~	2,000	~~16,142~~	35,642				
PROJ 1973-74		1.[illegible]	26,000		7,250	1,000	1,500	36,250	36,250				
REQ 1974-75		.5	13,000		6,250	0	500	19,750	19,750				
REV 1974-75													
041 STDNT SUPT													
ACT 1972-73		.5	8,900	892	2,500	750	2,000	15,042	15,042				
PROJ 1973-74		.5	9,500		2,500	750	1,500	14,250	14,250				
REQ 1974-75		.5	9,500		3,000	0	250	13,250	13,250				
REV 1974-75													
043 DEPT ADMIN													
ACT 1972-73		1.0	23,000	1,785	5,000	1,500	4,000	35,285	35,285				
PROJ 1973-74		1.[illegible]	[illegible]		[illegible],000	1,500	[illegible],818	35,318	35,318				
REQ 1974-75		.5	13,[illegible]		[illegible],500	0	[illegible],000	18,500	18,500				
REV 1974-75													
999 TOTAL													
ACT 1972-73	75.0	8.5	165,650	15,172	42,500	12,750	34,000	270,072	235,072		10,000	25,000	
PROJ 1973-74	60.0	.5	1[illegible],332		4,[illegible]50	[illegible],000	29,568	253,250	213,750		10,000	25,000	5,000
REQ 1974-75	80.0	[illegible]	1[illegible],336		46,500		27,000	234,836	184,836		20,000	30,000	
REV 1974-75													

M. EXAMPLE OF A COLLEGE PLAN WHICH ADDRESSES THE INSTRUCTIONAL PROGRAM, RESEARCH PROGRAM, AND PUBLIC SERVICE PROGRAM

Name of Unit: College of Agriculture

Name of Respondent(s): Dean Homer Bean

Telephone No:

Goals:

1. Provide training and intellectual development opportunities for youth seeking careers in agriculture. Offer degree programs: 2-year degree in Agriculture Technology, baccalaureate degree in Agricultural Science, and graduate degree in Agricultural Research and Development.
2. Maintain a research program to support the continued effectiveness of the instructional activities of the college and to identify and support new developments in the agricultural sciences.
3. Provide consultation, continuing education, and technical assistance to regional agricultural agencies and area farmers.
4. Become the best College of Agriculture in the nation.

Unit Programs

Program Name: Technical Education—Agricultural Technology—2 yr. degree

Name of Respondent: Dean Homer Bean

Describe the program and indicate the needs being filled by it.

This two-year associate degree program consists of 70% technical and science courses offered by the faculty of the College and 30% humanities and social science courses provided on a service basis by the Divisions of Humanities and Social Sciences. Technical course offerings in the areas of Dairy and Farm Management, Research Technology, Agricultural Chemistry, Nutrition, Plant Regulation, etc. are offered.

This program meets the needs of area youth for an education midway between high school and a full-scale baccalaureate degree. Graduates of the program pursue careers like: management of the family farm; research technicians at the regional U.S. research office, industrial research firms; and other technical specialist roles for regional agricultural agencies.

Program plans call for doubling of enrollment and staff over next 5 years (See Table I). A task force review of the curriculum during 72-73 may lead to program modifications in 73-75, 75-77. Laboratory and classroom space is requested for 75-77.

Program Name: Baccalaureate Professional—B.S. in Agricultural Sciences

Name of Respondent: Dean Homer Bean

Describe the program and indicate the needs being filled by it.

This five-year baccalaureate degree program consists of 50% technical, management, and agricultural science courses, 25% internships in the College's research program and local industrial firms, and 25% course work in general education courses taught by the Divisions of Huma ies and Social Sciences. Graduates are trained to be the working leaders in the agricu l and industrial food processing fields. Graduates are expected to take managerial positions at large industrially managed food and animal farms, become product development and process experts at seed and food processing organizations, and top level administrators in regional and national agricultural agencies. Graduates fill needs for sophisticated and future oriented leadership in a field that has changed from a family farm to a large scale organization-based industry.

No increase in staff and enrollment is anticipated for 71-77 (See Table I). Review of Internship program is planned for 72-73 which may lead to program modification in 73-74.

Internships and instruction are coordinated with college's research program. Efforts to improve instruction are planned for 73-75, 75-77.

Program Name: Doctoral Program in Agricultural Research and Development

Name of Respondent: Dean Homer Bean

Describe the program and indicate the needs being filled by it.

This doctoral program has a research and development emphasis. It is designed to train expert researchers interested in identification and development of new agricultural directions As a research degree, students spend 75% of their time on ongoing research programs and 25% time in seminar and reading activities. The world is faced with population increase and scarcity of existent food sources. Graduates will join organizations seeking to solve these problems.

Program anticipates doubling enrollment 71-77 and addition of 2 faculty positions (See Table I). New course offerings in Marine Agriculture are anticipated during 73-75. Interaction between course offerings of this program and research program is extensive.

Program Name: Research

Name of Respondent:

Describe the program and indicate the needs being filled by it.

Research programs on pesticides, plant growth regulation, crop yield analysis hybrid development, and breeding processes are major areas of emphasis. Four hundred thousand square feet of laboratory space, animal barns, and equipment storage space are maintained to support the research program. Eight hundred acres of prime farm land are used for experimental studies. An additional eight thousand acres of local farm land are used for experimentation in cooperation with local farm owners. A staff of 10 senior researchers, 25 technicians, and 30 laborers man this program. Programs are utilized to support lab courses in instructional programs, research vehicles for graduate students, re-education and development of the faculty, and impetus for new developments in the field.

Program is 70% funded by outside sources and will continue current direction through 71-73. Addition of a new program in Marine Agriculture is anticipated for 73-75. Increases in staff (See Table I) and facilities (N47 laboratory and 4 new 100,000 gallon aquariums) is anticipated.

Program Name: Public Service—Agricultural Information Bureau

Name of Respondent:

Describe the program and indicate the needs being filled by it.

The College maintains an Agricultural Information Bureau staffed by a director, a secretary, and three part-time senior research consultants. Literature and technical advice is available to area farmers on a wide range of the practical aspects of farming. Open hours are advertised to community via radio, television, and newspaper. This service provides a setting for area farmers to socialize and share ideas and problems.

Service in this program will be maintained at current levels 71-77. No additional resource needs anticipated.

COLLEGE OF AGRICULTURE

		1971-1973		1973-1975		1975-1977	
Technical Education 2 yr. Degree in Agriculture	FTE	500	600	700	800	900	1000
	FAC	17	17	21	25	29	33
Baccalaureate Professional 5 yr. Degree Agricultural Science	FTE	500	500	500	500	500	500
	FAC	35	35	35	35	35	35
Doctoral Program in Agricultural Research and Development	FTE	25	25	30	35	40	45
	FAC	3	3	4	4	5	5
Research	FTE	—	—	—	—	—	—
	Laborers	30	30	35	35	35	35
	Technicians	25	25	35	35	35	35
	Sr. Research Associate	10	10	15	15	15	15
Public Service Agricultural Information Bureau	FTE	—	—	—	—	—	—
	Service Requests	50/wk.	50/wk.	50/wk.	50/wk.	50/wk.	50/wk.
	Director	1	1	1	1	1	1
	Secretary	1	1	1	1	1	1
	Part-time Sr. Research Asst.	3-½ time	3-½ time	3-½ time	3-½ time	3-½ time	3-½ time

N. THIS PROPOSAL INCLUDES MOST OF THE INFORMATION NEEDED IN A FOUNDATION PLAN

I. HISTORY OF THE FORMATION OF THE TECHNICAL INSTITUTE AND VOCATIONAL HIGH SCHOOL DISTRICT

On March 31, 1965, the Four County Superintendents representing Defiance, Fulton, Henry and Williams Counties met to discuss technical education and a joint vocational high school district for this area. The above Superintendents represented the cities of Bryan, Defiance, and Napoleon; Exempted Villages of Hicksville, Montpelier, Wauseon; and the County Superintendents from Defiance, Fulton, Henry, and Williams Counties. These meetings progressed over a period of fifteen months.

The Boards of Education, representing twenty-nine Local, County, Exempted Village and City school districts voted unanimously as boards to create a technical and joint vocational school district. They voted once prior to sending the "Plan" to the State Board of Education and as required by law, they voted the second time to approve the action of the State Board of Education in creating the Four County Joint Vocational School District including the Technical Institute. Out of a potential of one hundred forty-five board members from the twenty nine school districts, one hundred forty-four voted for the establishment of a joint vocational school district, which includes technical education, vocational high school, and adult education. As of January 23, 1968, we have twenty-three school districts instead of the twenty-nine when we started. This has been due to a consolidation of two high school districts and the annexation of five elementary districts to high school districts. By July 1, 1968 the last elementary school district will be transferred to high school districts and at that time we will have twenty-two high school districts. At present we are the largest joint vocational district in Ohio as to square miles and the number of home school districts.

On May 31, 1966 the school district was formed, meeting the standards set by the State Department of Education as to the joint vocational school district with the Technical Institute, Vocational High School and Adult Education being approved. The Four County Vocational School Board was established with eleven board members sworn in at this meeting. Mr. Robert J. Durbin, Superintendent of Napoleon City Schools was employed as temporary Superintendent.

In July and August, the Board of Education certified to the Board of Elections a 1.1 mill levy for five years to operate the school district (and 26 average millage over twenty-one years for a $4,995,000 bond issue). On August 1, 1966, the Board of Education employed Mr. Robert Durbin as Superintendent of this district. In November of 1966, the bond issue and levy were both passed with a good majority. We feel this was a tremendous endorsement of the plans developed by Business, Industry, Labor, Advisory Committees, Boards of Education, School Personnel, and Administration for the Technical Institute, Vocational High School and Adult Education Program.

The support for this board issue and levy was also extremely meaningful to our area when only three out of eleven of the joint vocational school districts in the state had success at the polls.

By the first of August 1967 bonds had been sold and contracts awarded for the building. We plan to open the building for the Technical Institute and Vocational High School in September, 1968.

October of 1967 the total elementary-high school enrollment making up this technical institute district was 32,515 students in grades K through 12. There were 9,002 of the above total in grades 9 through 12.

II. Present Projected Enrollment and Curriculum

Our vocational high school enrollment at our opening in September, 1968 will be approximately one thousand. Our vocational high school building is equipped for an enrollment of 1665 students. By the latter part of the 1970's we would expect a potential vocational high school enrollment of 2,500.

Our expected enrollment for the Technical Institute this coming September is approximately two hundred students. We anticipate no difficulty exceeding minimum enrollment of six hundred students in the near future; in fact, according to a survey taken of Seniors in the high schools in the Four County School District by the State Department of Education in October, 1966, the prediction was that we would have no problems in reaching much larger enrollments. Within the next six to eight years we expect to have 1,400 to 1,600 students with twenty-five to thirty course offerings and a possibility of 2,200 to 2,500 students with thirty-five to forty course offerings within three to four years following this period. The twelve courses in the Technical Institute to be offered in September of 1968 are the following:

Agri-Business Technology
Accounting Technology
Banking Management
Building and Construction
Electrical Technology
Executive Secretary
Food Service Management
Industrial Technology
Insurance Management
Mechanical Technology
Retail Mid-Management
Tool and Manufacturing

Proposed new technologies that are future possibilities at this time are:

Computer Programming
Civil Engineering
Consumer Finance
Agri-Equipment

Many other technologies may need to be added as Business, Industry, Labor and students demand.

III. Facilities and Equipment

The Four County Technical Institute and Vocational school building will have approximately five acres under roof. The site includes 61.33 acres. The Technical Institute is housed in a separate wing by itself. It will consist of 32,000 square feet—77% of this consisting of instructional area, including fifteen laboratories and related classrooms for instruction plus five general classrooms and two conference rooms. However, the Technical Institute will be using a considerable amount of the laboratories of the vocational high school area. By doing this, we are able to save the taxpayers a considerable amount of money and have a greater utilization of the facilities. For instance, in the Vocational High School, the following areas will be used by the technical students: Laboratories consisting of Basic Electrical, Basic Electronics, Physics, Drafting, Food Service, Office Machines, Data Processing, Distributive Education, plus Machine Ship and four academic related rooms for a total of 53,740 square feet. Also the Technical Institute will be using the service areas such as: Programmed Learning Center, Library, Audio-Visual room, Guidance area, Faculty Seminar area and offices, Administrative area, Health Services, Conference rooms, Dining area, Snack bar and Warehouse for an additional 19,470 square feet. Equipment for the technical wing would cost $352,450. Cost of the equipment used by the Technical Institute but housed in the vocational high school would be an additional $376,050. The total of the above would amount to $728,500.

IV. Population and Area

The population of our school district is approximately 119,500, according to a report published by the J. A. White Bonding Company. However, we would be serving business, labor and industrial needs in a population of from 200,000 to 250 000 people.

Our school district, as well as the area we will serve, is rapidly growing in population. Forbes Magazine in 1966 forecast that this section of northwestern Ohio would become one of the fastest growing areas in the state. In fact, Governor Rhodes has referred to this area as a "sleeping giant."

This school district consists of 1,520 square miles. (See enclosed Map) We will serve industry, business and labor needs in a far greater square mile area than just within our own district. This will be done through cooperative training programs in industry and business.

V. Fulfillment of Needs

The Four County Joint Vocational School was established to meet the needs of individuals, Industry, Business and Labor. The three divisions of the school are: Two year Technical Program beyond the high school, Vocational High School, and a diversified Adult Evening Program.

Due to the request of Business, Labor, and Industry in this area and to meet the demands of the advancing technical society, a need was determined for the establishment of a Technical Institute at a meeting in November of 1965 in the city of Defiance. This meeting was held with leaders of Business, Industry and Labor who are aware of the employment needs for technicians in the four county area and northwestern Ohio. Also included at the meeting were the Chamber of Commerce members of the four county area who had received many requests for well trained technicians. Out of the above meeting came the proposal to establish our Technical Institute.

Since the meeting in November of 1965 and a survey in September, 1967 which involved seven hundred business and industrial firms, we have established twelve areas in the Technical School for two year programs. The development of these programs have all been through advisory groups and surveys representing business, labor and industry. The State Department of Education and others have assisted in many of these surveys. There is great evidence that in the development of the Technical School its philosophy and objectives have been enthusiastically accepted and recognized by the business, industrial and labor community.

The tax valuation of the district has grown from $400,694,648 to $464,989,986 in one year which shows that new and present industry recognizes the tremendous importance that technical training will play in meeting the manpower needs.

More than twelve hundred persons from business, labor, and industry have assisted us in developing our philosophy and programs for the Technical Institute. To meet the needs of individuals we will be developing a curriculum at the high school level which could be called a two tract system. The students who desire technical training will be in a separate tract at the vocational high school. These students will receive courses in the academic as well as other related courses of instruction at a much higher plane thus helping to make them a stronger student in the technical program. The other tract in the vocational high school will prepare students for immediate entry into their chosen occupational area at the time they graduate.

Courses offered in the Vocational High School are aimed to meet the needs of the above average, average, and below average student. It is planned that we could offer programs aimed at the gifted high school student in specific areas to meet individual needs. Some of these areas could be: Statistics, Electronics, Computer Training, etc. There is a possibility that an advanced college placement program could become a part of this.

Our advanced enrollment for high school students in September of 1968 will be approximately one thousand students. Many of these will enter our technical division in the future. Each year the vocational school is in operation, it will have a tendency to increase the technical division. We have planned to accommodate 1,665 vocational students. Of course, many of the students in our twenty-two member high schools will be attending the Technical Institute even though they do not attend the Vocational High School.

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We will have an Adult Educational Program which was suggested by the Advisory Committee and this program will make approximately forty-three offerings available to adults. We want our Adult Program to be flexible enough to meet the needs of all adults as well as industry, business and labor. Our Adult Education Program will start the latter part of October, 1968. The Adult Program will help train and re-train many individuals who need new methods and skills to cope with the continual changes of business and industry.

VI. Quality Education for All at a Low Cost to Taxpayers

The Four County Joint Vocational School District with its three divisions all having the same general philosophy and objectives avoids duplication that is many times costly to the taxpayer. The facilities and equipment at the Four County school will be used to meet these objectives twelve to fourteen hours per day, seven days per week, and twelve months per year. We feel that these facilities could be used by adult and technical education up to twenty-four hours a day.

VII. Reasons for this proposal to create a Technical Institute District by the Board of Regents

The Four County Advisory Committee, business, industry, and labor agree that the needs of all of them can better be met in technical education by the formation of the Technical Institute District under the Board of Regents. In our four county area we do not have any public supported higher educational institutions. We do have the Defiance College which is a church affiliated college. They have cooperated fully in the formation and development of our Technical Institute. They have given no indication that they felt there was any conflict between their curriculum and ours or in our becoming a Technical Institute under the Board of Regents; in fact, we have had outstanding cooperation.

The following advantages to meet these needs can be achieved through this action:

A great increase is needed by Business and Industry in the number of technicians to bridge the gap between the professional person and the skilled person.

We can make it possible, in general, for credits to be more transferrable to an appropriate four year college program.

Standards of accreditation can be met through appropriate organization.

We can award the Associate Degree.

We can secure additional funds for operation and facilities in order to better meet the needs of the area for technicians.

We can gain from the Board of Regents a great deal of guidance and assistance in the establishment of a better program of higher education in the unique area of technical education.

We can assist and supplement the efforts of the Board of Regents to offer leadership in Ohio by supplying the needed technicians to maintain and advance Ohio's industrial and business climate.

We extend our appreciation to you for the opportunity to present this proposal.

O. SAMPLE GOALS FOR A COMMUNITY COLLEGE

The purpose of this Community College is to fill the gap in educational opportunity between high school and the senior college and university. In carrying out this role, community colleges offer occupational, academic, and cultural education and training opportunities from basic education through the two-year college level, at a convenient time and place and at a minimal cost, to anyone of suitable age who can learn and whose needs can be met by the school.

Consistent with this purpose the following goals have been established:

1) To open the door to all persons of suitable age, who show an interest in and who can profit from the instruction offered, with no individual denied an educational opportunity because of race, sex, or creed.
2) To provide a variety of quality post-secondary educational opportunities at less than baccalaureate level and consistent with the abilities, desires, and needs of the students to fit them with the skills, competencies, knowledge, and attitudes necessary in a competitive society.
3) To provide for industry, agriculture, business, government, and service occupations the pre-service and in-service manpower training which requires less than baccalaureate level preparation.
4) To provide specific training programs designed to assist in fostering and inducing orderly accelerated economic growth in the area.
5) To provide activities and learning opportunities which meet the adult educational and community service needs of the residents of the community.
6) To direct the resources of the school toward a search for solutions to urgent community problems.
7) To provide, in both curriculum and non-curriculum programs, the education needed to assist individuals in developing social and economic competence and in achieving self-fulfillment.
8) To improve the service of the institution and the quality of the education and training opportunites through constant evaluation and study.

P. SAMPLE ROLE AND MISSION STATEMENT

BOWLING GREEN STATE UNIVERSITY

THE ACADEMIC OBJECTIVES

It is the aim of the University to provide each student a climate which motivates intellectual and moral growth, promotes habits of mental and physical health, encourages appreciation of the good and beautiful, and develops powers of judgment and wisdom in handling knowledge and skills. This aim can best be furthered by a conscientious search for truth with respect for the beliefs of all persons but without prejudice toward any specific doctrine or creed. The extent to which these aims are fulfilled depends largely upon the character of the faculty and the philosophical milieu of the institution. For this reason the University seeks to select and provide highly qualified faculty members who can help achieve these goals.

In addition, the University insists upon the achievement by every student of a reasonable mastery of the skills of reading, writing, speaking, and thinking including problem solving and critical and creative thought.

Further, the University seeks to guide each student to a meaningful experience in American culture as well as in major areas of basic knowledge such as science and mathematics, social and economic studies, the humanities, and the arts.

Finally, it is the aim of the University to provide for each student significant programs of in-depth study which are conducive to an understanding of the contemporary world.

THE UNIVERSITY

Bowling Green State University is state-assisted. Private support is administered through the University Development Council in conjunction with the Bowling Green University Foundation, Inc. The main campus is located in Bowling Green, Ohio, 23 miles south of Toledo and 15 miles south of the Ohio Turnpike. The University also provides the first two years of college in academic centers in Bryan, Fostoria, and Fremont and in the Firelands Branch located near Sandusky.

THE HISTORY

The history of the University began on January 24, 1910, when John Hamilton Lowry, representative from Henry County, introduced a bill in the Ohio General Assembly "to provide for the appointment of a commission to establish two normal schools and to provide for the maintenance thereof."

The bill was passed on May 10, 1910, and approved by Governor Judson Harmon nine days later. On November 22 of that year, the city of Bowling Green was officially notified that it had been chosen as the site for the normal school to be located in northwest Ohio.

Classwork began in September of 1914; but it was not until the following year that the first two buildings — now University Hall and Williams Hall — were ready for use. In the meantime, classes met in the Armory in Bowling Green and the old Central High School in Toledo.

The General Assembly of Ohio in 1929 enacted legislation which brought about a significant expansion in the functions of the institution at Bowling Green, from those of a normal school to a college and then to a University with facilities for a four-year liberal arts education, professional and pre-professional education, and graduate study.

ACCREDITATION AND RECOGNITION

Accreditation is accorded the University by the appropriate regional and national agencies. Each college and many departments are accredited in their respective fields.

The University is recognized by the Ohio State Department of Education for certification in all fields of teaching, school supervision, and administration for which the University conducts programs.

THE CAMPUS

Bowling Green State University is situated on a 1,200-acre campus which has over 90 academic buildings and residence halls and recreational facilities to provide for the intellectual, professional, and cultural growth of a student.

CAMPUS EXPANSION

The University has completed an extended study resulting in the adoption of a flexible land-use plan. In this plan, the relationship of the physical plant to the academic needs of a growing student population has been examined, and priorities have been established for orderly growth. The following buildings have been conceived and planned as part of the University's long-range, land-use plan:

University Library. A nine-story, $4.6 million Library is the focal point of the academic community. The design, terraced grounds, open stacks, reading lounges, study carrels, and seminar rooms have been planned to encourage independent study. The Library has a capacity of 640,000 volumes. Present holdings are 364,127 volumes, 200,000 government documents, 242,000 microforms, and 3,000 periodicals.

Science Research Complex. The University has undertaken the planning and construction of a science-research complex in five phases. Overman Hall formed the nucleus, and the Life Science Building formed the first phase. Completed in 1969, the Psychology Building and the Science-Mathematics Lecture Building are the second and third phases.

Education-General Classroom Building. A five-story, $1.9 million building furnishes classrooms, laboratories, and offices for the College of Education, the research and development programs of the Department of Education, and the University's Instructional Media Center. The new building is situated on the west end of the Library Mall.

Student Medical Center.* A $1.5 million health center, with 100 beds and out-patient services, is designed for maximum flexibility in meeting the health service and health education needs of a growing student population.

Student Services Building.* Designed to reinforce vital student government, the $1.9 million Student Services Building houses offices and meeting rooms for student organizations, the Dean of Students and his staff, and various other services including the International Student Center and bookstore. It is centrally located on the campus and features dramatic circular design.

Stadium and Track.* The football stadium with a seating capacity of 22,370, also has six classrooms and 30 offices as well as team equipment storage facilities. The adjacent all-weather, quarter-mile track and stadium are served by a 4,000-car parking lot.

Ice Arena.* The indoor ice arena has three separate sheets of ice for hockey, figure skating, and curling. The hockey rink has a seating capacity for approximately 3,000. The arena provides facilities for health and physical education classes, intramural programs, exhibition hockey, and recreation for students and the public.

College of Business Administration Building. A three-story $2.39 million structure in the core of the academic area provides classrooms, lecture rooms, seminars and offices along with computer training capabilities for undergraduate and graduate students.

* Constructed, equipped, and operated without tax funds.

Q. SAMPLE FACULTY AND STAFF NEEDS PROJECTION PLAN

(Primary focus of this example is the faculty portion.)

We wish to have the highest quality of faculty consistent with our role and mission, and resources available. Professional development and growth of faculty will be actively encouraged through sabbaticals, encouraging attendance and participation in professional meetings, etc. $200,000 yearly will be budgeted for this purpose.

As in all universities, faculty emphasis will be on instruction, research, and service. Faculty are expected, however, to address a judicious portion of their efforts primarily to instruction and instructional related activities. Some research will be expected of all faculty. Not necessarily all of it, however, must be disciplined research. Some may be concerned with improving the teaching-learning process and on providing extra effort to community and public service activities. In line with this policy, we will endeavor to maintain the same student-faculty FTE ratio which we now have. Because of decreasing enrollment projected in the next three years, we envision 500 faculty FTE positions next year and only 480 FTE positions in the following two years.

Generally, we will endeavor to create a spread of background, age, and interest among the faculty. To help achieve that goal, we will strive for a distribution of faculty as follows: 10%—instructors, 20%—assistant professors, 30%—associate professors, 40%—professors. We now have percentages of 15%, 15%, 35%, and 35% respectively. In line with the above, therefore, our goals for specific numbers of faculty in the next three years are as follows:

	Instructors	Assistant Professors	Associate Professors	Professors	Total
This year	75	75	175	175	500
1973-4	70	75	175	180	500
1974-5	45	80	170	185	480
1975-6	40	85	165	190	480

A committee chaired by the Academic Vice President will be appointed by him to study and recommend on a college-by-college basis a way of meeting the objectives mentioned above.

In an effort to maintain a higher quality faculty, we will endeavor to provide compensation, fringe benefits, and other inducements comparable to other competing schools. Specifically, with regard to compensation, we now have AAUP ratings for instructor through professor of 2, 5, 7, and 4. Our goals to be reached in 1975-76 are AAUP ratings of 2, 3, 5, and 3. In order to achieve this, additional money for salary increases above the normal cost of living and merit increases must be provided. Because of the reduced number of faculty positions, however, the net increase over the next 3 years is $720,000. This is 9.3% of the $7,700,000 now paid to our faculty in compensation. Over 3 years time this amounts to $240,000 per year. We will continue to keep our fringe benefits in the neighborhood of 13-15% of salaries.

For all other staff our goal is to pay comparable or better salaries than those received by similar positions in the surrounding metropolitan area.

R. SAMPLE MANAGEMENT INFORMATION SYSTEM PLAN

This plan is an in-depth analysis of what goes into a Management Information System (MIS). It includes plans to design, test, and install new operational data systems, plans to insure the usefulness of existing systems, and finally, plans to design, test, and install procedures for providing MIS reports.

The Management Information System is the responsibility of the Vice President for Management and Finance. Included among his responsibilities is coordination and direction of the planning and budgeting process for the university. He has Computer Services personnel, Cost and Budget Analysts, and others at his disposal.

He has appointed an MIS Advisory Committee to him. This committee has two representatives from Computer Services, four operational users such as the Registrar and Controller, the University Budgeting and Planning Officer, and three representatives appointed by the Academic Vice President. This committee meets quarterly to consider ongoing problems and priorities dealing with the Management Information System. It has recommended a plan for Management Information Systems for the next three years. The details of this plan as amended by the Vice President for Management and Finance follow:

	Systems Yearly FTE	Programmers Yearly FTE
1. Budgeting office assume responsibility for maintaining the central code conversion table by May 1, 1973	.1	.2
2. Redesign the personnel data system by May 31, 1973	1	1
3. Computerize income and expense projections by September, 1973	.3	.3
4. Institute formal procedure for sharing data with other universities by October, 1973	0	0
5. Prepare computerized departmental enrollment projections, including an induced course load matrix by October 31, 1973	.2	.3
6. Install Ohio Board of Regents resource analysis procedures and NCHEMS RRPM by January 1, 1974	.2	6
7. Design, test, and install library system by April 30, 1974	.5	.5
8. Integrate the personnel and payroll files by June 30, 1974	.6	.5
9. Design, test, and install new admission systems by July 1, 1974	.3	.5
10. Prepare university-wide cost analysis similar to Medical Center Cost Study by September 1, 1974	1	1.3
11. Install new student data system by October 31, 1974	.5	1
12. Prepare computerized departmental profile reports using existing operational data by December 31, 1974	2	3
13. Prepare program budgeting support data by December 31, 1974	1.5	1.5
14. Initiate procedures to acquire data concerning the quality of our educational outputs and to reflect value added concerns. This must be an ongoing effort of the Institutional Research Office. One full-time research associate will be assigned to this project	0	0

15. Ongoing maintenance of existing and future systems will require constantly increasing attention. We estimate this will grow from the present 10% of total effort to 25% of total effort over the 3 year period ahead — 3.0 — 3.0

Expense Summary — MIS per year

Systems Personnel 7.5 @ 15,000	$112,500
Programmers 9.0 @ 11,000	99,000
Institutional Research, Cost Analysis 5.0 @ 15,000	75,000
Clerical 4.0 @ 7,000	28,000
Computer Time	100,000
Supplies	25,000
	$439,000

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