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A CONCEPTUAL FRAMEWORK FOR SCHOOL SYSTEM PLANNING

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of the Ohio State University

by

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The Ohio State University
1969

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A. E. Wohlers, Project Director, Educational Facilities in Ashland (Ohio) and a Projected Program for Educational Improvement through Facility Planning. (Administration and Facilities Unit, College of Education, Ohio State University: May, 1968).


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FIELDS OF STUDY

Major Field: Educational Administration

Minor Fields: Curriculum
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CHAPTER 1

THE PURPOSE AND THE PROCEDURE OF THE DISSERTATION

The need for planning in education has long been recognized. The lesson plan, the unit plan, building plans, financial plans, are but a few of the more formal uses of plans and planning. The less formal day-to-day operational plans are too numerous to count, but none the less important. Whenever there is a goal to be reached, planning occurs on some level or to some degree. Some planning is more detailed, more foresighted. Other planning is short-range or next step.

Gulich writing on the science of administration developed the acronym, POSDCORB.\footnote{Luther Gulich and L. Urwick, (eds.) \textit{Papers on the Science of Administration} (New York: Institute of Public Administration, 1957), p. 13.} The letters in the acronym stand for the administrative processes which must be performed. Planning is recognized as one of the fundamental processes along with organizing, staffing, directing, coordinating, recording, and budgeting.

In today's highly complex society educational planning may be more necessary and valuable than ever before.

In a changing technological society educational needs expand and become more complex. The nature and quality of education have constantly had larger impact on more
people on the functions of social-economic-political institutions. Likewise, the purposes and quality of education are increasingly influenced by the insights, goals, and decisions of people directing other phases of public and private endeavor. In such circumstances the historic value of purposeful planning are magnified to proportions constituting an imperative.²

Competition is also a characteristic of today's society.

America's gross national product....seems destined to reach unprecedented heights. The gross national manpower, measured in numbers and in competence, will likewise escalate, although not so impressively. But the increase in the competition for the deployment of these resources among objects accepted as desirable by the American people bids fair to outstrip both.

Implications of this competition for educational planners are numerous.³

Complexity of the school's role in society and competition for the resources of society make it imperative that school districts make the most effective use of the resources they have available.

...., we are coming to realize that resources for carrying on desired educational programs, while rarely fully utilized, are not unlimited. We must balance our national aspirations against our national resources, and allocate scarce resources in terms of agreed-upon priorities.⁴

Such may be a definition of educational planning. Replace "national" with "local" and the quote is fully applicable to the local level.


⁴Ibid., p. 56.
There is a need for educational planning. However, there is no consensus on the concept and procedure of educational planning. "Educational planning is still in that amorphous state where there is no agreement even as to its boundaries. Each of us comes to it from a different direction, and the track we have followed determines in no small measure the shape and content of what we see before us."\(^5\) Although the quote cited comes from a context of educational planning in developing countries, it too is applicable to the local level. A problem which must be confronted in this dissertation is to define educational planning at the local level of school district organization.

Once defined, who is to do this educational planning? Goldhammer may provide some insights into this problem, "...the fact (is) that the administrator who has been prepared to be a 'perceptual generalist' is no longer a viable model for the preparation of the administrators of the future. Specialization in the field of educational administration is imperative."\(^6\) If administrators are to be prepared as specialists, is there not a need for a planning specialist?

Campbell, Cunningham, and McPhee state that the role of the superintendent is to "...for the most part maintain not change their

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organizations. Thus, every superintendent need not be a great innovator. ..., he should have some sense of purpose and direction in education. 7 If the task of the chief administrator is that of maintaining the organization, who looks ahead? Who stimulates? Who innovates?

**Purpose**

"What is lacking is a general framework for educational planning that is appropriate for local districts and other educational institutions." 8 If a general framework for educational planning is lacking, it logically follows that the educational planner, he who works within the planning framework, is also lacking. The purpose of this dissertation is to develop a conceptual framework for school system planning. The general framework of educational planning at the local level must be defined.

**Procedure**

The Research

If educational planning is in "that amorphous state," attention must be given to bringing some order to the process. What is the planning process as practiced by institutions and agencies, both inside and outside of education? What are the commonalities? Are there procedures unique to any one of these institutions or agencies?

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What facets of the varied planning processes are applicable to the local level of school district organization? Does educational planning at the local level require procedures unique to the local educational institution? These and other questions are studied by looking closely at the planning process in such organizations as:

- business and industry
- the military
- city planning
- social welfare
- agriculture
- the federal government

Within education careful study is given to the planning process:

- on the national level of developing countries
- as developed by the project "Designing Education for the Future"
- on the state level
- as characterized by the planning-programming-budgeting system (PPBS)
- as characterized by systems analysis
- as practiced by school facility planners

**Developing the Goals and Objectives of School System Planning**

Research into the various types of educational planning and review of some of the newer planning techniques suggest a framework for educational planning at the local level. Educational planning in developing countries offers a general overall view of the place of education in a vast and complex governmental system, a supersystem. In the United States, researching educational planning on the state level provides a similar type of view. School facility planning is a type of planning
similar to school system planning. Educational planning in this context is a procedure used in school facility planning. All of these levels of educational planning provide a clarification of the planning process in general and the planning process in education in particular.

The review of the newer techniques of planning, planning-programming-budgeting systems and systems analysis, provides means to prepare a school system plan after the framework is developed. Planning-programming-budgeting systems is the most comprehensive planning tool discovered up to this time, and offers great potential for use in educational planning. Systems analysis also is receiving much attention and the research reveals that some of the procedures and techniques advanced within systems analysis are of value in preparing the school system plan.

The first requirement which must be met in preparing a framework for educational planning at the local level is to develop a conceptual basis for school system planning. School system planning is placed within a broad context of planning which clarifies the types of educational planning, and recognizes the interrelationships both within and outside of the school system. In the preparation of the conceptual basis the goals of school system planning are presented.

The goals set the pattern for what is to follow. The procedure to be used to define and clarify the goals is to develop objectives which must be achieved if the goals are to be realized. A goal may require a number of objectives. Each objective is discussed in detail to insure that all aspects of the objective are considered. The objectives must be understood fully if the planner is expected to achieve them.

The objectives are broken down further into required actions of the
planner, actions which must be performed if the objectives are to be achieved.

**Developing the Competencies**

The competencies for planning are the broad task areas in which the planner must be competent if a school system plan is to be completed. The competencies provide a basis for determining the qualifications of a person to prepare a school system plan as well as suggest the type of training and experience required.

**Summary**

The purpose of this dissertation is to develop a conceptual framework for school system planning. Steps to be taken are:

1. research education planning at various levels—in developing counties, on the state level, and in school facility planning.
2. review the newer planning techniques—PPBS and systems analysis.
3. develop a conceptual basis for school system planning.
4. develop the goals of school system planning.
5. develop the objectives of school system planning.
6. develop the competencies for school system planning.
CHAPTER 2

THE PRESENT STATUS OF PLANNING

Educational Planning in Developing Countries

Education is recognized as a vital ingredient for the advancement of an under-developed country. Educational planning in developing countries is offered as a means to improve the educational system and to coordinate its program with that of other institutions and planning.

Educational planning is the exercising of foresight in determining the policy, priorities and costs of an educational system, having due regard for economic and political realities, for the system's potential for growth, and for the needs of the country and of the pupils served by the system. The most obvious difference (between the new dimension in educational planning and the classical type carried out over the last 100 years) lies in the modern planner's intense interest in economic growth, in human resource development, and in what the economist calls "macro-planning," the simultaneous consideration of all a country's interlocking development plans.

Three elements of the above definition warrant additional comments. The role education has to play in the economic growth of a nation has been recognized for a long time, but recently increased emphasis has been placed on education and its potential for increasing the gross national product of a country, and thus advancing the country as a whole.  

1 Beeby, Planning, pp. 13 and 14.

The most valuable resource of any country is its people. How and to what degree this resource is developed are the most important questions facing developing countries. The importance of education in human resource development is exceedingly clear. Macro-planning is a term which has great implication for education and for educational planning. Macro-planning requires the acceptance of the theory of systems and the development of interrelationships among these systems. The educational system is but one system of the country. The educational system, though it must plan and operate as a system, cannot afford to disregard the other systems of the country. Macro-planning requires the coordination of the country's numerous systems toward the goal of advancing the country as a whole.

The Need for Educational Planning

The need for educational planning in developing countries is implicit in broad terms in the definition. More specifically, the need results because of "the unprecedented demands facing those responsible for developing and executing educational plans:

1. the rapid growth of school-age population throughout the world;
2. the increasing size and complexity of educational institutions;
3. the enhanced and widespread tendency to view education as an important instrument for attaining national objectives;
4. the burgeoning need for adaptation and innovation in school systems; and
5. the increasing amounts of money needed to support education.\textsuperscript{3}

The complexity and vastness of the implications of the demands expressed are almost frightening. Even in a highly developed country like the United States these demands are evident. What is to be the school-age population? This question is being raised in the United States. The traditional school-age grouping of ages six to eighteen is being challenged. Ages two to twenty-one may be more realistic, or even two to thirty-five or forty. Once the decision is made on the age group to be served, the population explosion which under-developed countries are experiencing must be faced. Educational planning is a process which requires the study and development of means to answer these questions: Who is to be served and how to keep up with population growth?

As countries develop, the institutions which serve the country become more complex. There is little similarity between the one room schoolhouse of the early 1900's and the consolidated elementary school of today, or the urban high school of the early 1900's and the large, urban high school of today. As a country develops the potential of the country also develops, and along with it the need for more advanced institutions. The dilemma of comprehensiveness versus specialization must be faced and a direction established. The dilemma of individual development for the individual or individual development for society must be faced and a direction established. All kinds of pressures are

brought to bear upon the educational system as the country becomes more pluralistic, a condition which development and advancement promotes. Educational planning must include a projection of the future. Goals must be set, and means to achieve these goals developed. Plans too fixed to the simplicity of today in an under-developed country may be totally invalid for the complexity of the developing country of tomorrow.

Development is synonymous with change. To develop means to grow, to move ahead. Something which has developed has changed from its original form to a different form. To adjust from the old to the new as a country develops requires change. Quite often the change requires a new or novel approach. To do best what is needed may require an innovative means of using available resources or the invention of new tools or procedures. For the country to develop but for the educational system to remain static endangers the progress of the former and the relevancy of the latter. Educational planning accepts the challenge of moving ahead, realizing that the new demands the new.

As the size of the educational system increases and the complexity deepens, more people and materials are needed for its operation. In quantitative measures alone, a developing country can see with clarity the increasing need for more money for education. Added to the quantitative elements are the qualitative elements—to use better what is available, to improve outputs, to develop from within. Educational planning requires the development of objectives to be achieved and the cost of achieving them. Increased numbers to be served, increased complexity, and change add dimensions to the cost of the educational
system. Failure to plan the educational system and to provide the financial support for it doom it to failure.

The Purposes of Educational Planning in Developing Countries

Stated broadly the purpose of educational planning on this level is to provide "an important means for helping achieve national policy objectives associated with such significant matters as manpower requirements, technological progress, economic growth, and social mobility." 

...education is expected to contribute to "human capital formation" in a variety of ways: by identifying and developing potential talent, by increasing the capacity of students for effective job performance, by providing skills needed for occupational re-training, by recruiting and preparing teachers who, in turn, develop skills in students, and so forth. "Human capital formation" in turn is essential for any nation interested in effective economic development. The requirement that educational systems be responsive to such important national needs as "human capital formation" makes new and far reaching demands on these systems. These demands in turn require unusual vision and capability on the part of those in leadership posts who would help insure that the purposes and programs of educational institutions are clearly related to established and emergent needs of society and that sound educational development plans are elaborated to meet emergent needs.5

Further elaboration on the purposes sited above would be redundant.

Educational planning in developing countries is a process conducted after a country determines its national objectives. Plans are then formulated as to how the institution within the country can advance these objectives. The educational system is one such institution, and its plan must detail how it can serve the country in realizing national

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5 Ibid., p. 12.
objectives. In under-developed countries or developing countries, educational planning has great value.

An Example of Planning to Meet Manpower Requirements

In his paper prepared for the Pan American Union, Culbertson offered an example of a component of educational planning in developing countries. He selected the process of manpower requirement planning presented by Parnes in *Forecasting Educational Needs for Economic and Social Development*. The process is as follows:

1. Prepare an "inventory" of manpower for the base year (e.g., 1970) classified by branch of industry and occupation, using an occupational classification system that differentiates as far as possible among occupations requiring different levels of education and, at the highest levels, between "scientific" and "general" education.

2. Forecast the size of the total labor force for the "target" year (e.g., 1985) and for the intervening period at five-year intervals.

3. Estimate total employment in each sector and branch for the forecast years.

4. Within each sector and branch, allocate total employment for the forecast years among the various categories of the occupational classification system. Aggregating the requirements for each occupational category in all sectors and branches gives the total "stock" of manpower required for the forecast years classified by occupational category.

5. Convert the data on requirements by occupational category into data on requirements by educational qualification. This is necessary because the several broad occupational categories cannot be expected to be homogeneous with respect to required educational qualification.

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6. Estimate the anticipated supply of personnel with each major type of educational qualification for the forecast years on the basis of:

   a. present stocks;
   b. anticipated outflows from the existing educational system; and
   c. losses due to death, retirement, and withdrawal from the labor force.

7. Compute the change in annual outflow from the various levels and branches of the educational system necessary to create balance in the forecast years between (e) and (f).

8. Calculate enrollments in each level and branch of the educational system necessary to achieve the required annual outflows.

When system objectives are clearly defined in terms of manpower requirements, needed changes in the educational system to meet manpower requirements can be projected and planned. The classes of planning decisions typically made to meet manpower requirements are suggested in the following statements:

1. Estimate for the 15-year period 1970 to 1985 the 'required' number of graduates each year from the various levels of the educational system. For levels beyond the primary, these numbers must be broken down by broad subject matter area—at least into graduates of scientific and technical curricula and those of all other curricula, since the content as well as the costs of these two broad divisions of the educational system differ considerably.

2. Estimate, in the light of (a), the number of teachers required in the several levels of the educational system. As in the case of students, teachers of pure and applied sciences at levels beyond the primary must be differentiated from all others.

3. Estimate, in the light of (a), the number of additional classrooms, laboratories, school buildings, and the amount of equipment required, and plan the optimum geographical distribution of such educational facilities in the light of anticipated population distribution and the distribution of existing facilities.
4. Assess the qualitative adequacy of existing educational programs and make recommendations for needed improvements, including teaching methods and curriculum organization.

5. Assess the need for new or expanded educational and training programs outside of the traditional educational structure, such as adult education programs, apprenticeship-training programs, on-the-job training, et cetera.

6. Estimate the total capital and current costs of the expansion and improvement in education implied by the results of (b)-(e).

7. Establish a "time-table" for achieving the required expansion and improvements over the 15-year period and prepare annual budgets showing total required educational expenditures in absolute figures and as percentages of gross national product.

**Educational Planning on the State Level**

Similarity exists between educational planning in developing countries and educational planning on the state level in the United States. This similarity exists because education is considered a state function in the governmental structure of the United States. As such there is an autonomy within the state to develop its own educational system with relatively little dictate from the national level. In essence, the state is a country within the United States, at least for the comparison purpose being made here.

One of the most ambitious and apparently successful ventures of statewide educational planning is the "Designing Education for the Future" project undertaken by eight western states. From this project have come statements of the purposes of statewide educational planning. Some of the similarity mentioned can be seen in the following list of functions of state planning agencies. Also a glimpse is seen of the
planning process which could be utilized at the statewide level of planning.7

1. determine through analysis and assessment those educational objectives for a state which should receive highest priority for a given time period;

2. develop multi-year master plans designed to ensure the effective attainment of high priority and other educational objectives from pre-school, K-12, and higher education;

3. create various program alternatives designed to achieve high priority objectives, perform cost-benefit analyses of these alternatives, and translate the results into specific proposals;

4. assess state programs of financial support in order to determine their adequacy for ensuring investments needed to achieve educational goals, and, when necessary, develop legislative proposals to correct inadequacies;

5. examine school district, intermediate, and state department structures in order to determine their adequacy in relation to achieving established educational objectives, and, when necessary, develop alternative recommendations designed to improve these structures, and;

6. serve as an interpreter of quantitative data on education and of important state and national studies which bear upon and have implication for educational planning;

7. concern itself with master planning for five to fifteen year periods.

Kimbrough also sees setting goals as a prime purpose of planning on the statewide level, "State departments of education need to furnish aggressive leadership and coordinative services in the planning

of long-range goals for education in the state.  

A final comparison which alludes to the macro-planning element of development is provided by Roe as he looks to the future and sees inter-relationships and interactions.

...the state education agency's planning and development office was created and charged with establishing formal working relations with (a) the state government planning and development commission; (b) regional research laboratories; (c) regional state education study and development groups made up of state educational agencies which have formed an interlocking association; (d) The Education Commission of the States; (e) the Study Commission of the National Council of Chief State School Offices; and (f) the U.S. Office of Education and its regional offices.

Of note is the emphasis being placed by Roe on interaction outside of the state. Items (b), (c), (d), (e), and (f) denote such interactions. The proposed interactions need not mean a violation of state autonomy. Knowing what other states are doing is helpful for planning in any one state. However, the influence of the federal involvement and interest in education could increase, and encourage nationwide educational planning.

A Planning Strategy for Educational Planning on the State Level

Comprehensive educational planning must be a continuous and long-range activity that attempts to reconcile its integral parts with the whole; that identifies the relationships among people, things, and service; that organizes the selection and analysis of goals; that suggests priorities; and the most efficient, effective, and acceptable approaches for

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attaining the desired outcomes; and that permits the development of a coordinated and integrated educational system. As a device for producing desired change, preventing undesirable change, and meeting expected change, comprehensive educational planning should be used to uncover problems, estimate future conditions, and predict the outcome of possible courses of action through study and coordination of socio-economic, political, and physical factors.10

In another paper on comprehensive educational planning, Gardner repeats some of the goals in the definition and adds others.11

1. to provide efficiency in government.
2. to provide means of control.
3. to establish functional procedures.
4. to develop humanistic answers.
5. to encompass socio-economic and political, as well as physical elements.
6. to demand coordination of all elements of government in the development of an organized and sound educational plan for the future.
7. to cooperate with other agencies responsible for education at different levels and in changing strategies for attaining objectives.

**The Planning Process**

If goals are to be achieved, there must be some process followed which leads to goal fulfillment. Unfortunately, just stating goals does not insure their realization. This is especially true when goal statements are broad or general. Subsequently, Gardner offers that the


goal statements must be broken down into smaller, more specific objectives and targets. He also emphasizes the need for evaluation.  

Goals are general, broad statements of aims. They are not specific prescriptions for definite programs but represent, instead, the educational policies and philosophies of the state. Such statements seldom need to be changed although the methods or programs used to fulfill them will probably change from year to year and perhaps even more frequently.  

Objectives, the fragmentation of each of the goals into smaller, workable segments, are designed to permit the goals to be transformed into programs. By their nature, objectives, when achieved, will result in the fulfillment of the larger goals of which they are a part. Generally, a wide range of objectives can be developed to reach a particular goal so that priorities will become necessary, and some objectives will be discarded or postponed.  

Targets represent the further breaking down of the objectives into smaller elements.  

Targets, in turn, suggest implementation of programs. Targets arranged in an orderly, sequential manner—a plan of action—will lead to the achievement of overall objectives, which, in turn, is designed to fulfill one of the broad general statements of purpose referred to as goals.  

Evaluation is the cement which shapes and holds together the planning cycle. The implementation or action stage is carefully monitored to see that the targets are being achieved. At the same time, the targets are being measured against the objectives they are designed to achieve and objectives are assessed in terms of the goals they are intended to serve. Periodically, the goals themselves should be looked at in terms of larger societal demands to see that they continue to be relevant to the external changing world.  

In the development of the planning process consideration must be given to a broad or philosophical base for the process. Such a

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base should include scope, flexibility, and time. Scope refers to the comprehensiveness of the endeavor. Flexibility adds the dimension of prohibiting rigidity. Gardner uses the phrase "a constantly evolving strategy for accomplishing fairly consistent goals." Time in planning refers to a long-range perspective. In the project "Designing Education for the Future," the year 1980 was selected. In the material on manpower requirements, the projection was for fifteen years into the future.

The process must result in information being generated and used. Gardner refers to these requirements as capabilities of the process. 14

1. provoke inputs from all relevant constituent elements within the state.
2. assimilate these inputs into an integral whole with specified objectives and priorities.
3. translate these into alternative courses of action, based upon technical study and evaluation.
4. feed back alternatives to constituent elements for reaction and further input.
5. mediate and reconcile reactions.
6. decide on one appropriate, achievable, and defensible comprehensive plan for statewide educational improvement.
7. advocate plan acceptance by responsible agencies and institutions.

The real challenge in planning as well as the most essential aspect may be the way all of the components and needed capabilities are

13 Ibid., pp. 4-6.
14 Ibid., p. 7.
put together into a sequential, workable order. Gardner offers a framework for planning:15

1. ...this process begins with the selection of goals.

2. Policies are formal and particular statements describing the authorization and limits of programs and actions to be taken toward goals. Properly devised policies will serve as bases and stimuli for imaginative programming.

3. Programs include definition of problems, statements of principles and standards, possible alternative solutions with varying consequences, and immediate and long-range objectives.

4. A concomitant as well as subsequent stage is that of implementation including finance, legislation, and citizen education and participation.

5. A final, as well as beginning, stage in planning is that of evaluation of the entire process from goals to achievement.

Steps in the process as Gardner sees them include:16

1. organizing and staffing for planning.

2. developing a planning strategy.

3. assessing educational needs through statewide or intensive study.

4. evaluating educational performance and output.

5. setting goals, objectives, and targets for planning.

6. formulating alternative ways to achieve objectives.

7. reducing alternatives to the best method possible within the limitations of present and projected resources.

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15Gardner, "Comprehensive Educational Planning," p. 3.

8. translating plans into action programs.
9. recycling the planning process in view of experience.

In summary, statewide educational planning requires a look into the future, a cooperation of educational planning effort with the planning effort of other state subdivisions, a cooperation of the state education agency with other state planning agencies and with regional and national agencies and commissions, the development of goals, the development of a planning strategy, and the implementation of a planning process.

**Educational Planning as a Component of School Plant Planning**

Educational planning is a term used to identify a component of the school plant planning process. Therefore, there may be value derived from a brief review of the total school plant planning process to achieve clarity of where educational planning fits into the process.

Another reason for reviewing the plant planning process is that this process may be the nearest thing to the school system planning process being developed in the dissertation. Plant planning requires the study of many elements of school operation and respects the view that the school system is truly a system.

Plant planning requires the involvement of many people and the coordination of their activities. Plant planning requires the recognition of the school system as a system in the supersystem of nation, state, and community. Plant planning also recognizes the existence of subsystems within the school system. School system planning also requires such recognitions.
Griggs provides a definition of school plant planning:

Planning for the physical property belonging to the school district; consists of planning for grounds, buildings, and equipment to facilitate an instructional program.

School plant planning involves:

1. District-wide building survey.
   - determine program
   - project enrollments
   - evaluate existing plant
   - consider financial situation
   - recommend action

2. Educational planning.
   - establish details of educational program
   - calculate the number of classrooms needed
   - determine other room requirements
   - develop room specifications
   - write educational specifications
   - review architectural drawings

3. Architectural planning and construction.
   - what an architect is
   - what he does
   - how to select one

4. Moving in and settling down.
   - furnish and equip the building
   - train staff and pupils
   - present building to community
   - assemble building documents
   - evaluate the building

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18 M. J. Conrad, 4 Steps to New Schools (Columbus, Ohio: Ohio School Boards Association), pp. 1-23.
Educational Planning

Educational planning is the second step in the 4-Steps to New Schools. The use of the term in this context is vastly different from its use in nationwide and statewide educational planning. As outlined, educational planning as a component of school plant planning consists of a number of activities which result in the development of architectural drawings for a new or remodeled building.

Establish Details of the Educational Program

The heart of educational planning is the detailing of the educational program. The educational program consists of the things to be learned; services to be rendered; and policies, tools, and techniques. Social concepts and developments, education for productive citizenship, mathematics, science, and technology illustrate the type of "things" which may need to be learned. Food service, health services, and transportation are services which may need to be rendered. Organization, teacher-pupil ratio, and methods of instruction illustrate the policies, tools, and techniques which need to be determined. Educational program planning dictates the activities which are to take place in the new or remodeled structure. These activities dictate the type of building required.

Calculate the Classrooms Required

Calculating the classrooms required demands that consideration be given to the educational program to be housed, the number of pupils to be accommodated, and the scheduling of the pupils into the program. The number of required and elective subjects, the desired class size, and the number and length of instructional periods per week affect the calculations.
Other Room Requirements

Service elements dictate the other room requirements. Food service, health services, and guidance services require spaces in the building. The heating plant, administrative offices, and locker rooms illustrate the type of spaces which also must be provided.

Room Specifications

The educational program and the activities it requires dictate the room specifications. Location, size, and shape of the room depend on the function of the room, the equipment and materials used, and the storage space needed.

Educational Specifications

Educational specifications are a summary of the educational plan. They present the planning decisions made, and state the policies of the decision-makers. The specifications are written to and for the architect as a guide for him in his work. They should not be considered standards for him, nor should they do his work for him.

Educational specifications consist of a body of general information—philosophy and objectives, enrollment, site and development, general building design, future expansion; list of facilities to be provided; detailed room descriptions; and miscellaneous requirements—miscellaneous building features not covered in the detailed room descriptions.

Review Architectural Drawings

The final procedure considered a part of educational planning is reviewing the architectural drawings. The architect uses the educational
specifications in the development of drawings of the proposed building. Those involved in the writing of the specifications must review the drawings to insure that the specifications were respected and interpreted correctly. The specifications are written to insure that the educational program can be housed in the building. The architect must not be permitted to disregard the specifications or to violate them unjustly.

The status of educational planning has been discussed as it relates to developing countries, states of the United States, and as a component of school plant planning. The status of planning in general can be discussed in terms of the scientific method and the newer techniques which extend the scientific method -- operations research, systems analysis, and the planning-programming-budgeting system.

The Scientific Method

In general the scientific method can be summarized as "observation, hypothesis, and verification." In broad terms the purpose of the scientific method is to explain a phenomenon or to predict a future event. The method requires the breaking of a phenomenon down into small segments which can be studied and hypotheses formulated and verified. The method requires the gathering of data, analysis of data, development of hypotheses, and controlled experiment to verify or reject the hypotheses.

Reference is made to the scientific method not only because it is a technique which can be used in planning but also because of the position

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being taken by some authors today that many of the newer techniques are extensions of the scientific method.\textsuperscript{20}

It is easy to find statements in the literature of operations research which imply that analysis to aid any decision-maker is really nothing more than the "scientific method" extended to problems outside the realm of pure science. Even though it is by no means clear that there is any unique method which may be termed the "scientific method," what is usually meant is that the analysis advances through something like the following stages:

Formulation - defining the issues of concern, clarifying the objectives and limiting the problem.

Search - determining the relevant data, looking for alternative program actions to resolve the issues.

Explanation - building a model and using it to explore the consequences or the alternative programs, ordinarily by obtaining estimates of their cost and performance.

Interpretation - deriving the conclusions and indicating a preferred alternative or course of action.

Verification - testing the conclusion by experiment.

Operations research and systems analysis are techniques which utilize all of the stages offered by Quade with the exception of verification. In this section these newer techniques and outgrowths of them will be reviewed. Where applicable reference will be made to how the technique being discussed is an extension of the scientific method.

\textbf{Operations Research}

In using the scientific method there is a focusing on the problem,
a breaking down of a problem into small components, reducing the variables to a minimum, and controlling the variables to as high a degree as possible. Included in the scientific approach is the isolation of the phenomenon. It is studied as an entity in and of itself. It is usually studied by a specialist in the arena of the phenomenon, i.e., chemist, physicist, pathologist, and so forth.

In operations research there are some similar approaches. There is a narrowing of the problem and the determination of an objective, an objective which can be measured, and toward which activities can be directed. The extension of the scientific method takes two forms:

1. The objective to be reached does not stand in isolation. It is influenced by and itself influences many other external factors. Therefore, rather than looking only internally as a pure scientist might do, in operations research there is both internal and external study.

2. As a result of this broadened view, operations research requires a variety of specialists or a multi-disciplinary approach.

To illustrate, the most effective use of a radar system in England during World War II was an objective which required special knowledges, many beyond those held by military personnel. One main reason was that radar was a highly sophisticated technological advance, and its effective use depended upon knowledges of its capabilities and operation. It required not only a military knowledge of the source of enemy missiles but

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also the knowledge and skill of the scientists who developed and refined radar. A mix of specialists was imperative.

**Tools of Operations Research**

There is an inclination to consider operations research a mathematical technique. Operations research, however, has no bounds when it comes to tools. Although mathematical models are utilized to a great extent, operations research is not limited to them. Quade supports this position when he states:22

...operations research, by its very nature, is the application of all forms of human knowledge to the solution of a whole problem. In this it differs from many of the other scientific disciplines; its tools and techniques are very diverse. Anything "goes" in an operations research study as long as it leads to better understanding of the problem.

**Model Building**

By way of illustration of the types of tools which may be used in operations research, Page offers model-building and simulation.23 The primary function of a model is to bring together information of varying kinds. A model is "any concept which gives insight or facilitates reasoning about the problem at hand."24 The model can be highly mathematical-

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24Ibid.
deterministic or probabilistic. On the other hand, the model can be mostly qualitative (non-mathematical).

Simulation

Simulation (operational gaming) is "used to try the effect of changing parameters in repeated 'plays.'"\(^{25}\) In simulation the effort is made to create a situation as realistic as possible to a real situation, yet within controls, so characteristics of both the situation and actions within the situation can be changed.

One of the most familiar types of simulation is that of war gaming. A situation very similar to a real strategic, tactical, or operational problem can be created and various solutions attempted. Such simulation exercises serve to not only solve problems but also as valuable teaching or training techniques.

Simulation has been and is being used in business\(^{26}\) and in education, where simulation is working its way into preparation programs for educational administrators. A type of simulation has been used in education for a long time. Practice teaching among classmates is an example of simulation in education. More recent applications of the technique have consisted of in-basket problems or situations and role playing.\(^{27}\)

Mathematical Techniques

Mathematical techniques abound in operations research. Quade and

\(^{25}\)ibid.

\(^{26}\)ibid.

\(^{27}\)This technique has been used in summer workshops for principals and perspective principals held at The Ohio State University.
Flagle review a few of them:\textsuperscript{28}

\textbf{Game theory:} a mathematical treatment of planning under conditions of conflict. \ldots the goal of game theory is to derive simple rules for making decisions so that the player using these rules\ldots a strategy\ldots will win most often in repeated situations.

\textbf{Linear programming:} a way of optimizing outputs depending on a number of different inputs that are subject to control. Many economic, industrial, and military activities can be expressed (at least approximately) by systems of linear equations and inequalities. The term "linear" in linear programs refers to relations that must hold among the various activities for the plan to be consistant with available resources.

\textbf{Queueing theory:} a statistical method of estimating the delays and the waiting lines that occur whenever service has to be provided in sequence for "customers" arriving at a random rate.

\textbf{Monte Carlo:} a method for estimating the answer to a problem by means of an experiment with random numbers. The technique originated from random sampling investigations in statistics. It is a judicious mixture of analysis with random numbers. It has widespread use in operations research because it is the easiest computational method to apply to the large and complicated problems typical of such investigations.

\textbf{Program Evaluation and Review Technique (PERT)}

The past several decades have seen the development of many techniques which could provide quickly and accurately the information described above (on schedule, resource, and performance) to a manager so that project accomplishment could be reviewed against the original plan. Decisions could then be made as necessary in order to bring the project to a successful completion. Such techniques

are generally referred to as management information systems. Basically, PERT is considered one of these systems.29

The development of PERT is of particular interest to educators because it is used in the sequencing and scheduling of work:30

The area of education where operations research has been applied most widely is in the sequencing and scheduling of work. The specific method, which has had widest use in this area is the Program Evaluation and Review Technique (PERT). PERT enables managers, through a process of analysis, to "break down" projects into logically sequenced action steps, to make time estimates required to perform each of the different action steps, to schedule work activities on the basis of estimated time required, and then to systematically monitor the process of work accomplished.

Both of the descriptions of PERT emphasize the scheduling and monitoring aspects of the PERT process. PERT is generally recognized as a management tool. A tool management uses to control and monitor the progress of a particular project. Such scheduling and monitoring require knowledge of the end product and of the relationship of the parts which make up the end product. In essence project development depends upon the setting of objectives, the planning of means to attain the objectives, and the implementing of the plans. "Perting" can be performed on any of these levels or phases. When "perting" is performed is it a management or a planning tool? Or is it possibly both? Further study of the purposes of PERT may help answer these questions.


Purposes

As a specific application of the critical-path method (CPM), PERT is a device for planning, controlling, monitoring, and evaluating complex projects that have been structured into component parts, time elements, and cost factors. While providing a network of activities for a project, PERT furnishes several alternative estimates for each activity.\textsuperscript{31}

Hartley offers that PERT is a device for planning and evaluating as well as for controlling and monitoring. He also adds the dimension of cost factors to the previous definitions. In expanding his planning dimension Hartley goes on to say, "PERT/Time is used by planners to estimate the time to complete each event of a rigorously defined sequence of activities and to identify critical areas and corrective action for potential bottlenecks."\textsuperscript{32} Is such a function a managerial or planning function?

Cook in another publication provides a statement of purpose:\textsuperscript{33}

The network serves many functions but among the principal ones are a graphical representation of the program plan, a communication tool for the performing and managerial staff involved, and a basis for control by management.

To this point of the discussion of purpose by Cook, the purpose of PERT appears to be that of a management tool. Yet, the title of the


\textsuperscript{32}\textit{Ibid.}, p. 38.

publication refers to planning and evaluation. A further quote from the same publication may be helpful:

It can be stated that network techniques with their analytical and diagrammatic approaches to the problem of planning and control assist management with the following kinds of tasks:

a. defining the work to be carried out.

b. producing better schedules based on available and needed resources.

c. making decisions about the best way to apply resources to achieve program objectives.

d. monitoring progress and identifying those points where delays would jeopardize the project in time to permit corrective action to be taken.

Items (c) and (d) of this statement of purpose allude to components of a planning process. Little argument can be made with the contention that PERT is a management tool. It does provide management with very valuable information on work or project progress. In addition, by providing the need for careful study of interrelationships of project components and in its evaluation function, the technique can provide also much information of value to the planner. In reality the question might not be is PERT a management tool or a planning tool, but rather, how is the information provided through the technique valuable to both the manager and the planner?

Another way to approach the question of planning tool or managerial tool is to consider the time at which the "perting" is performed. If a
project is "perted" as an initial activity, the "perting" may well be considered a planning tool. If the "perting" is not conducted until a plan or objective is determined and the "perting" is for implementation purposes, the technique may be a managerial tool. There appears to be value in "perting" during both phases and value received toward both ends, planning and managing.

The PERT Process

The work breakdown structure "consists of subdividing a total project into smaller and more easily managed elements. The process of subdivision and classification continues until the desired level of detail is reached."35 Figure 1 shows a three-level breakdown structure for a simple survey pro­ject.36

"A network shows the plan established to reach project objectives, interrelationships and interdependencies of project elements, and priorities of elements of the plan. In essence, the network is a graphic representation of the project plan."37 Components of the network consist of:38

1. **events** which represent the start or completion of an activity and do not consume time, personnel or resources.

2. **activities** which are tasks or jobs in the project requiring utilization of personnel and resources over a period of time.

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36Ibid., p. 12.

37Ibid., p. 11.

38Ibid., pp. 11-15.
3. **dummy activities** which are those tasks which do not consume time or resources.

4. **dependency** which exists when one activity or event cannot take place until the events and activities preceding it have been completed.

5. **constraint** (planned constraint) which are those event/activity relationships which have been established as a desirable but not absolutely necessary program relationship.

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**FIGURE 1**

WORK BREAKDOWN STRUCTURE FOR A SIMPLE SURVEY PROJECT
Figure 2 presents a graphic view of a simplified network.\textsuperscript{39}

**Figure 2**

SIMPLIFIED NETWORK SHOWING EVENTS, ACTIVITIES, AND DUMMY ACTIVITIES

Activity time estimation is the procedure of developing time estimates for each activity where a certainty of time needed for completion is not possible. In such cases a most likely time, optimistic time, and pessimistic time are developed. "After the three time estimates have been secured, average or Expected Elapsed Times are calculated for each activity...."\textsuperscript{40}

Scheduling consists of "assigning a schedule date to significant events in the network. Further scheduling is done by assigning Schedule Times to activities in the network which may be the same, less, or greater than the expected time."\textsuperscript{41}

**Systems Analysis**

Systems analysis is an outgrowth of operations research. Just as operations research was expressed to be an extension of the scientific method, so is systems analysis an extension of the scientific method.

\textsuperscript{39}ibid., p. 14.

\textsuperscript{40}ibid., p. 21.

\textsuperscript{41}ibid., p. 28.
Operations research extends the scientific method to include the study of whole problems rather than minute fragments or sections. Operations research, largely as a result of studying the whole problem, requires a mixture of specialists or a multi-disciplinary team. In operations research the objective to be achieved is fairly well defined or even quantitative and/or observable.

In systems analysis, however, the objective or goal to be achieved is not well-defined and is rarely quantitative. Even in cases where goals are well defined, these goals may be in conflict with other seemingly equally valid and important goals. Systems analysis extends the scientific method into the realm of the public domain. The purpose is to provide the decision-maker with information for him to make as rational and/or objective decision as possible, with the full realization that the decision cannot be totally objective.

Tracing briefly the development of systems analysis as used in the Department of Defense may help to clarify the value and use of the process.42

The first phase--military planning and requirements determination--we envisioned as a continuing year-round operation involving the participation of all appropriate elements of the Defense Department in their respective areas of responsibility. What we were looking for here were not just requirement studies in the traditional sense, but military-economic studies which compared alternative ways of accomplishing national securing objectives and which tried to determine the one that contributes the most for a given cost or achieve a given objectives at the least cost. These are what we call "cost-effectiveness studies" or "systems analysis,"...

In general, and especially when the choice is not between two but among many alternatives, systematic analysis is essential.

Hitch determined that systems analysis is to be used in the planning phase of the planning-programming-budgeting system. It is used by the military planners in the preparation of alternative means by which branches of the military can advance Defense Department objectives. The purpose of systems analysis is to get valid, useful data to the decision-maker. It is needed because of the complexity and massiveness of the Department mission.

Quade provides a broader perspective:

..., systems analysis might be defined as inquiry to aid a decision-maker choose a course of action by systematically investigating his proper objectives, composing quantitatively where possible the costs, effectiveness, and risks associated with the alternative policy or strategies for achieving them, and formulating additional alternatives if those examined are found wanting. Systems analysis represents an approach to, or a way of looking at, complex problems of choice under uncertainty, such as those associated with national security. In such problems, objectives are usually multiple, and possibly conflicting, and analysis designed to assist the decision-maker must necessarily involve a large element of judgment.

In a sense, the main difference between systems analysis and operations research may well be just in emphasis. A good deal of the earlier work tended to emphasize mathematical models and optimizing techniques. Honors went to practitioners who used or improved mathematical techniques like linear programming or queuing theory and found new applications for them. On the other hand, systems analysis—while it does make much use of the same mathematics—is associated with that class of problems where the difficulty lies in deciding what ought to be done—not simply how to do it—and honors go to people who have the ability or good fortune simply to find out what the problem is.

Hartley has written on systems analysis and gives his view and others on the technique of systems analysis. Probably the broadest definition is offered by Wildavsky:44

The less that is known about objectives, the more they conflict, the larger the number of elements to be considered, the more uncertain the environment, the more likely that it will be called systems analysis.

Hartley himself defines systems analysis as:

....an orderly way of identifying and ordering the differentiated components, relationships, processes and other properties of anything that may be conceived as an integrative whole. ...systems analysis should be viewed ....in a broad sense as a planning procedure for relating curricular objectives to human and material resources.

Purposes

Another means of clarifying systems analysis is to look at values to be derived from using the process. Hitch offers two such values:46

1. Systems analysis provides the analytic foundation for the making of sound objective choices among the alternative means of carrying out these missions.

2. The job of the systems analyst is to free the decision-maker from questions which can be resolved through analysis, leaving him only those more difficult questions which can only be resolved on the basis of judgment.

Referring to Hartley again as he looks at systems analysis in education, he sees the process as organizing and framing the direction


45Ibid., pp. 23 and 50.

46Hitch, Decision-Making, pp. 57, 58, and 76.
of thinking out problems and/or solutions. He recognizes that "systems analysts are not seeking to define all of the parameters of knowledge, rather they are concerned with drawing upon knowledge to develop general frameworks for solving particular problems of practitioners." In broad terms he sees the process as combating fragmentation and helping to resolve conflicts over problems of choice. The following illustrate Harley's position:

The analyst's task is to use existing resources, or generate additional ones, to create new means-end patterns, and resolve conflicts over problems of choice.

In education planning, the systems consultant assists the policy makers by increasing the information and assigning some probability priorities to relevant alternatives. He may provide data on competing strategies with estimates of costs, risks, gains, and time required for each course of action.

It (systems analysis) can provide two major services. First, it may help to reduce the dysfunctional lag that frequently separates new knowledge from its implementation by educational practitioners. Second, it brings order to an otherwise chaotic mass of fragmented data by offering a conceptual framework within which highly specialized data can be integrated and used as needed by educational specialists.

Inclusion of systems analysis methods implies a careful consideration of alternative means-ends combinations. It also provides an integrative vehicle for blending the diverse values of participating educators into some shared, behavioral objectives and programs.

The Process of Systems Analysis

Systems analysis like its older brother operations research has no rigid procedures to which it must adhere. The catch-all "anything

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47 Hartley, *Educational Planning*, p. 27.
goes can describe equally well the procedures utilized in systems analysis. Culbertson, Hitch, and Wohlstetter provide a general framework which includes the prime elements of the procedure—defining the problem, setting objectives, developing alternatives, and analyzing alternatives.49

The systems approach, in contrast to the approach of the "new science," requires those using it to confront "ought" questions facing school systems. It does this because systems analysis must project programs which are related to given objectives and they must analyze, on the basis of relatively explicit criteria, the cost and benefits of choosing and pursuing various alternatives. Systems analysts...are oriented toward the future and toward a rational examination of the consequences of different policies, programs, and courses of action designed to achieve specified objectives.

Systems analysis at the national level, therefore, involves a continuous cycle of defining objectives, designing alternative systems to achieve these objectives, evaluating these alternatives in terms of their effectiveness and costs, questioning the objectives and other assumptions underlying the analysis, opening new alternatives and establishing new military objectives, and so on indefinitely.

...systems analysis is likely to be most helpful if the analyst has taken care to examine closely the character and source of the problem confronting the decision-maker, the objectives he wants to achieve, the obstacles he must surmount to achieve them, and what achieving them does for him.

Judy, writing on the use of systems analysis in university planning, orders the procedure very neatly, "systems analysis means an approach to problems of decision-making which proceed by ascertaining objectives, determining constraints, elaborating alternatives, and estimating the

costs, benefits, and risks of feasible alternatives."^{50}

Cotton and Hatry outline the process as it could be used on the governmental level of a state:^{51}

1. definition of the public problem.
2. projection of determinants of the problem.
3. generation of alternative approaches that government might use to attack the problem.
4. cost-effectiveness of the alternatives.
5. interpretation of the quantitative results.

In summary, systems analysis is a technique which can be used by planners to attack complex and conflicting situations in a public setting. Its purpose is to provide the decision-maker with data useful to him in making better decisions than would be possible through purely subjective judgment. By its very nature as a systems approach, it demands the consideration of and coordination of all of the elements of the system. Performing systems analysis requires a definition of the problem, a setting of objectives, a recognizing of constraints, a developing of alternatives relative to costs, benefits, and consequences.

Planning-Programming-Budgeting System (PPBS)

PPBS is the broadest extension of the scientific method thus far devised. Systems analysis, as utilized by Hitch in PPBS developed for


the Defense Department, operates in the planning phase. As such, systems analysis is a planning tool. The Defense Department application of systems analysis offers one means of extending the scientific method.

In the military planning phase of PPBS, systems analysis was forced to work within the constraints of the military branch doing the planning. Its objectives were directed toward the most efficient and economical advancement of objectives within that branch. However, with the full development of the PPBS concept, the true value of systems analysis is the advancement of the goals of the Defense Department, the super or mother system of the military branches. Just as the scientific method was extended for use in the development of plans in a complex and conflicting maze of subsystems, the military branches, that same process is being extended to develop programs in a more complex national government department, the Defense Department. The same general scientific method is being used; define the problem, set goals, determine constraints, develop alternatives. Only now, the problem is compounded by even more alternatives, more conflicting or competing goals, and a more complex coordinative need, that of coordinating the military branches.

The Need for Development of PPBS

An oft cited statement which highlights the need for PPBS is that released in October 1965, by the Bureau of the Budget:52

Under present practices, however, program review for decision-making has frequently been concentrated within too short a period; objectives of agency programs and activities have too often not been specified with enough clarity and concreteness; alternatives have been insufficiently presented for consideration by top management; in a number of cases future year costs of present decisions have not been made out systematically enough; and formalized planning and systems analysis have had too little effect on budget decisions.

This release was an impetus for the interest in PPBS by many areas, both inside and outside of the national government. The Bureau of the Budget bulletin included the directive for other departments of the national government to utilize PPBS in their operation. Subsequently, interest in PPBS spread to state, city, and local governments. Education, as a function of state government, has received "the word" also.

Naturally, PPBS was established pretty well in the Defense Department by October, 1965. Hitch was involved deeply in the development of PPBS and traces the development briefly for us. He credits President Truman as among those who saw the need for a system like PPBS, "strategy, program, and budget are all aspects of the same basic decision."3

Hitch shares some initial thinking leading to the development of PPBS:5

The Secretary and I both realized that the financial management system of the Defense Department must serve many purposes. It must produce a budget in a form acceptable to the Congress. It must account for the funds in the same manner in which they were appropriated. It must provide the managers at all levels in the defense establishment the financial

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3Hitch, Decision-Making, p. 15.
5Ibid., p. 28.
information they need to do their particular jobs in an effective and economical manner. It must produce the financial information required by other agencies of the government--the Bureau of the Budget, the Treasury, and the General Accounting Office. It was clear that a new function, which we call programming, would have to be incorporated into the financial management system.

As mentioned previously, the military planning phase was established and, although not utilizing systems analysis, the military units were planning means by which the unit could meet its mission. The budget phase was established, and the Defense Department was among those departments included in the national budget. What was added was the programming phase.

In the initial development of the programming phase, the problem was "to sort out all of the myriad programs and activities of the defense establishment and regroup them into meaningful program elements, i.e., integrated combinations of new equipment and installations whose effectiveness could be related to our national security objectives."55

The next task was to relate the program elements to the major missions of the Defense Department. The objective here was to assemble related groups of program elements that for, decision purposes, should be considered together either because they support one another or because they were close substitutes. The unifying principle underlying each major program is a common mission or set of purposes for the elements involved. We now have nine major programs....56

One final component of this brief overview of the development of PPBS is worthy of mention at this time. It is the provision of a

55 Ibid., p. 32.
56 Ibid., p. 34.
we established the formal change control system. The basic elements of this system involve the submission of program change proposals by any major component of the Defense Department, their review by all interested components, the Secretary's decision on each proposal, and finally, the assignment of responsibility for carrying out this particular decision to the appropriate military department or agency.

Moving away from PPBS is the Defense Department, Cotton and Hatry point to two major deficiencies in the traditional planning process:

However, two principal deficiencies appear to be present in the current planning process. First, the studies have concentrated on the physical requirements for an activity (such as roads, schools, hospitals, etc.), without carefully developing and evaluating alternatives by comparison of costs and benefits. Second, the studies appear to be of an ad hoc variety without any provision for continuing systematic review and analysis.

They go on to list a number of values and purposes of PPBS in state and local government:

1. A PPB system puts into improved perspective the total of state and local governmental operations, their costs and their benefits. Its very core is the identification and evaluation of program alternatives.

2. It is of immediate value that under a PPB system in state and localities:
   a. long-range fiscal planning becomes routine
   b. plans and programs are reviewed continuously

57 Ibid., p. 38.
58 Cotton and Hatry, Program Planning, p. 25.
59 Ibid., pp. 4, 7 and 15.
c. governmental activities are classified in terms of programs and their purposes

d. interagency coordination of programs is strengthened

e. intergovernmental planning is improved

f. a program evaluation cycle of program formulation, progress reporting, and program revision is established

g. each program is to be evaluated in terms of national goals

3. The main contribution of PPBS lies in the planning process, i.e., the process of making program policy decisions that lead to a specific budget and specific multi-year plans.

Numerous other statements are available on value and purpose of PPBS. The following highlight the main points covered in most of them:

1. PPBS provides a bridge between two basic elements fundamental in a democratic society: legislative concern for the purse strings and the necessity and democracy of a free, yet responsive, system of education. PPBS is one way in which this conflict can be resolved.60

2. The overall goal of PPBS in New York State is to provide a mechanism by which alternative goals, programs, and expenditures of state government can be organized, analyzed, and summarized for presentation to elected and appointed State policy makers to provide them with a more objective basis for making policy decisions.61

3. PPBS concepts highlight the projection of programs to achieve specified objectives and the analysis of costs and benefits involved in implementing various programs. Typically, the time perspective for planning is eight years and for budget, five years.62

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4. The system approach includes planning, programming, budgeting, and management in order that the educational system may:

a. make the most progress in the shortest possible time;

b. identify and assess its opportunities, risks, capabilities, capacities, and requirements;

c. maintain a cost-effectiveness balance between performance and social expectation, goals, and changing requirements;

d. improve management and policy-making judgments by comparing performance to plans and expectations;

e. encourage educational leaders to think and act toward common purposes and to understand and appreciate the efforts and progress being made elsewhere in the system;

f. provide a product rationale for decision-making and thereby stimulate the determination of priorities in terms of product, process and service requirements;

g. develop critical insights to and a basis for communication both within the system and its environment;

h. establish response devices which may be used to alleviate internal and/or external stresses and crises;

i. initiate pressures for growth, development and evolution of new products and services;

j. provide a basis for the management of performance in terms of defined and measurable objectives, requirements, controls and the desired value outcomes of products of performance.

63Donald Miller, "Overview of Operation PEP: A State-wide Project to Prepare Educational Planners for California," a proposal prepared for a grant from U.S.O.E., Department of HEW, pp. 6-7.
5. ..., the advantage of the proposed approach over traditional means is that in the new format, emphasis is placed upon the outputs, or programs of the school, rather than on the inputs that are necessary to these programs.\(^{64}\)

6. Planning is the production of the range of meaningful potentials for selection of courses of action through a systematic consideration of the alternatives. Programming is the more specific assignment of the needed personnel, supplies, and facilities. Support services are specified, management reports and program memoranda prepared, and a management information system may be devised.\(^{65}\)

The Process of PPBS

The three basic components of the PPBS process are naturally those included in the name of the process—planning, programming, budgeting. Inherent in the process, though not named, are the supersystem goal-setting phase, the evaluation phase, and the built-in change and recycling components.

Before the planning phase can have any meaning, there must be a mission or goal toward which planning is directed. In the military model, Hitch referred to these as national security objectives. No matter what level of operation implements this process, either goals have to be established or goals accepted which have already been established.

The planning phase has been adequately discussed. It is the subsystem development of alternative means by which the subsystem tends to advance the goals of the mother system. Inherent in this process is the meticulous analysis of costs, benefits, and consequences of each feasible alternative. Also, future year costs are projected.

\(^{64}\)Hartley, Educational Planning, p. 10.

\(^{65}\)Ibid., p. 249.
The programming phase could be considered a synthesis, a bringing together of the alternatives into integrated, coordinated programs; the selection of the alternatives and programs to be implemented.

The budget phase finalizes the process by preparation of a financial plan which is needed to support the programs. The effort put forth in the planning and programming phases is for the purpose of developing a budget which supports the best and most economical means of fulfilling the mother system's objectives. The budget does not present necessarily the least costly programs, but rather presents the best planning possible to achieve the objectives and to achieve them as economically as possible. Economy in this sense respects the meeting of objectives and not only the amount of money expended.

As mentioned, the process does not cease at this point. If it did, there would be little difference between this and the traditional budgeting process. Two elements of the process add dimensions of great importance, the change process and the recycling process.

The change process was described briefly earlier in this section. No plan should be so rigid that adjustments or modifications are impossible. Nor should any plan be so flexible that it is violated at will because of pressures and premature reactions. The change process endeavors to recognize the need to be able to change, and also the need to control change.

Finally, but certainly no less important, is the recycling process based upon evaluation; review of programs, mother system objectives, and supersystem goals; and redevelopment. Evaluation is basic to PPBS. One frequent criticism of endeavors in the public sector is that of not meeting or even not defining objectives. Included in the planning
task is the development of objectives and the criteria determined to measure realization of these objectives. Granted that valid criteria to measure objectives in the public service realm is often difficult, an attempt to do so is made during the planning phase. Evaluation consists largely of measurement using these criteria and, subsequently, the success of the programs and operation of the mother system as a whole.

Review refers to the questioning of assumptions and objectives of the mother system, and even of the goals of the supersystem. For example, should the war in Viet Nam end, there would be a drastic change in the total national government operation, which would in turn affect the Defense Department. A dramatic change of this nature would tax to full extent the change mechanism, and require a recycling of the Defense Department PPB system almost immediately. More subtle changes in national policy may affect also the programs and missions of the Department. Evaluation and review may lead to minor adjustments, major modifications, or even total redevelopment of the system program structure. This evaluation/review/recycling process is built into the PPBS process in such a manner that information concerning all phases of system and subsystem development and operation are available to the decision-maker in plenty of time for use in budget development.

Summary

Educational planning has many meanings. In developing countries and in the States, the educational system is considered as one of the systems which operate within the country or state. The educational system operates to advance human capital. Goals are set for the educational system. The system must plan to meet the goals. Also, the
educational system must respect its place as but one system in the country or state. The educational plan must be coordinated with plans from the other systems.

Educational planning in school plant planning is a procedure for detailing the educational program to be housed in a new or remodeled building, and describing the building to be constructed or remodeled. The school plant planning process requires a total view of the school system, from the setting in which the school is located, through the development of a long-range building, to the occupancy of a building. School plant planning highlights the complexity of the school system and the need to unify the many diverse elements.

The status of planning in general is characterized best by the planning-programming-budgeting system. PPBS is the most comprehensive planning tool developed up to the present time. Operations research and systems analysis are offered as techniques which preceded and are utilized in PPBS. All three processes are extensions of the scientific method, but as one moves through operations research and systems analysis to PPBS, the certainty of output becomes less clear and the preparation and comparison of alternatives more necessary.

Material reported in Chapter 2 will be used to develop a framework for school system planning to be developed in Chapter 3, and to detail a strategy in Chapter 4 for conducting the school system planning process. The present status of educational planning offers direction for planning at the local school district level. In both nationwide and statewide educational planning, the theory of systems is advanced. The theory will be respected in school system planning. Much of the material on the
planning process presented by Gardner has application on any level and can be applied in school system planning.

Review of the newer planning techniques results in procedures being discovered which can be used in school system planning. PPBS is a comprehensive planning technique. Developing goals, preparing alternatives, and comparing alternatives are basic to planning. Systems analysis and operations research offer means to develop and compare alternatives. PERT is a valuable tool for both planning and monitoring. These newer planning techniques will be utilized in Chapter 4 in developing the school system planning process.
CHAPTER 3

SCHOOL SYSTEM PLANNING: THE CONCEPT AND PLANNING GOALS

The review of the literature on educational planning at various levels and the overview of planning techniques aid in the development of a concept of educational planning on the local school district level. The purpose of this dissertation as set forth in Chapter 1 is to develop a conceptual framework for school system planning. Implicit in this purpose is the need to define school system planning. To this end, the development of the concept of school system planning, this chapter is dedicated.

There are many ways to go about developing a concept. The most obvious way is to state the terms defining the concept. In the case being presented here, one could say school system planning is comprehensive educational planning at the local school district level. Such a definition assumes that the reader knows and, to a great extent, agrees with the author's meaning of "system" and "comprehensive educational planning." No such assumption is warranted in this case. A much more detailed framing and description of the concept is needed. In addition to the simple definition presented, which has the value of focusing the reader's view toward the area of educational planning being considered, the concept can be advanced through developing a framework for the process, by considering the values to be derived from the process, by recognizing constraints which hinder the process, and by determining the goals which
the process is to achieve. In this chapter each of these means will be used to clarify the concept of comprehensive educational planning at the local school district level, SCHOOL SYSTEM PLANNING.

**Developing a Framework: Three Levels of Educational Planning**

One way of developing a framework for school system planning is to take the position that educational planning is conducted on three levels--a strategic level, a tactical level, and an operational level. Each level has its own goals and procedures, and each may have its own planning process. School system planning must fit into this three-tiered framework.

**Strategic Planning**

Strategic planning for education refers to high level planning, high level with respect to the governmental level where it takes place. In the review of the literature, discussion was forwarded on educational planning in developing countries. In the sense that the term strategic planning is being presented, this type of educational planning is strategic planning. Broad goals are set which governmental departments, of which education is one, are required to advance. These broad goals have great influence or direction setting effect on the planning and operation of the departments. Educational planning in this setting has as its objective the advancement of goals as determined on this high governmental level.
In the United States, education is a state function. Without opening a Pandora's box concerning state/national relationships, educational planning on the state level is viewed within the context presented here as similar to educational planning on the national level in developing countries. As such, statewide educational planning is considered to be strategic planning.

Within the present governmental structure of a state, there are a legislature, a state board of education, and a state education department. All three of these bodies, along with the executive and judicial branches, exert great influence and set direction for local school districts. In this respect the state educational planning effort has a similar effect as that of national educational planning in smaller or differently structured countries. The state sets the role of education within the state and gives specific directions to the local school system. The state is the mother or supersystem.

The local school system has a degree of autonomy, however. In a sense there is a type of policy-making/implementation relationship similar to that in many board/administrator structures. The state does set goals and policy, but it does not dictate to a great extent the means by which goals are achieved or policies are implemented. This is left to the local school district, and leads to the tactical level of educational planning.

**Tactical Planning**

Tactical planning recognizes that there is a system which operates relatively independently from the mother or supersystem. As proposed,
the school system on the local level is given a degree of freedom within which it can operate. There are rules and regulations which must be obeyed, and there are influences and pressures which must be considered; but, in the main, a local school system is left pretty much alone. As such, the planning it does can be geared to a major extent to the local community and the school's role within that community. It is within this context that the term tactical is applied, a part of a larger system, yet, clearly, a system in and of itself.

Another condition which must be present to qualify a system as being able to plan on a tactical level is that the system itself must be composed of subsystems. To clarify this point, the school system can be viewed as containing systems within it—elementary school system, secondary school system, financial system, program system, and so forth. These subsystems exert influence and pressure on the school system to a degree as great or even greater than that of the supersystem. The school system is in the middle of converging forces, one from above, the state, and one from below, its own elements.

Finally, tactical planning requires that as a result of the planning effort, some direction is given to the operation of the subsystems. Just as the state dictates to some extent the operation of the school system, so does the school system dictate to the elements within it. Similarly, just as the state allows the local school system some autonomy, so does the school system allow its subsystems some autonomy. The purpose here is to show once again the middle position of tactical planning. The school system receives direction and gives direction; it receives some autonomy; it gives some autonomy. Tactical planning considers both ends
of the continuum; and, in the tactical planning process, value is received from and given to both ends of the continuum, advancing the goals of the supersystem and advancing the objectives of the subsystem.

**Operational Planning**

The third level of educational planning is the operational level. In the discussion of tactical planning there was mention of allowing the subsystems a degree of autonomy. This degree of autonomy infers that some planning is needed at the subsystem level. This level of planning is operational.

To continue the framework being developed, the school system has received influence and pressure from its subsystems. The school system in turn has issued directives to the subsystems. But the school system has not told a subsystem what, when, and how it must operate. Rarely does the school system, represented by the board of education and/or the administration "get away with" telling a teacher when to teach what by what method. In fact the tenor of the day is that such a procedure is even "less rare than rarely." Academic freedom has been an issue for many years. Teacher militancy and professional negotiations may put to rest the controversy over academic freedom and the controls to which it is subjected. All of which supports the position that there is a level of planning beyond that of tactical into that of subsystem or operation.

There may be question whether this operational planning is a level of educational planning or more management planning? The answer to
this question lies in the degree of detail which is reached at the
tactical planning level without the involvement of the subsystems.
If at the tactical level, the planning can be considered complete,
the level of endeavor remaining is implementation and may be managerial
planning and not educational planning. If on the other hand, there is
a degree of freedom for the subsystems to do their own planning, the
planning at this level can be considered educational and is termed
operational.

At the risk of being redundant, yet maybe necessary for purposes of
clarity and summary, there may be value in applying this proposed
framework of planning to the military model of PPBS discussed in Chapter 2.
In the model, the development of national security objectives could be
considered strategic planning. The objectives influence, pressure,
and direct the efforts and outputs of the Defense Department. Considering
the Defense Department the system, the four branches of the military--
Army, Navy, Air Force, and Marine Corps--are subsystems of the Defense
Department. Each of these subsystems has influence and exerts pressure
on the hierarchy of the Department system. Also, the Department
dictates to a degree the efforts of the branches. Being in a position
of receiving influence from "above" and "below," and both receiving and
giving direction, the Department is in a tactical position. In the
terms being used here, PPBS is a tactical planning process. Finally,
the branch plans actions as a branch, a system in and of itself, and is
involved in operational planning.
Within this framework school system planning is tactical planning. It is a cooperative, coordinative process. Cooperating with its supersystem and other sister systems of the supersystem and coordinating the efforts of its own subsystems.

**Values to be Derived from School System Planning**

One of the major problems encountered in the development of this dissertation was to avoid the use of the same term to name a procedure in a variety of different settings. For example, this subheading could be called goals of school system planning. In this section some of the purposes or desired outcomes of this process are to be presented. These could be called goals. Looking ahead, however, there is to be a section on what is to be achieved by the process. These desired realizations could be called goals, also. They could be called objectives, used here as a breaking down of goals into smaller, more definable and measurable outcomes. Later in the dissertation there is to be the development of objectives of school system planning. These objectives are to be different from the goals or objectives developed on the systemwide level. One can see how confusing and complicated the task is if definition of terms is not agreed upon early in the development of the concept of school system planning.

For this reason, value is the term used to designate the benefits which the school system as a whole expects to receive from the school system planning process. Goals is the term used to designate the outcomes which the school system planning process itself strives to achieve and if
achieved promote the values to the total school system. **Objectives** is the term used to break the goals down into more definable and measurable outcomes. Finally, **competencies** is the term used to designate the broad abilities which the planner conducting the **system** planning must possess if the objectives are to be realized.

What a school system expects to receive from a process like school **system** planning can be for the most part an individual school system determination. What one system expects or requires probably should not be the same as another. Therefore, the list of values offered should be considered neither sacred nor exhaustive. They are provided because they are broad enough to have wide, though not necessarily unanimous, acceptance; they provide examples from which other values may be recognized; and they provide a basis for the type of planning process to be developed in later chapters of this dissertation.

**Value 1**

Placing the school system in a position where it can prepare for the situation rather than simply react to it.¹

Pressures have a great influence on the local school system. Criticism has been established as a part of the way of life for public school teachers and administrators. Rare is the institution, and possibly least of all the school, which can be all things to all people.

There seem always to be pressures to do something more than is being done, to change the way something is being done, or to discontinue doing something altogether. Schools are a part of the state educational system, but they are located on the local level where needs, desires and aspirations of local people can be served. Few communities which a school system serves are totally homogeneous and, therefore, there will always be pressure groups which are trying to get their desires recognized and served. The Civil Rights movement and subsequent legislation have resulted in great pressures on local school systems. Teachers are just beginning to learn how to apply the pressures of teacher unity. Student groups are beginning to exert pressures of their own which affect educational program, organization, and administration. All of these pressures, some subtle, but some very direct, have just as much or even greater effect on local school program than do state directives.

When pressures are not recognized and served, and often times even when a conscientious effort is made to recognize and serve them, the pressures erupt into major crises. Community control and teacher militancy erupted into a major crisis in New York City. Student protest has erupted recently into demonstrations, sit-ins, riots and marches on university campuses and in and around junior and senior high schools. Few would argue that such overt acts fail to get attention. Many recognize the futility of closing the barn door after the horse has escaped.

One of the major values of school system planning is to get the barn door closed, at least some of the time. Certainly, such preparation
requires an analysis of what has occurred and of what is occurring. It requires a recognition of indicators of what is developing and about to develop. It requires a projection of the situation into the future. It requires the courage to question what is not desirable and to attempt to advance what is desirable. School system planning is a process by which the school system can get involved in the situation, to know what is happening, how it affects the school system, how it might affect the school system in the future, and what the school system can do about it.

Not all situations are predictable or controllable. Nor is the school system always going to be prepared for what is to come. But by keeping informed, keeping open and receptive and flexible, the school system is in a better position to assess the situation, and modify its programs and operation accordingly. School system planning advances the potential for such a process.

Value 2

Giving direction to school system effort and its subsystems' effort by requiring the development of school system goals and subsystem objectives.

One of the oft heard criticisms of education in general is that there are no well-defined goals for education. The goals which are developed are so broad that there is no clearly visible way of either attaining them or measuring attainment of them. There are even occasions when conflicts arise over the role of the schools in our society.

Another criticism is that once goals are set, they are set so firmly, entrenched so deeply, that it takes a major revolution to effect a change
in them. This criticism has to do with relevancy. Is the educational system and the way it is operating today relevant for the society it serves? Or is it basically the agrarian format which may have been valid before the convergence on the city and the subsequent flight to the suburbs? Are the goals of education different today than they were ten, twenty, thirty years ago?

There are pro and cons to the issue of relevancy of goals and on the validity of goals. Maybe self-realization, human relationship, economic efficiency, and civic responsibility\(^2\) are valid goals of education today. Still again, maybe the meanings of the terms have changed. At the least, the meanings of the terms have broadened and become more complex than they were in 1938. What in society has not become more complex than it was in 1938?

The answers to these questions have not been realized even today. Nor will school system planning be the panacea for solving the problems. School system planning in the initial stages of its process requires the school system to settle upon the goals which seem most realistic and necessary at that time. These goals serve as end points toward which subsequent subsystem planning is directed. As a result, subsystem objectives are required which advance school system goals.

If the position is taken that goals, once agreed upon are fixed, there would be no need to redevelop these goals. However, the tenor of the times and the advancement of knowledge and technology deny any such

assumption. No goal is so sacred that it cannot be challenged. No outcome is so desired that it becomes oblivious to the advances of time.

School system planning must require the development of goals, the questioning of goals, and the redevelopment of goals. It must provide a means of strengthening that which is deemed desirable and eliminating that which is no longer valid or useful.

Value 3

Determining what is needed, what is available, and what is missing.

The establishing of goals is followed by the determining of needed resources to achieve the goals. School system planning demands that objectives be developed and that the resources needed to meet the objectives be provided. This procedure requires a detailed listing of needs and an inventory and analysis of existing resources. Comparing the needed resources with the available resource will disclose where voids exist.

The procedure of developing needs and comparing the needs with available resources adds a valuable dimension to the school system operation. School systems have prided themselves for far too long on being able to operate on a shoestring. Teacher militancy is one pressure which has forced school systems out of their lethargy and has brought home forcibly the message that more is needed—more money, more materials, more equipment. If the school system is to offer planning which is beyond reacting to pressures, beyond asking for just enough to
meet the present crises, there must be a recognition of needs and a plan for meeting those needs. Additional resources will be justified because of the need, and not because of the pressure of isolated groups or individuals. School system planning, by requiring an analysis of need and available resources, can be of great value to the school system.

**Value 4**

Promoting the effective and innovative use of available resources and the developing of new resources.

To justify the need for more resources in no way diminishes the requirement of effective use of present resources. Much of the present criticism of education relates to the squandering or ineffective use of present resources. One of the prime values to be received from school system planning is the consideration of the available resources and how they can be used most efficiently. Those involved in the planning effort recognize that the plan must be within feasible limits of financial outlay. They realize that all resources—financial, human, and material—must be utilized to the utmost to justify additional resources. Planning will promote such effective use of resources through the development of goals and objectives, and the planning of means to achieve the goals and objectives. By planning, implementing, and evaluating the school system moves ahead, under control and in a direction, not out of control and in all directions.

School system planning requires the developing of new resources. Analysis of available resources reveals new sources of revenue or
untapped reservoirs of resources not discovered until a need for them arose. Cooperation with community groups reveals new resources. Eliminating duplication of effort among community group and the school will free much needed resources. Innovative programs qualify the school system for federal and private funding not obtainable before. By not being tied to the present, school system planning frees the system to discover and use new resources and sources of revenue.

Value 5

Developing cooperation between the school system and that which is outside the school system.

There was a time in the not too distant past when the school system was considered a system apart from other community components. It got the bulk of its money from its own taxes. It didn't have to fight for its share of the city or county allocation. In fact, it didn't have to fight too hard for its share of the state allocation. The school system was pretty smug and content in its own little world.

Now times have changed. A "tax payers' revolt" may be upon us. Teachers no longer sit passively by and mouth weak thank you's for the small pitance they receive. State monies are running far short of demand and need. Cities are competing against school systems for public support, and the competition is getting keener and keener. Just mentioning the words school and education does not conjure up the magic it once did.

Maybe even more important, schools and school systems are admitting that they cannot be all things and do all things. There are limits to
the time, talents, and resources to which schools have access. There is so much to do, so many to do it for, and so little time to do it in that schools are recognizing the impossibility of doing all of it alone. If schools and education are going to come down from their lofty perch, they should come down to be one of the group, to be one of a big, happy family. Together more can be done for more people in the same or a lesser amount of time.

School system planning recognizes the need for cooperation with elements outside of the school system boundaries. It accepts that the school system is but one system in the community, state, and nation. One affects the other. If there is not to be chaos, one must cooperate with the other.

Value 6

Developing coordination among subsystems

Education in general and school systems in particular are not noted for their unity of effort. There are far too many cases where the left hand does not know what the right hand is doing. Much of this lack of coordination can be contributed to the problem of absence of meaningful goals discussed earlier. If there is not a common goal which can be recognized, understood, and advanced, there is little chance that a united effort of complex subsystems can be developed. Hitch, as cited in Chapter 2, saw one of the major goals of PPBS as that of unifying the branches of the military. So, also, must the subsystems of the school system be united.
School system planning has the potential to develop such unity. It stamps the school system as the mother system. It demands that subsystems respect the mother system, and develop and achieve objectives which advance the goals of the mother system. Though it encourages subsystem autonomy, initiative, and innovativeness, it does not condone isolationism. It does not permit a subsystem to break away and go it alone. What is good for the subsystem must also be good for the mother system, and the mother system must make that decision. Coordination and unity are vital to the making of that decision.

Value 7

Looking beyond the day-to-day or even year-to-year planning toward long-range planning

The last dimension in the discussion of planning values is that of time. If the school system is to prepare, there must be some time in the future which is being prepared for. Is it tomorrow, next week, next year, five years from now, ten, twenty, thirty? Planning for what, when?

The contention forwarded in this section is that traditionally school systems have planned for too short a period of time, usually from budget time to budget time, or recently, due to the structure of federal funding, from funding time until end of funding or refunding. Even the federal funding structure is an improvement since many projects are approved for three years. School system planning extends the planning period to at least six years, and in some subsystems, notably school plant planning, considerably longer.

What is long-range? What is short-range? These decisions, once again, are not hard and fast. To some, year-to-year is short-range;
to others long-range; to still others, immediate. For the purposes of this dissertation, short-range is considered two years and long-range six years, with the realization that in various subsystems this will be violated. School system planning has as an element of its process the establishment of time periods for which detailed, outlined, and highlighted plans are to be developed. No subsystem planning will be for less than two years, but some planning will be for more than six years.

Along with the consideration of what the school system wants to be doing or where it wants to be x-years from now is the value in projecting future year costs of plans which are initiated. When federal funding runs out, how will the project be continued? What growth is likely to occur? How many more teachers, rooms, equipment are to be needed? What might the effect be on existing programs? Detailed answers will not be available for these questions, but possibilities must be considered.

Recognizing the Constraints

Constraint analysis is a valuable technique to use in planning. Certainly, if one is going to develop a feasible and successful plan, recognition must be made of the variables, both controllable and uncontrollable, which affect the desired outcomes. Determining values, difficult as the task may be, is still less difficult than achieving them. We do not live in a Utopia where desires are automatically satisfied or goals are automatically achieved. In the real world,
there are obstacles in the path of goal achievement. There are constraints which must be recognized and overcome before the values of school system planning can be achieved.

Conflicting Goals

Certainly, one of the major and most basic constraints is conflicting ideas concerning the goals of education. There is conflict even over the basic philosophy of the education in the United States. "Education for all" is a highly complex and difficult goal to achieve. There are a number of countries throughout the world which do not even attempt such a magnitudinous endeavor. There are probably a number of people even within the United States itself who feel that "education for all" is an idealistic and impossible dream. Even among the many who accept the goal, there is conflict over what outputs are desired, what inputs are to be utilized, and how these inputs or resources are to be accumulated. Conflicts over goals and over means and ends will be with us always. Therefore, school system planning must recognize the constraint of conflict, and find a way to use these conflicts constructively.

Goals Not Quantifiably Measurable

Another major constraint is that so many of the goals and objectives of education are not quantifiably measurable. How does one measure some of the objectives in the affective domain? How does one justify directing an educational planner to develop a plan to reach goals which are not subject to measurement to any finite degree? How can the planner evaluate whether the plan has been successful? There are no absolute answers to these questions. Certainly, such a constraint is a problem for education in general, and for educational planners in particular.

The real danger, however, is that the educational planner develops plans which are constrained by the requirement of finite measurement. Plans constrained by such an end would exclude the recognition of many beliefs Americans hold dear.

Fear of Planning

Fear of plans and planning is a constraint. Often when people hear the term plans or planning, they relate with it a rigidity which somehow threatens their freedom. Planners must be careful to distinguish between a planned society and a planning society. A planned society infers

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6Morphet and Jesser, DEF, Vol. 4, p. 6.
to many that the individual is sacrificed; that the society is all important; and that the individual is only of value to fulfill a particular role. To many, planned society and the society depicted in Orwell's 1984 seem to be synonymous. A society like that depicted in 1984 creates a tremor of fear in us all.

A planning society places the desires, needs, and wants of the individual as an upper most criterion. A planning society in reality opposes rigidity. Change is recognized as a prerequisite of progress or vice versa. The development of the United States epitomizes such change and progress.

School system planners must recognize this fear of planning. They must seek involvement and clarification and understanding to insure that the plan is relevant, applicable, acceptable, and modifiable. Planning must be proven to be something of value.

Specialization

Specialization within our society and even within the educational structure itself may be a definite constraint to the school system planner. As societies and systems become more advanced, more complex, more technologically oriented, there is a tendency for specialization to develop. There was a time in even our brief history as a country when the family was the primary institution. Advances in society have created a condition where the family is but one of the institutions within

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the society, and some would argue that influence of the family is diminishing to a weaker and weaker position. There was a period at the beginning of our history when almost the total education of the child was gained in the family setting. Some would argue that today very little good education is coming from the family setting of far too many young people.

In education, the effect of specialization can be recognized easily as one traces the history of educational organization from the one-room schoolhouse to the division of the educational organization into elementary schools and secondary schools, and further to the division of the educational organization to elementary schools, junior high schools, and high schools. Further specialization is observable, particularly in the secondary school setting, where departmentalization breaks the educational program into mathematics, science, physical education, and other subject matter areas. Even further divisions are observable of departments breaking down into college preparatory courses, general courses, and vocational courses.

School system planners must recognize the obstacles which such specialization throws into the path of school system planning. The planners must somehow synthesize the advantages which specialization has to offer toward the solution of an educational problem or the achievement of an educational goal.

**Fragmentation**

Fragmentation is another problem which may hinder or make school system planning more difficult.\(^8\) Specialization need not lead to

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fragmentation, but observation of the typical educational network would seem to indicate that such is the case. All too often there is an invisible wall separating the teacher certified in elementary education and the teacher certificated in secondary education. The same might be said for the lack of integration among the subject areas on the high school level--language arts, social studies, math, science and other departmentalized areas of the typical secondary school program. Frequently, gaps seem to widen between administrators and teachers, coaches and music directors, and others. The process of school system planning must attack this fragmentation and direct the efforts of the various specialists toward a common goal.

Organizational Structure

One of the major constraints prohibiting such a planning process as school system planning is the planning responsibility and the role of the superintendent of schools. One man can assume only so much responsibility. One man can develop and maintain only a certain number of skills. To ask the superintendent of schools to be the planning expert, the curriculum expert, the financial expert, the politician, the public relations man, the negotiator, and any number of other roles which he is expected to perform is not being realistic. Some take the position that it is the primary function of the superintendent to maintain his present organization. Not to discount that maintaining an organization in and of itself requires planning, but there is a question whether planning to maintain carries with it the long-range planning which school
system planning promotes. A superintendent devoted primarily to maintaining an organization does not have time to prepare a school system plan.

Time Needed for Planning

One final constraint to be discussed is that of time needed for planning. It is quite apparent that the process is going to take time to perform. It is going to take time on the part of the person directing the planning procedure. It is going to take staff time, administrator time, board time, and individual community citizen time. A school system plan cannot be developed overnight, not if it is to be valid and valuable. There is too much data to be analyzed, relationships determined, and alternatives considered for this to be done quickly. "Think time" is just as vital as "do time."

Just as there is danger in taking too little time, there is danger in taking too much time. Involvement and participation in a planning endeavor lessens as the time period of involvement and participation lengthens. Participants in the planning endeavor are often participants on a part-time basis. Their major interest and responsibility lie in some other area. Teachers, for example, may see the value of planning, but their major concern is with the classroom. Board members may support planning and become interested and involved in the endeavor, but their major concern is their job or family. Planning meetings and reports take these people away from what they are paid to do or add new duties to an already loaded schedule. Therefore, they want to see results. They want to be relieved of this added duty. They don't want to meet and wait and meet and wait and on and on. It is imperative that the school system plan materialize in a
reasonable period of time or it may lose the interest and support it needs to be valued and implemented.

At this stage a determination is called for of how the process is ordered and how, in the process of moving through this order, the values can be realized. These broad statements are the goals of school system planning.

The Goals of School System Planning

The goals of school system planning begin with the need to prepare for planning and end with recycling, a beginning again. In between the beginning and the "new beginning" are a series of crucial goals which must be realized. The realization of one, in most cases, must precede the realization of the next. Thus the goals actually outline the school system planning process and yet, each sequential goal is so basic to the overall process that there is no plan without each being achieved.

The goals evolve in great measure from the review of PPBS. In a PPB system a number of required elements have application valuable in school system planning.

<table>
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<tr>
<th>PPBS</th>
<th>School system planning</th>
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<tbody>
<tr>
<td>1. National security objectives</td>
<td>1. Goals for the school system</td>
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<td>2. Planning in the military branches</td>
<td>2. Subsystem planning</td>
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<td>5. Evaluation</td>
<td>5. Evaluation</td>
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<td>6. Formal change mechanism</td>
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In addition to the goals suggested by PPBS, there are the needs suggested by the planning process itself. Planning requires working with information, past and present, to develop something for the future. Planning requires data with which and from which to plan. A data information system is required for school system planning.

Finally, education at the local level requires a school plant, a series of buildings and grounds, which house the pupils and the educational program. Also, each school system has an administrative organization to insure that the educational program is implemented. These two elements, plant and administrative organization, are required to serve the educational program. In school system planning, planning for plant and administration is considered a service goal.

In this context what appears logically to be the goal of school system planning, the realization of a school system plan, results from the goals being realized. Placing the plan itself in the sequence reduces the likelihood that steps leading to it or to the evaluation of it will be slighted. Planning is a continuous process of developing, implementing, evaluating, and redeveloping. The end product is the process itself and not the plan which may evolve. The plan which evolves is a legitimate and required part of the process without which there would be no need for the process. However, without preparation for planning, data availability from which to develop a plan, subsystem planning, and synthesis there would be no plan. Without evaluation there would be no validity to the plan. Without modification or redevelopment there would be no relevancy to the plan.

Goals must define in broad terms what is to be realized in each phase of the process. Objectives must break down the goals into more definable,
more observable and measurable procedures which advance the goals. At this time the goals will be stated only for the purpose of culminating this particular chapter. In the following chapter the goals will be restated and defined by developing and discussing the objectives of each goal.

**The Goals**

**Preparation Goal:** Developing a course of action to develop a school system plan.

**Information System Goal:** Developing a data information system which can supply participants of the planning process with the information needed in their planning.

**Goal-setting Goal:** Developing the role of the school system in the community, the goals of the school system.

**Suboptimizing Goal:** Securing from the subsystems of the school system alternate means by which the subsystem can advance school system goals.

**Synthesis Goal:** Determining the educational program to be conducted in the school system.

**Service Goal:** Developing the service systems which advance the implementation of the educational program.

**Support Goal:** Developing a financial plan which supports the educational program and service systems.

**Adjustment Goal:** Providing a means by which the subsystem plans can be adjusted.

**Evaluation Goal:** Evaluating the progress and outputs of the subsystems of the school system plan.

**Modification or Redevelopment Goal:** Providing a means by which the school system plan can be modified or redeveloped.
CHAPTER 4

THE OBJECTIVES OF SCHOOL SYSTEM PLANNING

Planning goals were defined in the preceding chapter as broad statements of the school system planning process which, when realized in a preordered sequence, advance the values which the school system receives from the process. These goals were introduced as:

1. preparation for planning.
2. development of a data information system.
3. goal-setting for the school system.
4. suboptimization.
5. synthesis.
6. service.
7. support.
8. adjustment.
9. evaluation.
10. modification or redevelopment.

This chapter will discuss each of these planning goals, and develop specific objectives which define the goals in more specific terms. In this fashion the concept of school system planning will be clarified further, and a specific framework developed.
Preparation Goal

Developing a planning strategy by which to prepare a school system plan.

Preparation for planning requires (1) an understanding of the task to be performed, (2) how it is to be performed, and (3) what is needed to perform it. The objectives must be directed to these understandings, procedures, and resources.

Preparation Objective 1

To state clearly and concisely the elements of the school system plan.

Fundamental to any planning endeavor is the end produce which the planning strives to achieve. In school system planning the end product is a school system plan amenable to adjustment and modification. The school system plan is a course of action which directs the activities of a school system as a whole toward the realization of the goals set for the school system. The plan consists of the school system goals to be realized, the educational program required to advance the goals, the service and support elements needed to promote the program, and the procedures by which the plan and its components are to be adjusted, evaluated, and modified.

To meet this objective the planner must:

1. work closely with the decision-makers in determining the need for the planning effort and the expectations which the decision-makers require of the planning effort.

2. prepare a brief but concise description of the end product to be achieved as a result of the planning effort.

3. break the end product down into its major elements.
Preparation Objective 2

To develop a course of action which details the process of preparing the school system plan.

Following an understanding of what is to be done, a procedure must be prepared for doing the planning. The planning strategy answers the questions:

How are the goals going to be set?
How is the educational program to be determined?
How are the service and support elements going to be developed?
How is the plan going to be evaluated, adjusted, and modified?

The ability to answer these "how" questions is really what identifies the planning process.

To meet this objective the planner must:

1. develop a procedure which discovers the goals of the school system.
2. develop a procedure which prepares the educational program for the school system.
3. develop a procedure which prepares a school plant plan and administrative organization to service the educational program.
4. develop a procedure which prepares a financial plan to support the educational program and its service elements.
5. develop a procedure to adjust the plan.
6. develop a procedure to evaluate the plan.
7. develop a procedure to modify the plan.
Preparation Objective 3

To detail the resources needed to complete the planning process as outlined in the strategy.

The resources needed to perform the process consist of staff, materials, and time. There is no need at this time to discuss the place of the planner in the organizational structure, nor arbitrarily to set the desirable number of permanent members of his staff. Naturally, these decisions will be made by the school system using the school system planning process. A number of alternative organizational structures are available, but all of them include the recognition that planning is not a one-man job. One man does not possess the vast array of knowledges and skills needed for school system planning. Nor does he possess all of the creativity that is needed to develop the alternative in the many sub-systems of the school system. In addition, a one-man plan increases the danger of the plan being considered his property rather than that of the school system. Actually, the school system plan results from the ideas and efforts of many people, and the final implementable plan shows no marks which identify the responsible or full-time planner. The planner's tasks are to organize the planning, conduct the collection of data, and supply alternatives from which a plan, as selected by the decision-makers, is realized. The planner has inputs into the plan. He suggests or even recommends, but he does not make the final decision.

The planner in the preparation stage must consider the need for other full-time staff members, part-time staff members, and for the use of specialists—all who participate in the planning endeavor. Certainly, size
and financial ability of the school system will dictate the type and amount of staff needed. The planner must have the abilities to determine the least staff to provide the best product. He must know at what point one is not possible without the other. Included among the staff are the clerical personnel without whose services the planning would be so bogged down in typing and reproduction that the planning effort would be greatly curtailed or the time period for completion extended unreasonably.

Materials need not be massive, but adequate writing, reproducing, and binding materials must be on hand or easily accessible. Also, the planner and his staff will be involved in numerous public meetings, discussions, and reporting sessions where audio-visual equipment is most helpful. The planner and his staff must have easy access to tape recorders, cameras, overhead projectors, and movie projectors which they need to collect, analyze, and display data and to report progress or product.

Finally, the resource of time which was discussed briefly in Chapter 3. Time costs money, just as staff and materials cost money. Squandering time is one of the most expensive luxuries. Wasting time cannot be condoned by the planner. There will be procedures in the school system planning process which prohibit the type of clarity and precision desired by the planner, but deadlines must be set and respected if the process is not to extend beyond the tolerance level for interest and involvement. The ordering of the planning process lends itself very well to the "perting" technique discussed in Chapter 2. Great value can be derived by "perting" in as minute detail as possible the events and activities required by the process.
To meet this objective the planner must:

1. "pert" the planning effort in as minute a detail as possible.

2. determine the staff needed to complete the planning effort, include consideration of full-time and part-time planning personnel, clerical staff, volunteer staff, and specialists and consultants.

3. detail the equipment and materials required for the planning effort.

4. estimate the cost of the planning effort considering the staff, materials, and time required.

**Data Information System Goal**

Developing a data information system which can supply participants of the planning process with the information needed.

Basic to any planning are data. Data which tell what has happened and what is happening; what has been and what is. Data on who is in the school; what is in the school; who is in the community; what is in the community; how many; how much.

Not just data for data's sake, however. There is a temptation to seek security in data. If there are enough data, the answers to the problems must be found somewhere. There is no reliability in such a belief. Too much data may be as harmful as too little data. The optimum amount of data is not an easy thing to determine, but careful analysis of the goals will do much to ease the task and advance the usefulness and validity of the data collected. One of the basic principles of the data information system is that of determining the data needed for school system planning.
What is more frustrating than knowing data are available somewhere in the pile of material and not being able to find them? Organization of data is another principle which must be followed in the development of the data information system. Coding, data processing, the computer, dial access, and instant retrieval are processes or equipment which the technology of today provides for the organization of and access to data. The knowledge explosion and the population explosion have created the need for rapid and accurate means of classification, storage, and retrieval. School system planning can benefit from such new processes.

Even if automated processes such as the ones mentioned are not used, the data collected by the planner must be identified and filed. Data which cannot be found is like having no data at all. Maybe worse, for to re-collect data tends to antagonize both the collector and the preparer, and advances the danger of the second effort being sloppily done. Do it right once and take care of it are desirable principles.

Sharing data not only subjects the data to extended use and interpretation but also requires open lines of communication between the planner and the planning subsystems. Data may be relevant to a number of different elements within the school system. This is particularly true of elements which service or support the other elements. For example, the development of the plant plan will require much of the same data as the development of the financial plan. Also, much of the data to be used in school system planning will be collected by the planner. Certainly, he is not infallible and will not be able to collect all of the data needed by all of the subsystems. By sharing data up-the-line, from subsystems to the planner, the data bank for the entire system as well as for each of the subsystems will be increased. Sharing data is a third general principle.
Finally, the data information system requires a periodic and continuous updating of the data. A school system plan based on data no longer valid will do more harm than good for the school system. The increased storage and retrieval potential available today enlarges the amount of data which can be made available. With the future being built largely on the past, data from the past are imperative. However, data are not always valid for an indefinite period of time. Sorting out old data is not an easy task; discarding old data is even more difficult.

Updating need not mean old data is discarded, however. Updating along with acquiring new data, also means following up to see what has happened to the data in the last week, month, or year. For example, data might be available on the Great High Schools Project in Pittsburgh. It could be dated 1967. As updated information is collected, it should be added to that already present. The same is true of the latest enrollment figures or more recent enrollment projections. The point is that data accumulate. As they pile up, sorting out what is needed becomes more difficult. Updating and discarding where possible aid in improving the validity and retrieval of the data.

With these principles in mind, the planner collects data which assist in the development of the alternatives in the various subsystems and in the development of the school system plan. The data deemed necessary in the following objectives may be only a portion of that deemed necessary by an individual school system applying the planning process.

**Information Objective 1**

To receive, collect, and file information from the national government relative to federal aid to education and federal programs active in or potential for the school system.
The question is no longer whether there will be federal aid? That question is answered. The question now is whether the federal programs will become an integral part of the local school system program or whether they will be a separate entity? Will the federal programs be implemented because the money is there for them if they are implemented, or will they be implemented because they are a needed dimension of the total school program? School system planning is concerned with the answer to this question because it has an implication on the integrity of the school system plan. The plan is an integrated whole made up of interrelated and common goal-centered elements. It is not a mixture of unrelated parts, or worse yet, a collection of isolated programs. If a federal program is allowed to proceed without advancing the plan as a whole, the whole plan is violated, and no other element can be so ordered to integrate. If on the other hand, the federal program can be so ordered, the program is valid, and meets the criterion of wholeness.

There are issues still being contended concerning federal aid, not the least of which is the general aid/categorical aid controversy, and the subsequent channeling of federal money through the state. A data information system must include an updated account of this and similar federal aid issues which have relevance for future year or long-range planning. If school system planning is to help the school system prepare for the future, one of the significant factors is going to be the increase in and/or the restructuring of the federal aid program.

To meet this objective the planner must:

1. know the personnel and keep in contact with the various departments of the U. S. Office of Education.
2. secure the major acts and explanatory materials of the federal legislature which affect education, i.e., National Defense Education Act, Elementary and Secondary Education Act, Economic Opportunity Act, Civil Rights Act, and Model Cities Program.

3. keep an up-to-date file on the federal programs active in the school system.

4. communicate with people from other school systems and agencies and with the people in the state department who direct and/or work with federal programs.

Information Objective 2

To keep informed and up-to-date on the happenings in the executive and judicial branches of the national government.

Equally influential as the legislative workings of the national government are the decisions made by the executive and judicial branches. Of note are the decisions since the middle 1950's relative to both de jure and de facto segregation in the public schools. These decisions have implications for public education. Data on them are a necessary part of the information system.

Civil rights and national defense have created a concern for education which extends to the level of the Presidency and his cabinet. Such high level interest, both judicial and executive, has great affect on education.

To meet this objective the planner must:

1. collect and file articles on federal interest and impact on education requiring reading mailings from the U.S.O.E., educational magazines, educational sections of magazines and newspapers.
2. communicate with the school attorney on recent hearings or cases which have implications for education.
3. communicate with the local representative to the House of Representatives.

**Information Objective 3**

To receive, collect, and file data from the numerous foundations which support educational experimentation and innovation.

Another source of revenue which could be considered on the national level is that from foundations or other private funding. For instance, Kellogg and Ford have foundations which support programs or projects in education. These foundations are supportive of experimental or innovative programs. Data should be available on the type of projects they fund and how a school system applies for the support.

To meet this objective the planner must:
1. maintain a list of foundations which fund educational projects.
2. collect information on the type of projects which are funded.
3. have on hand the procedure which must be followed to apply for funding.

**Information Objective 4**

To receive and file information from the state government relative to the state regulations, support of education, and influences which affect school system planning and operation.

Education is a state function. State statutes mandate a number of items directing school operation—teacher certification, standards,
bonding limits, state board of education, state department of education, and so forth. In some of these instances, state directives are fairly direct and certain. Little local leeway and flexibility may be possible.

Often state influence can be exerted more subtly, but just as effectively, by the state foundation program. Money is a great influence. By the state equalization program reimbursing the local district for certain programs and not for others, local programs and operations are encouraged, if not dictated.

The same might be said of state leadership. Influential people, especially those in high official positions, exert influence on all state agencies and institutions. In a democratic society, such should be the case. We elect our officials and, hopefully, they are intelligent, conscientious people who have good ideas and intentions, and work for bettering all state functions. Often what they work for is not enacted into law, but even in the process of losing a program they are supporting, the leadership influences the institutions concerned. A good example of this is the current campaign by Governor Rhodes of Ohio to enlarge and improve vocational/technical education in the state. The educational institutions throughout the state have been influenced by the Governor's stand. Even if the total program he is supporting is not implemented, the impact of his campaign will remain.

1. have on file in the data information system an up-to-date copy of the school law in the state, the state standards for schools, and the state foundation program.
2. have an up-to-date listing of the departments within the state education agency and the personnel within the departments.

3. receive and file information on legislative, executive, and judicial activities affecting education including communication with the school attorney, local representatives to the state legislature, and the state education association, and filing articles from magazines and newspapers relative to statewide educational interests and issues.

4. participate in workshops, studies, conferences, and seminars concerning planning in education, identifying problems in education, improving education, and so forth.

Information Objective 5

To determine the degree of flexibility within the rules and regulations of the state, and to determine where effort to remove constricting rules and regulations would be worth the time and effort required.

Equally important, however, is to know the flexibility which is available within the state directives. Often the easiest way to excuse the lack of innovation in a school district is to say that state rules and regulations prohibit anything other than that which is specified by law. Such a rigid organizational and administrative structure is infrequent in the United States. Initiative and inventiveness are encouraged. Experimentation is welcomed. It is imperative that the school system planner know the limits of freedom within the state structure since much of his work will require creative means of working within that structure.
Closely akin to freedom within limits is the need to know which constraints are permanent, which are less permanent, and which can be changed. There will be occasions when the school system planner will be stymied from moving a certain direction because of some state rule or regulation. Before complete abandonment of the idea, study should be made of the permanency of the rule blocking development of the idea. There may be the possibility of change in the short-range future, or even immediately. Rarely are laws passed to impede progress. If progress can be given a good chance of occurring, rules will be changed to allow for it. The school system planner has an obligation to analyze the situation to determine whether the time and effort needed to bring about the change is warranted. The direction of planning will be influenced by the decision.

To meet this objective the planner must:

1. know the sections of the state rules and regulations where innovation and experimentation are encouraged.
2. know the sections of the rules and regulations which are most loosely interpreted.
3. gather information from other school systems and the state department of education on unique means of operating within the rules and regulations.
4. compile a file on procedures and practices which were not accepted as being within the required rules and regulations.
5. when constricting rules or regulations prohibit the advancement of a course of action, gather information on the stability of the regulation, seek opinion on the possibility of modifying the regulation, present the changes desired to the local legislative representative.
**Information Objective 6**

To collect and file information on the community which the school system serves.

In theory, the school system is free to a large extent to serve the local community. State control is not excessive. Local autonomy and initiative are encouraged. An educational program geared to the needs and wants of the local populace is an acceptable goal. School system planning has as one of its goals the development of the educational program which serves best the community. Basic to this program is data concerning the community to be served.

Much of the information collected will be of a quantitative nature—population, amount and type of industry, housing developments, census data, telephone and gas company data, and so forth. These data are visible or objective. They tell what has happened and what is happening to the community physically. These data are not difficult to collect or interpret. They change frequently and rapidly at times and thus require continuous updating.

Equally important are the qualitative data. What is a community attempting to be or striving to become? Does it have any community goals? Is it looking to the future or living in the past? Is it progressing or regressing? What shows this? Some of these questions will be answered by studying master plans and zoning regulations and enforcement. Much will be learned from city government, its campaign platform and subsequent policies. Much can be learned from studying the conflicts which have arisen. The amount of data collected and the degree of detail to which it is analyzed are proportional to the amount of community/school cooperation
desired. In some cases the cooperation and interrelationship will be well established and working smoothly. Very little detailed analysis of community may be necessary. On the other hand, the opposite extreme may be the case.

To project into a subsequent portion of this planning strategy, much of the qualitative data will be collected when the goal-setting phase of the planning process is conducted. At that time there are to be community/school dialogues on the school's role in the community and the goals which define that role. These data will add much to the data collected prior to the dialogues.

The data information system should include the names of specialists and consultants on community analysis and interpretation. Demographers, sociologists, and economists can add validity and stature to community studies and should be utilized in the planning process.

To meet this objective the planner must:

1. maintain a file on the quantitative data of the community.
2. communicate with the community officials, service clubs, and civic organizations on the future of the community.
3. have on hand the zoning regulations and indicators of enforcement.
4. collect and file master plans, land use studies, community surveys, and so forth.

Information Objective 7

To collect and file data concerning the school system, its components and operation.
If there is an imperative bank of data needed for school system planning, it is data on the school system itself. Up to this point data have been gathered on forces outside the school system, dictates given and pressures exerted. Data gathered from within the school system provide information on who is being served and what is being done.

Not all school systems are organized in the same manner. Therefore, not all means of gathering data are applicable. However, for the purpose here of illustrating the data which need to be collected, the areas of administrative responsibility prepared by Cambell, Corbally, and Ramseyer provide a way of insuring adequate data collection.¹ These areas are

1. School/community relations
2. Curriculum and instruction
3. Pupil personnel
4. Staff personnel
5. Plant
6. Finance
7. Organization

School/community relations

Much data, particularly qualitative data, can be collected from studying activities in the area of school/community relations. Activities in this area consist of keeping the public informed and getting reactions from the public on proposed or implemented programs. Data should be available on a variety of subjects and the public response to them. Analysis of the activities associated with school/community relations in the recent past and those proposed offer much toward accessing school/community cooperation or conflict.

¹Roald F. Campbell, John E. Corbally, and John A. Ramseyer, Introduction to Educational Administration (Boston: Allyn and Bacon, 1958), Chapter 4.
Curriculum and Instruction

Curriculum and instruction are the heart of the school system. Many will agree that the real purpose of the school is epitomized by the contact between pupil and teacher. For simplicity and to avoid a debate on what is curriculum, let us say that the curriculum consists of the experiences the pupil is to have, and the instruction consists of how he is to have them. The school system exists to foster these partnerships, curriculum-instruction, pupil-teacher. The real heart of school system planning is the educational program which is developed. What goes before does so to achieve its development. What comes afterwards does so to serve, support, and evaluate it.

The data information system, consistent with the principles of need, storage, access, sharing, and updating, must provide a means of securing data on the curriculum and methods of instruction as they developed and now exist. Data of this nature are found in curriculum guides prepared in the system, courses of study, state or accreditation evaluations, staff evaluations, curriculum studies, building surveys, minutes or reports of curriculum committees, unit plans, lesson plans, departmental suggestions and recommendations, and so forth. The data can be sketchy or detailed. It can be for the whole system or a part of it. The data will require analysis and interpretation, often by the group who provide it. School system planning will value much from a knowledge of how the educational program developed and how it is operated. Although the educational program of the future may be radically different from that of the past, it may never completely divorce itself from that which came before. For
something to progress, it must progress from something. Data on curriculum and instruction will provide much base data from which to progress.

Somewhere in the bank of data on curriculum and instruction must be found information on the big "new ideas" in education. Currently, team teaching, reaction-action-interaction learning, open space schools, educational parks, and individualized instruction are being given much publicity. Information on these and other innovative procedures, processes, or materials must be available for use in planning. Sharing data is most vital in this respect. Much innovation and reform are coming from the subject matter areas. Therefore, it is important for the teachers, supervisors, and administrators to provide the data system with this information as well as for the planner to gather data on his own.

Pupil Personnel

Without pupils a school system would not exist. Knowing the clientele of the programs and services of the system is imperative. Pupil personnel implies data about the pupils; their physical characteristics, their progress, their needs, their desires, their paths in school and after graduation, their feelings about school. Much of these data are available from the staff of the pupil personnel services. Some data will be generalized to respect confidences. Other data, test scores for example, can be specific. Follow-up studies, analysis of class or subject enrollments, and dropout studies are other means of gathering data on the pupil population.

Staff Personnel

Rarely does a school system start from scratch with new personnel. Instances may have occurred where new buildings of the system are staffed by all new people, but rarely total systems. Certainly, a vital input into planning is data on the staff; their fields of certification, the training institution they attended, curricular or co-curricular activities they can direct, and other routine data. In addition to the more routine data on staff, data must be collected on committees served, publications produced, projects completed. Much more will be learned about teachers and their thoughts on education in subsequent planning procedures, such as goal-setting and subsystem planning.

School Plant

The school plant is recognized in this dissertation as one of the elements which serve the educational program. Data on present plant are imperative. Quantitative data on how many, what size, what cost are usually available. How the buildings are being used and to what degree of adequacy are more qualitative and require formal and informal evaluations. The plant exists to serve the educational program. The plant can be deemed satisfactory only to the degree it adequately serves the program. Such an evaluation must come from the pupils and teachers who function in the building, or come as a result of their work with a consultant or evaluation specialist.
Data must be collected also on projected building projects. Many districts have a master plan for school plant construction. Such a plan is a component of the school system plan. If the master plan for plant is being respected, it provides very specific data on future development. Current planning may result in a significant change in the master plan, but the master plan now in existence provides good base data for new planning.

Sites are considered elements of the school plant data. Data on sites owned but not yet developed, sites on which options are held, and information on proposed sites must be available in the data information system. County and regional planning commission documents may provide for school building locations. Saturation studies, land use studies, and zoning regulations provide data on sites. Contacts with housing developers and contractors also provide data on sites, as well as provide insights into potential pupil population. Any source of data which provides information on how many schools may be needed and where they may be located is valuable to the planning effort.

Finance

Planning can be viewed as a means of coordinating process with resources to produce a desired product; to achieve some end one must perform some act which uses up some resource. Certainly, one of the most obvious resources which is used up is money. Money is also one of the resources which can be rather strictly controlled, its sources easily recognized, and its expenditure specifically recorded.
In planning, data are needed on what monies are available and utilized, and equally important, what monies are potentially available. Any plan developed must recognize the amount of money which is or may be available. An element of any school system plan must be the cost of supporting the program and service elements that comprise the plan. The cost must be realistic if the plan is to have any chance of implementation. A plan is of little value if it does not offer a possibility of implementation within the funds available, or include in it a feasible means of securing the funds which are needed.

Among the data needed are tax base, changes in tax base, potential changes in tax base; taxing rate, changes in taxing rate; legal limits on taxing for school; potential changes in school support structures; state foundation formula and explanatory materials; federal funding, amount, time, future prospects and proposals; and any other data relevant to present and potential money sources.

Study of school expenditures, including analysis of budgets and actual allocations and expenditures, prove a valuable information source. Indexes, Consumer Price and building costs as examples, should be easily accessible. Any data which aid in estimating future costs to some degree of accuracy will be valuable.

Financing a school system is an expensive and complex process requiring the coordination of all elements in the system. If a financial plan is to be developed which is both feasible and adequate, much data and sharing of data are required.
Administrative Organization

Organization is included as a seventh task area by Campbell, Corbally, and Ramseyer, and includes administrative organization within it. The six areas imply an organizational structure. However, in school system planning administrative organization is considered to be an element which services the educational program. The administrative organization must recognize as its objective, just as any other school subsystem, the advancement of the goals of the school system. Data are needed on what the administrative structure is and why. Much of this information can be found in job descriptions and line-staff relationships.

To meet this objective the planner must:
1. collect data on school/community relations.
2. collect data on curriculum and instruction.
3. collect data on pupil personnel.
4. collect data on staff personnel.
5. collect data on school plant.
6. collect data on finances of the school system.
7. collect data on the administrative organization operating in the school system.

Role of the School System Goal

Developing the role of the school system in the community, the goals of the school system.

School system planning, as tactical planning, recognizes that the school system is a part of a larger or supersystem, that of the nation, state, and community. Data on national and state directives and influences have been deemed necessary for school system planning. At the goal-setting stage of the process, this data will be used to insure that consideration
is given to national and state input into the goal-setting procedure.
There will be no dialogues with national and state personnel other than
those required for the interpretation of data or by the need for additional
data. The procedure to follow details the means by which community/school
dialogues may be ordered and utilized. Ultimately, the dialogues will
result in goals being set for the school system.

**Goal-setting Objective 1**

To get to the core of what the people need and
want from the school system for their children,
themselves, and their community.

There is an oft heard statement in education which says that the
school must serve the community of which it is a part. What is the
community? Who is the community? To the school is the board of education
the community? Certainly it is a representative of the community. Or is
the PTA the community? Certainly the whole of the community is invited to
participate in the PTA. Is the school staff the community? Certainly
many of the staff are also residents of the community, and a most enlightened
segment of the community as far as matters of education and the school are
concerned.

The community is the people who make up the community. It is not one
person or one group of people. For rarely does a community unite into
one group with one common goal. In times of war there may be such a uniting.
But recent experience has shown that even in times of war, such uniting
depends on what type of war it is.

A community is a pluralism. A collection of people with different
needs and aspirations, different cultures and beliefs, different likes and
dislikes. If the school system is to have relevance, to be valuable, it must respect the pluralism of the community. It must reach out to the interested and the disinterested, to the involved and the uninvolved, to the professional and the unskilled laborer.

To digress for a moment from the pattern being followed up to this time, special mention needs to be made of where the young people fall into this series of dialogues. It is vitally important that the young people be given a say in the development of goals and purposes of the school. Not because of the pressures being placed on the school today by young people, but because young people today have much to offer in helping to determine the role of the school in their world. Some say the young persons of today are smarter than those of yesterday. This may be true or it may not be true. Few would argue the fact that young persons today are experiencing things that their grandparents, and even parents, never dreamed of. Television has had great influence. So have the transistor radio, ease of travel, working mothers, urbanization, and the general permissiveness of the times. The school system planner will make a grave error if young people are not involved in the planning; if planning is supposedly for them, but not with them.

School/young people dialogues should take place during the dialogues with the community. There may be value in “talking school out of school” rather than within the confines of the school and what these confines mean to young people. Schools today seem to be the place to either attack the Establishment or submit to the Establishment. The school system planner needs a neutral ground on which to dialogue with young people. The school setting is not neutral ground for either party.
What has been hypothesized for young people may be true also for the adult segment of the community. "Talking school out of school" may be a valuable technique for adults also. Who comes to PTA meetings or seminars or open meetings held at the school? Most often either the interested and supportive or the highly critical. These people usually are involved in a school system in some way whether a planning effort is being made or not. They are vital to the planning effort and every means should be used to deepen and broaden their involvement.

The concern here is with those people who seldom get involved. Those who consistently seem disinterested or, even worse, uninterested. Those who "gripe" in public about education and the school program but seldom do it where it does some good or can be answered. Those who shy away from public meetings or interactions with other people? Those who are looked down upon, and never seem to get out of their own homes, let alone out of their neighborhood? These people also have much to offer and deserve an opportunity to be involved. School system planning must reach out to the majority of the community that the school system seldom seems to see. Total involvement may be an impossible goal, but there must be a greater involvement than has been evidenced up to now.

To meet this objective the planner must:

1. organize open meetings, seminars, "coffee klatches," and programs for service clubs and civic organizations which result in the recognition and discussion of role, purpose, and goals of the school system.
2. communicate with community officials and agencies to clarify the role, purposes, and goals of the school system and the community/school and agency/school relationships.

3. insure that the constraints imposed by the national and state regulations and influences are respected during the dialogues.

4. provide the data requested by the groups in their discussion of the role, purposes, and goals of the school system.

5. receive from the planning representative written reports on the role and goals of the school system as developed by the community groups.

**Goal-setting Objective 2**

To involve the school staff in the goal-setting process, thus extending the view of the role, purposes, and goals of the school through involvement of professional educators.

What other occupation can claim sixteen years of first-hand observation plus four years of specialized training before any on-the-job experience? Educators have that unique distinction. If longevity assured expertise and professionalism, teachers would be without question "experts."

What could be more negligent than for the school system planner to gather data on school system goals and not include dialogues with the school staff?

Teachers, supervisors, counselors, and administrators have information which is invaluable in school system planning. They have seen innovations come and go, develop or die. They have seen change in community and pupils. Through their daily experience with young people, the school staff has information on needs and desires, capabilities and limitations of young
come and go, develop or die. They have seen change in community and pupils. Through their daily experience with young people, the school staff has information on needs and desires, capabilities and limitations of young people. The staff knows teaching, guiding, leading, and a host of other data which will help to clarify what schools should and should not do, can and cannot be.

The objective of school system planning is to tap this vast reservoir of information and gather from it data which can, along with that collected from all of the other community dialogues, give direction to goal formulation and clarification.

Staff groups for goal-setting should be different from those organized later for subsystem planning. There seem to be a minimum of occasions when staff groups cross school levels or cross disciplines. The dialogues on school system goals offer a type of task which not only justified a cross meeting but also adds a desirable dimension to the procedure.

To meet this objective the planner must:

1. organize a series of dialogues among the school staff, develop discussion groups which cross school levels -- elementary, middle, and secondary -- and which bring staff members of different disciplines together.

2. emphasize that at this point of the planning process the objective is to clarify goals for the school system as a part of the larger community.

3. stimulate and challenge the total staff and the subgroups to consider the commonality of purpose, the need for articulation,
and the possibilities of integration among the various levels, departments, and service elements of the school system.

4. provide information as requested, and possible to provide.

5. receive from the planning representative written statements on role and goals of the school system.

Goal-setting Objective 3

To provide a document in which all of the data collected from the various discussions, meetings, and dialogues is brought together and arranged in such a manner that commonalities and differences of the various groups are presented.

If data are to be of value, they must be organized into some usable fashion. What has been accomplished thus far is a collection of data which focuses on school system role and goals. Much of the data is very raw. They need context and comparison to make them valuable. These tasks are the ones facing the planner in the meeting of this objective.

As stated, the community is a pluralism. There is little reason to believe that the information collected from many and varied sources from within the community will have any uniformity. Different groups within the community will be seeking different outputs from the school system. However, there may be an agreement on some of the basic purposes for which a school system exists. The document prepared at this time, without naming or finger pointing, must order these differences and commonalities into some understandable form, with enough detail to clarify role and goals, and yet with not so much detail that the document becomes frightening in its complexity and length.
Interpretation of the data may require the planner to confer with a group to clarify the meaning of its response. Interpretation may require the assistance of specialists--the demographer, sociologist, and/or economist.

To meet this objective the planner must:

1. analyze the data on role, purposes, and goals for areas of agreement and areas of disagreement or conflict.

2. solicit the help of consultants needed to analyze and interpret the data.

3. prepare a document which respects all of the data collected on role, purposes, and goals; the document must be organized and written to permit easy reading and analysis.

Goal-setting Objective 4

To develop unity within the community by sharing the initial document on roles, purposes and goals with the groups which provided data, and solicit their reaction to the document as a whole and to the individual items.

There is difficulty in interpreting and restating ideas of others. Excellent writer that the planner may be, he can benefit from the reaction of fellow participants in the goal-setting endeavor. Each group will be interested in how their views compare with those of the other groups. Each group may use the feedback to either solidify their position or modify it.

This sharing of initial thinking on school system goals may be a unique experience for groups who usually find themselves at the throats of one another. The purpose is to serve the community as a whole, through one
of the few institutions which serves the community as a whole. By giving respect to the varying opinions and presenting the varying opinions under one cover, a symbolism of unity is offered. Openness, sincerity, and competence of the personnel of the school system can do much toward transforming the symbolism into reality.

Reaction is solicited from the group to react not only to its own goals but also to those offered by other groups. Constructive criticism is always helpful. There will be support for the views of others, and a broadening and deepening view of one's own perspective.

To meet this objective the planner must:

1. distribute the document to the participating groups, even to those who may not have provided input into the document.
2. encourage the recipients to react as a group to the document and its contents.
3. encourage the recipients to modify their statements of goals after having seen the total range of goals collected.
4. receive from the planning representative reports on reactions and modifications.

**Goal-setting Objective 5**

To secure from the decision-makers the school system goals toward which subsequent planning effort can be directed.

The decision-makers have been informed continuously of the activities and progress of the goal-setting endeavor. They have received a copy of the initial document. They may have been involved in one of the groups
which provided data for the document, and also in one of the groups which reacted to it. The original document as modified and amended provides a comprehensive and detailed report on community desires and needs. The task which confronts the decision-makers is a most difficult one. They must decide, out of all these data, which may contain conflicting goals, what goals will dictate school system operation. Even among the ones which are selected, they may have to list priorities, or assign primary or secondary status.

They should receive some degree of comfort from the knowledge that the goals they select need not fix the operation of the school system for an infinite period. The planning process requires recycling which includes the questioning of goals and provides the means to modify or redevelop them.

On the other hand, they may feel a discomfort in not having all of the data they desire on the benefits and consequences of all of the goals produced during the goal-setting phase. There would be great merit in detailing how the elements of the school system advance all of the goals. School system planning requires detail for the goals chosen, but not for all of the goals. Also, the detailing occurs after the goals are selected. Future developments, particularly those in data processing, computer technology, and the preparation of planning specialists, may permit detailing, through mathematical modeling and simulation, an array of goals before selection is required. This procedure would add immeasurably to the decision-making process. One step at a time, however. Coordinating the elements of the school system toward goals offered and recognized by the community is a gigantic step in educational planning. The decision-makers can take solace in this fact.
To meet this objective the planner must:

1. present to the decision-makers the document, along with the reactions and modifications.
2. provide any other information to the decision-makers which they need to make a more objective and rational decision on goals.
3. clarify any points in the document, reaction, or modification materials.
4. secure from the decision-makers the goals to which subsequent planning effort is to be directed.

**Suboptimizing Goal**

Securing from the subsystems of the school system alternative means by which the goals of the school system can be realized.

Goals were defined earlier in the dissertation as broad, general statements of aims. They are not specific descriptions for definite programs, but represent educational philosophies and policies. There would be difficulty, if not impossibility, in having the school system as a totality develop means to meet the broad goals. The school system is too large and complex to permit its being planned for as a single entity. Instead, consistent with the concept of systems, the school system is broken down into smaller segments or subsystems. Within the subsystems, objectives are set which direct subsystem effort and advance system-wide goals.

There will be no attempt in this dissertation to select the type of organizational structure which results in specific subsystems. There are undoubtedly situations where the traditional type organization of elementary school, middle school, and secondary school may work quite well. Others
may see value in subject matter subsystems or cross-disciplinary or cross-level subsystems. There must be a breakdown of the school system into smaller units which can plan more easily than can the larger, more complex system. Naturally, such a breakdown must provide for the efficient and effective operation of the school system as well. What serves one end must serve the other.

In developing the concept of school system planning, emphasis was placed upon the coordination of all of the elements which make up the school system. Implicit in this requirement is the belief that the school system is a gestalt, a whole which is more than the sum of its parts. If such was not the case, emphasis would be placed upon the development of highly efficient and effective elements without much concern for the school system as a whole. There would not need to be a school system, but rather an elementary school system and a secondary school system, with little articulation needed between the two. School system planning denounces such an organizational structure.

An analogy is that of a football team. The team is composed of eleven individuals, all with an assigned task. If all eleven carry out their assigned task correctly, the team as a whole, as well as the individuals, will be successful. On the other hand, if one of the eleven does not complete his assigned task, he personally may not suffer, but the team as a whole may suffer. The play may not be successful; the goal, the winning of the game, may not be achieved.

Suboptimizing Objective 1

To provide the subsystems with the information they need to understand the goals set for the school system.
If a subsystem is going to develop plans which advance goals, it must have a thorough understanding of the goals it is to advance. Goals are general statements which may mean different things to different people. It is imperative that the subsystems know the interpretation which the decision-makers have given to the goals.

The planner as the one working closely with both the decision-makers and the subsystems will be in the best position to provide such an interpretation. This does not preclude the desire or even the need for the decision-makers to interpret directly their meaning of the goals. They may do so. More likely, however, if they feel interpretation is necessary, they will interpret the goals at a large-group setting, and let the planner work with the numerous smaller groups. However, the need to understand the goals is so important that the decision-makers must devote all the time deemed necessary by the subsystem for the subsystem's understanding of the goals.

To meet this objective the planner must:

1. conduct a large-group session at which time the goals of the school system are presented and the decision-makers' interpretation of the goals is clarified.
2. distribute to each staff member copies of the goals and a brief interpretation of them.
3. arrange for subsystems to meet with one of the decision-makers for further interpretation where necessary.

Suboptimizing Objective 2

To insure that the subsystems understand their task to be that of preparing short-range, intermediate, and long-range plans.
Objectives are developed within each subsystem. These objectives must advance the school system goals. Four essential elements of subsystem planning must follow the development of each objective: (1) criteria must be established which provide a measurement of whether objectives are being achieved, (2) alternative means of achieving objectives must be prepared, (3) consideration must be given to the other subsystems and the consequences of the plans of action on the other subsystems, and (4) detailed short-range plans, first two years of plan implementation; outlined intermediate plans, second two years; and highlighted long-range plans, third two year period, must be developed.

Criteria are extremely valuable since they relate to evaluation. When objectives are developed and criteria not determined, there is danger that valid measurement cannot be made. Criteria tell the output expected in a given situation. Mager in his work on instructional objectives may help in this regard; also, the Bloom and Kratwohl taxonomies. Whatever the method selected to develop criteria, the important thing is for the criteria to be developed. As refinements are made in method and content in education in general, refinement in criteria may follow.

Alternatives must be prepared for a number of reasons. The most obvious reason is that no one single teaching or learning process has proven to be successful with all pupils in all situations. Alternative means of achieving the objectives require that many methods, materials, and equipment be considered to provide the best possible means of helping pupils learn.

Alternatives must be prepared also to reduce the rigidity of the status quo which tends to develop in school systems. "Teachers teach as
they themselves were taught" is an oft heard cliche'. "Teachers tend to use what works" is another. Both of these beliefs promote a fixture of method and content which is antithesis to the rapidly expanding and changing world. What worked twenty years ago has a good chance of being inadequate or invalid today. Requiring the subsystems to prepare alternatives forces the participants look forward instead of backward, beyond today to tomorrow. Those who have never been forced to look ahead may like what they see.

Finally, developing alternatives increases the chances of developing a unified school system. A subsystem which is permitted to lock itself into only one plan may prohibit the subsystem from operating similarly with other subsystems. For example, suppose the business education department determines that by meeting five days a week for forty-five minutes each day is the only way the department can meet its objectives. As far as flexible modular scheduling is concerned, the business department cannot operate as the other subsystems may choose to operate. The other subsystems either will have to suffer the conflicts which the meeting of the business department demands produce, or the business department will have to suffer a possible reduction in enrollment due to conflicts which cause pupils to be dropped from the business program. Had the business department looked at the modular schedule and worked briefly at putting its program into it, some possibility of coordination would exist.

The example given alludes to the need for consideration of interrelationships and the study of consequences. It is human nature, unfortunately, for the individual to consider what he is doing as the most important thing going on in the school system. He is not concerned with
the other subsystems. He works to get what he wants and to do what he wants.

School system planning must not condone individual or even total subsystem isolation. The subsystems must consider their relationships with other subsystems and the consequences of their plan on the other subsystems. To do otherwise promotes the fragmentation which school system planning works to overcome. A goal school systems should strive for all subsystems to function at an optimum level. However, no subsystem should be permitted to achieve its optimum at the expense of another subsystem.

Each of the alternatives prepared must include a detailed presentation of plans for subsystem actions and needed resources for the first two years of plan implementation; an outline of subsequent actions and resources for the following two years, and a highlight of action and resources for a third two-year period. The outline and the highlights should be prepared to make future development as easy as possible. More will be said concerning the three-biennium structure when the recycling goal is discussed.

To meet this objective the planner must:

1. clarify the end product which is expected from the subsystems--alternative means of meeting the subsystem's objectives.

2. order, define, and assist in the planning process which requires the subsystems to:
   a. develop objectives.
   b. establish criteria.
c. consider alternative means of meeting objectives.
d. select feasible alternatives for further development.
e. consider interrelationships and consequences.
f. prepare detailed plans for the first two years, an outline of plans for the following two years, and highlights of plans for a third two-year period.
g. cost the alternatives including estimated future year costs.
h. perform cost-effectiveness analysis on the alternatives prepared.¹

Suboptimizing Objective 3

To provide for the subsystems any information determined as needed by the subsystems.

A data information system has been developed as a component of the planning structure. The subsystems should be able to "reap the harvest" of the data information system. Data required by the subsystems in their planning should be available either through the data information system or through the individual subsystem data collection process.

The planner has another critical role to play other than data collection for the subsystems. As the planner, and thus the person with the best total view of the ultimate product of the planning process, he is also the "expert" on what data are needed for the development of the plan. He has a role to play in controlling the type and amount of data collected by the subsystems. He should suggest data which may not be considered

¹Hitch discussed the process as used in the Defense Department in Decision-making for Defense, Chapter III; see also Cost Effectiveness Analyses, (New York: Fredrick A. Praeger, Publishers, 1967).
as needed by the subsystems. He also should question data which are not valuable. There may be occasions when he must tell the subsystems that the data they desire are confidential and cannot be released to the subsystems. He may suggest other data or suggest ways to work around the absence of the data sought.

In addition to data being confidential and not open for release, there will be demands for data which are not available or attainable. Once again, the planner may have to deny access to data for reasons beyond his control. He must offer suggestions for substitute data or suggest continuation of planning on a subjective basis. Whatever the method, encouragement must be given so absence of data does not stop the planning process.

To meet this objective the planner must:

1. provide easy access to the data information system.
2. assist subsystems in gathering the data they require.
3. collect or refer subsystems to sources of data not available in the data information system.
4. suggest substitute data where possible.
5. question requests for data which seem out of place or unnecessary.

**Suboptimizing Objective 4**

To provide the subsystems as requested with the specialists and with representatives of successful and/or innovative school systems who can assist the subsystems in the preparation of alternatives.

Some of the data alluded to in this objective will have been collected under school system data, curriculum and instruction. The names of
specialists in subject matter areas or innovative practices in the areas may be known better to the subject matter teacher, curriculum director, or supervisor than to the planner. On the other hand, systems analysts and evaluation specialists may be known better by the planner or central administrator. Whatever the source, the subsystems must have access to these people and their services.

To meet this objective the planner must:

1. when a specialist is requested, refer the subsystem to the data information system for the name and qualifications of possible specialists.

2. if a specialist is recommended by a subsystem, contact the specialist, explain the type of project, determine his qualifications, and ask the cost of his services.

3. recommend specialists to subsystems who need assistance but do not ask for specialists.

4. secure the specialist desired, but with care to distribute specialists' services equitably and within the budgetary limitations of the planning budget.

5. stipulate that one of the expectancies of the specialists is a brief evaluation of his work with the subsystems served, the major problems encountered, and the problems left unsolved.

Suboptimizing Objective 5

To share the work of each subsystem with each other subsystem.
Upon completion of the agreed list of alternative by each of the subsystems, the alternatives will be compiled and returned as a whole to the subsystems. This procedure permits subsystems to look at their own alternatives in a new context, and provides them with an opportunity to modify or add to the original list. It also promotes the unity of purpose being advocated by the planning process by putting the subsystem alternatives into a package, a package which symbolizes wholeness.

To meet this objective the planner must:

1. collect all alternatives, completed in acceptable form, from each subsystem.
2. study the alternatives and confer with the subsystems where questions may arise on an alternative or items in an alternative.
3. assemble all of the alternatives into some rough but intelligible fashion and return them, under one cover, to the subsystems.
4. request reactions to all alternatives and encourage adjustment or modification of the alternatives.
5. recollect all of the alternatives complete with adjustments or modifications, and the reactions of the subsystems to the alternatives.

**Synthesis Goal**

Settling on the educational program to be conducted in the school system.

The educational program is the synthesis of the alternative prepared by the subsystems. Each of the subsystems prepared means by which the school system goals may be realized. Each subsystem concentrated on its own field of expertise and interest, but with due consideration of the
other subsystems. Were the school system only the sum of its parts, a selection of one of the alternatives prepared by each of the subsystems would suffice, and the conglomerate would be the educational program. However, the position taken in this dissertation is that a blend of subsystem plans is the aim, a synthesis rather than a collection.

Referring to Hitch once again, he saw in the development of PPBS the need for a programming phase, the uniting or blending of diverse activities of the military branches into a united, coordinated whole. The synthesis of the subsystems' plans is a similar type of endeavor. Just as programming the military plans must have been a challenging and demanding task, so will be the synthesis of the subsystems' plans. It is for this task that a generalist in educational training may prove a distinct asset. He must have a knowledge of all the subsystems submitting plans. He must be sensitive to the problems in elementary school operation, vocational education organization, and middle school development. He must be familiar with the role of the teacher, administrator, and pupil. He must respect the individual, yet understand the whole of the school system. He must respect community, and consider state and national directives and influences. The development of a school system plan implies that the planner himself must possess knowledges, skills, abilities, and insights in a wide range of educational tasks. He uses all of them in school system planning, but particularly in the achievement of the synthesis goal.

**Synthesis Objective 1**

To provide the decision-makers with the list of alternatives as completed and modified by the subsystems.
Providing the decision-makers with the complete list of alternatives serves a number of purposes. First, it provides a type of progress report. It offers to the decision-makers proof that progress is being made. Second, it requires that the planner gives attention to studying the alternatives. The alternatives are the data used in the synthesis phase. He will not want to burden the decision-makers with a hodge-podge of complicated, confusing alternatives. The planner will have to arrange them into some readable intelligible order. This is the first step in preparing blendings of alternatives. Finally, by having the complete list of alternatives, the decision-makers themselves can understand the task of the planner. As a group who also has a "wholeness view," they may want to suggest alternative syntheses to the planner.

To meet this objective the planner must:

1. organize the materials into a comprehensive report consisting of alternatives as modified by each subsystem followed by the reactions of the subsystems to other subsystems' alternatives.
2. submit the materials under one cover to the decision-makers along with an explanation of how the materials will be used in the synthesis phase.
3. solicit decision-makers' reaction to the materials and any suggestions they have on use of the material.

**Synthesis Objective 2**

To bring subsystem plans together into various blends of educational program.
Only by working with the alternatives can the type and range of syntheses be determined. Speculation at this point sees the syntheses as recognizing method, organization, and individual subsystem optimization.

Preparation of syntheses is a highly creative task. There is no reason to believe that a planner can create all of the possibilities, or even a majority of them. Certainly, the planner cannot afford to be beyond asking help. The use of specialists at this level is called for as much or even more so than in subsystem planning. Whether such help is available may be more of a problem.

If the preparation of alternates by the subsystems is not a new task, most assuredly, a synthesis of alternatives is new. There is no precedent on which to rely, no pattern to follow. This procedure is a virgin endeavor. A similar procedure has been used in government and, quite possibly, in business and industry. The planner will have to move out of the field of education to get consultation on how to proceed.

The results of his effort in this regard must be shared with the subsystems for their reaction. The interpretation by the planner of an item in an alternative or even an entire alternative may have been in error. A means must be formulated which reduces error or misinterpretation.

Sharing at this stage of school system plan development also increases the involvement desired of staff. Planning proceeds on the basis of compromise and consent. What is not accepted or understood has little chance of being implemented, at least, implemented successfully. Although the subsystem cannot make the final decision will be on the school system
plan or even its role in the plan, the subsystems must be involved as closely as possible to the point of decision. Seeking reactions to syntheses before they reach the decision-makers moves the subsystem closer to the decision.

Another reason for sharing the efforts on syntheses is to improve the syntheses to be presented to the decision-makers. The planner is not infallible or all-knowing. He can benefit from constructive criticism just as anyone should. He seeks reaction to his work for the purpose of making necessary changes prior to presentation to the decision-makers. The syntheses are prepared to help make the vital decision on educational program more objective. Any procedure which improves the syntheses should be utilized.

To meet this objective the planner must:

1. analyze the alternatives for elements which are common in a number of different alternatives and assess whether the commonalities of elements offer the possibility of providing a foundation for the total educational program.

2. analyze the alternatives which did not offer input into the commonalities of elements and search for agreement within these alternatives.

3. analyze the alternatives which have not provided input into either synthesis developed thus far and assess whether the alternatives remaining deserve further analysis, and if so, prepare the syntheses required.

4. prepare alternatives for subsystems which do not provide input into a particular synthesis, showing how the subsystem might operate within that particular synthesis.
5. assemble the syntheses developed, each under a separate cover, and distribute them to the subsystems for reactions.

6. modify the syntheses as required, assess the strengths and weaknesses of each synthesis, and estimate the cost of each synthesis.

7. present the syntheses to the decision-makers; include assessment of strengths and weaknesses, costs, and any criticisms offered in subsystem reaction which were not satisfied in the modification of the syntheses.

**Synthesis Objective 3**

To finalize the decision on educational program to enable subsystems to refine the planning on the alternative selected.

Ultimately, a decision has to be made on what the school system is going to do with and for its young people. The educational program expresses that decision. The syntheses have provided the decision-makers with alternative means to realize the goals of the school system. The decision-makers must now decide which of these means will be implemented.

There is always the possibility that the decision-makers will not be satisfied with any of the proposed syntheses. Supposedly, by being involved in goal-setting, selecting goals, and receiving the complete list of alternatives, the decision-makers have been informed and involved, and satisfied with progress. However, they may want other syntheses developed or want more expanded information in certain areas. They may direct the planner to redo any or all of the steps of the planning process.
The decision-makers represent the community. They have great responsibility. They have the right to ask for additional data or redevelopment of any of the syntheses. The planner must caution the decision-makers, however, on the dangers of indecision and of the threat it poses to interest and involvement. More might be lost through participant frustration and apathy than will be lost through moving ahead. The planning components of adjustment, modification, and redevelopment may ease the minds of the decision-makers and allow them to approve moving ahead on one of the syntheses.

To meet this objective the planner must:

1. explain any alternative or component of an alternative as requested by the decision-makers.
2. offer suggestions and recommendations when requested.
3. provide explanatory data when required.
4. redevelop syntheses or further expand syntheses as requested.
5. obtain a final decision from the decision-makers on the synthesis selected.

**Service Goal**

Developing the service systems which advance the implementation of the educational program.

The service systems take two different forms. First, there must be a plant, a complex of building and grounds, which serves the educational program. Second, there must be an administrative organization which serves the educational program. Implementation of the educational program must involve coordinating the program with plant and administration.
Service Objective 1

To provide the decision-makers with the information valuable to them in making decisions on long-range, immediate, and short-range building projects.

School plant planning and its components of educational planning and educational specifications activities are considered a part of the school system plan. The plant must accommodate the educational program. The plant must not just house pupils and teachers. It must house all of the activities, facilities, service elements, and equipment which are required to conduct the educational program. Just as a school system is only as successful as the least successful of its subsystems, so the educational program is only as successful as the weakest of its elements. The plant must not in any way add to or cause development of a weakness.

During the subsystem planning phase there can be some progress made on school plant planning. The organization of the planning effort may recognize the school plant as one of the subsystems. Data can be collected and thinking begun on plant while educational program planning is being conducted and finalized. By keeping in contact with the subsystems and the school system planner, those interested in plant can receive information valuable for plant planning and at the same time offer information valuable to the subsystems and the school system planner. When educational program planning is finalized, completion of the school plant plan should not require an extended period of time.

To meet this objective the planner must:

1. determine the school building needs as dictated by the educational program; enrollments, present and future; and the adequacy and life expectancy of the present buildings.
2. develop alternative school plant plans—long-range, short-range, and immediate—giving due consideration to the required phasings of the elements in the ultimate educational program.

3. prepare cost estimates of the various alternatives.

4. present the alternatives to the decision-makers and explain, expand, or redevelop alternatives as requested by the decision-makers.

Service Objective 2

To provide the decision-makers with the information necessary for them to make a decision on the administrative organization that will serve best the educational program.

The educational administrator today is in the unenviable position of not really knowing his position. Professional negotiations which tend to bypass the administrator has created a situation whereby the administrator, rather than being caught in the middle, is being squeezed out of the middle. Administrators are seeking a solution to the management versus labor struggle in education. School system planning may help in easing tensions, and provide a much needed direction.

Suggesting that the administrative organization is perpetrated to service the educational program focuses the attention and effort of the administrator. In the development of the subsystem alternatives, the subsystem detailed what it intended to do, in what manner, and with what resources. The administrator can get some specific direction from these subsystem plans on his purpose and functions. He must see that the subsystems are provided the materials they require. He must see that the
materials are used as planned. He must insure that the subsystems are doing what they said they would be doing. He must give leadership when possible, encouragement when useful, and direction when needed. Who does this and how are in essence the bases for administrative organization.

The final administrative organization cannot be decided upon until the educational program is completed. However, like plant, much data collection and initial planning can be done during educational program planning.

The educational program developed may require an administrative organization quite different from what is normally thought of as administration. The time and dramatics of negotiations may require a break from tradition and the creation of a new administrative structure. Indications at present would support the need for administrative change—negotiations as mentioned; the seemingly ever present criticism of the administrator by teachers, even non-militant teachers; the evaluation and accounting functions being advanced by federal projects; the exceedingly great pressures on big-city administrators and subsequently large turnover in these positions; similar conditions on college campuses—to name a few. Alternative administrative organizations provide the administrators with a way to look at new structures without losing face or condemning the old. It also provides the teachers with a way to offer suggestions without resorting to strikes or other major crises. Administrative organization requires planning and creativity and improvement just as all of the other elements of the school system.
To meet this objective the planner must:

1. organize the administrators into a group which studies the educational program and determines how the administrators can serve the program.

2. assist the groups in developing alternative means of administrative organization which serves the educational program.

3. insure that each administrator is provided an opportunity to react to the alternatives proposed.

4. detail the alternatives selected including costs, and present them to the decision-makers.

**Support Goal**

Developing a financial plan which supports the educational program and service systems.

The school system does not operate on good intentions. It operates with money, often with an inadequate amount of money. A plan must be prepared which provides the greatest amount of money possible, and promotes the most economical use of that money. The hypothesis being forwarded in school system planning is that if a good educational program and good service programs are prepared which advance goals as determined by the community, the community will provide the money needed to implement them. Further, that when implemented the educational program is successful, more money will be provided as needed.

**Support Objective 1**

To provide the decision-makers with the information they need to make a decision on the immediate and future financial plans.
In the subsystem planning phase, the subsystems were directed to detail planning for the first two years of implementation. Part of the detail consists of estimated costs of the plans. The service system plans also include projected costs. The purpose of the financial planning is to coordinate the costs with the expected revenue and potential revenue. All of the sources must be considered—national, state, local, private—and alternative means developed to get the best blend of the four. Limited amounts are available from each source. This condition requires that no duplication be allowed, that the maximum amount which advances the educational and service systems be secured from each source.

In addition to the blending of all of the sources is the need to develop phasings of financial need and procurement. The school system plan is a preparation for the future. All subsystem plans must offer estimates of future costs of the plans. These estimates are used in financial planning to prepare for needed renewals or increases in tax rate, funding and refunding of federal projects, bond issues, and applications and reapplications for private funding.

Gaining support for the school system plan hinges on the realism of the financial plan. All of the elements of the plan cannot be implemented at one time. The community cannot be asked to double or triple its support overnight. Nor should the financial plan call for a substantial increase in taxes every year. Alternative phasings should be prepared for the purpose of providing the decision-makers with a variety of ways to support the education program and its service systems.
To meet this objective the planner must:

1. assemble the cost estimates from the various subsystems and service systems, and order the elements relative to the phasings required for the ultimate realization of the elements.

2. categorize costs under each financial source which may provide funds.

3. analyze the financial data for the termination of levies, bond issues, and federal and private funding.

4. prepare alternative financial plans which coordinate the needs with the sources of revenue, respecting the phasings and future year costs.

**Support Objective 2**

To receive from the decision-makers the final decision on the financial plan to be followed.

From the data on needs, sources, blending of sources, and phasings of programs, the decision-makers must select a financial plan to be implemented. The financial plan must contain flexibility. Fluctuations in dollar value—infation, recession, cost of living—have affect on the buying power and affect the validity of the plan. If there is one component of the school system plan which requires careful monitoring, it is the financial plan. Just as the educational program is the heart of the school system plan, so the financial plan provides the blood which must be pumped continuously into and out of the school system. Not enough being carried in or too much being carried out jeopardizes the school system plan.
To meet this objective the planner must:

1. present alternative financial plans to the decision-makers.
2. explain plan items, gather additional data as requested.
3. redevelop or expand plans as requested.
4. obtain decisions on the financial plan to be implemented.

At this point in the school system planning process a plateau has been reached. The school system plan has been developed. It consists of the school system goals, the educational program, the service systems, and the financial plan. These four elements blended together into an integrative unit are the school system—why it is, what it is, and how it is. The process of school system planning is far from over, however.

The plan is of little value if it is not implemented. The decision to implement, however, does not reside with the planner. Nor does the actual act of implementing. Rather, the decision to implement comes from the decision-makers and the implementation is performed by the subsystems. The planner should function in the procedure as a resource person, a clarifier and interpreter of plan elements. He answers more the "why" questions rather than the "how" questions.

The school system plan is but one of the goals of the planning process. Each step leading up to the finalizing of the plan is also a goal. Equally important are the goals which need to be realized after the plan is implemented. To the planner these goals are the ones insuring that the plan progresses smoothly, improving the plan, and preparing for the next plan. These goals consist of adjustment, evaluation, and modification.
**Adjustment Goal**

Providing a means by which subsystem plans can be adjusted.

One of the major constraints that can block the success of the school **system** plan is that of assumed rigidity. The plan or any segment of the plan must be amenable to change. There is no assurance that, even with the meticulousness by which the subsystems' plans are developed, minor but significant items are not omitted. Equally possible is that some major piece of data changed in the interim between plan development and implementation. A subsystem must be able to improve its plan at any time. Change in data, results of evaluations, or problems encountered in operation may dictate that an adjustment is warranted.

On the other hand, the subsystems must not be permitted to violate the subsystem plan. Pressures are great on school people, all the way up the line from teacher to board member. There is a temptation to try to ride with the tide, roll with the punches. Such a procedure results in no real pattern being followed, no real purpose or goal being achieved, other than that of dancing to someone else's tune. If frequent changes and changes of short duration are permitted in subsystem operation, the objectives of that subsystem may never be achieved. Adjustments must improve the subsystem plan, the plans of the other subsystems, and the **school system** plan or, equally important, adjustments must not be detrimental to the plans of the other subsystems or the school system. Within these constraints, adjustments may be made.
Adjustment Objective I

To encourage the improvement of subsystem plans.

The purposes of this objective are two-fold. As stated, the planner is not directly involved in the implementation stage, but he is interested in the implementation. He needs to keep contact with the subsystems during implementation. He needs to keep track of progress. In addition to monitoring, this objective also initiates the adjustment goal.

The planner can monitor the progress of the subsystem plan by asking for periodic progress reports from the subsystems. The reports must be kept simple if they are to be prepared frequently. Representatives of the subsystems cannot be writing progress reports every week or two. A form can be prepared for reporting progress. The planner will use the form to keep in contact with the subsystems and to monitor progress.

To meet the second part of this objective, the form must provide a place to list needed adjustments. Indications can be made whether the adjustments need to be made immediately or can be subjected to further study.

A procedure must be developed for giving approval of the adjustments. The director of the subsystem may be able to decide on the value of the adjustments. The planner may be able to decide what effects the adjustments might have on other subsystems.

To meet this objective the planner must:

1. prepare a brief document which stresses the need for adjusting the subsystems' plans when necessary but emphasizes the dangers of frequent and unsuccessful adjustments.
2. prepare a monthly progress report form which contains a place to offer needed adjustments.

Adjustment Objective 2

To provide a means by which adjustments are approved by the other subsystems and the decision-makers.

There must be a formal process for adjustments for three main reasons. One, a formal procedure tends to disuade the attempt to adjust plans. If no formal procedure is required, the plan can be violated too easily. Second, a formal process adds stature to the adjustment which is accepted and increases the chances of the adjustment being desirable and successful. This asset alludes to the "two heads better than one" adage. An adjustment may look desirable to the person who thinks of it. Subjecting it to the opinions and study of other tests it and strengthens it. Submitting the adjustment to the planner and to the other subsystems provides such a test. Finally, a formal procedure gives those supporting the adjustment recourse if the adjustment is disapproved by someone short of the decision-makers. Not all decisions on adjustments should make it to the decision-makers. Some will be dropped in the subsystems. Some will be dropped due to the recommendation of the planner. If the subsystem or subsystem representative feels the adjustment is worthy of more consideration, he should be able to submit the adjustment to the other subsystems and even to the decision-makers if necessary. Innumerable ideas which once were deemed foolish or impossible have turned out to be desirable. A process as complex as school system planning should not deny the possibility of such a development.
To meet this objective the planner must:

1. develop a formal change procedure consisting of request for adjustment, recourse if adjustment is denied by the subsystem, means of getting reaction from other subsystems, informing the decision-makers of the adjustment, and permitting them recourse if they do not approve of the adjustment.

2. obtain administrators' and decision-makers' reaction to the proposed change procedure.

3. finalize the change procedure and distribute copies of its description and operation to the subsystems.

**Evaluation Goal**

Evaluating the progress and the product of the many segments of the school system plan, and of the school system plan itself.

Evaluation of the school system plan involves both self-evaluation and formal evaluation. It involves evaluation of the progress and products of the plans. The purposes are (1) to determine the success of the subsystems in meeting their objectives and the school system meeting its goals, and (2) to provide data for the detailing of the next two-year module.

**Evaluation Objective 1**

To provide a means by which the subsystem plans and the school system plan are self-evaluated.

Self-evaluation is a highly valuable tool. It forces the participant to look at what he is doing and how well. He can look back at where he has been, review what he has done, and assess where he is against the criteria set. He may not be able to measure the finite degree of output, but he can measure a degree of success or failure.
Within the component of plant the task of self-evaluation may be easier. Building construction and remodelings can be viewed. Progress on future construction or remodeling already approved can be listed. Numbers of pupils housed can be tabulated. Qualitatively, evaluation may be more troublesome, but as in educational program, degrees of success or failure may be definable.

Financial plans can be self-evaluated by recording the number of levies or bond issues passed, the amount of money received and expended, the applications approved, and the projects funded or refunded. The readiness for upcoming phasings can be assessed—proposed levies, applications, and refundings.

The administrative organization plan can be self-evaluated by reporting the number of conflicts, crises, and the number of tasks achieved. In addition, administrative organization is tied into the self-evaluation of the educational program with the same constraint on qualitative measurement.

The school system planner must self-evaluate the total plan. He can look at adjustments required, conflicts which have arisen, notable progress of subsystems, decision-maker satisfaction, number of crises, community reaction. His self-evaluation may be the most subjective of those conducted, but nonetheless valuable to him.

These self-evaluations in actuality occur continuously throughout the year. At the end of each year, the evaluation should be completed to enable adjustments to be made in the following year of operation. Brief but concise evaluation reports should be filed with the school system planner and stored in the data information system for future use.
To meet this objective the planner must:

1. prepare a short but concise monthly progress report form; include on the form estimates of progress toward achieving objectives and toward the level of plan development sought during the first year's operation.

2. prepare a form for a comprehensive self-evaluation by the subsystems; work with the subsystems on the development of the form which includes measurement based on the criteria, completion of phasings, adjustments needed and those applied, problems or crises faced, and unresolved concerns.

3. collect and file self-evaluations and progress reports in the data information system for use in future planning.

4. the planner will conduct a similar self-evaluation of the school system plan using the progress reports and self-evaluations of subsystems as part of his data; he must also assess subsystem coordination and cooperation, adequacy of support, community/decision-maker satisfaction, crises faced, and potential modifications.

**Evaluation Objective 2**

To provide a means by which the subsystem plans and the school system plan are formally evaluated.

Often it is impossible to "see the forest for the trees." Someone too close to an activity has the tendency to be either hyper-critical of "hyper-approving" of it. There is support for the belief that the one who prepares and implements an activity should not be responsible for evaluating it.
Evaluation is not a simple task. It requires knowledges, skill, and abilities for which special training and competencies are required. The formal evaluation should be conducted by someone outside of the school system, by a team which contains an evaluation specialist. The formal evaluation should be conducted at the mid-point of the second year of a two-year module. It must be completed in time for data from the evaluation to be used in the development of the detailed planning for the second two-year module.

The school system plan needs to be evaluated. It, too, requires someone to evaluate it other than the planner for the reasons suggested previously. Evaluation of a school system plan is a new task and requires the selection of evaluators, some of whom should be outside of the field of education. The evaluation team requires the inclusion of an expert on evaluation and an expert in the planning process, as well as members who can grasp the totality of the school system. This evaluation should occur at the same time as that of the subsystems. The evaluation may result not only in adjustments in the subsystems but also in modification of the school system plan. The data from the formal evaluation are to be stored in the data information system for use in future planning.

To meet this objective the planner must:

1. recommend to the decision-makers evaluation teams to evaluate the subsystem plans and the school system plan.

2. provide each evaluator with copies of the subsystem plans, progress reports, and self-evaluations, and with a copy of the school system plan.
3. schedule the formal evaluations to be completed and reported in writing between February 1 and April 1 of the second year of plan operation.

4. distribute the written evaluations to the decision-makers and the subsystems, and file the written evaluation in the data information system for use in future planning.

5. analyze the evaluations for recommendations suggesting adjustment and modifications of the plans.

Modification or Redevelopment Goal

Providing a means by which the school system plan can be modified or redeveloped.

Earlier in the dissertation mention was made on the permanency of goals. The position taken was that goals can be challenged. The school system plan must provide the freedom and procedure to allow for such change.

In addition, there is no reason for the planner to believe that the school system plan is perfect and not in the need of improvement. Omissions in the planning process, changes in base data, advances in technology—all can create a need for modification or redevelopment of the school system plan.

The difference between modification and redevelopment lies in the permanency of goals. If there is a change of goal, there is a need to redevelop a new system plan. If the goals are not changed, the recycling starts at the subsystem level and is modification rather than redevelopment. Redevelopment requires a change in goals, a high level change. Adjustment is an operational change which does not require replanning. Modification requires new planning and may result in major changes in subsystem operation.
Modification Objective 1

To provide a means whereby goals can be questioned and their relevancy assessed.

Periodically, the goals of the school system must be assessed for their relevancy to the times and for the possibility of their attainment. The assumption is that if the objectives developed in the subsystem are achieved, the goals of the school system are achieved. At some point in the progress of the school system plan, the goals themselves must be studied.

In the cycle being proposed, there are three two-year modules. During the fifth year, an organized, formal assessment of the goals should be undertaken. If the goals are deemed valid and no changes are made in them, the sixth year of the cycle can be directed toward modification and adjustment as the needs dictate. If the goals are deemed invalid, the sixth year will be devoted to the goal-setting phase which initiates a redevelopment of a new school system plan.

To meet this objective the planner must:

1. early in January of the fifth year of operation of the plan, distribute the original document on goals to the community groups which participated in the dialogues; highlight the goals which were selected.

2. distribute data on the progress and products of the plan and any significant changes in base data which have resulted in modifications and adjustments to the original plan.

3. schedule dialogues with the community groups to discuss the relevancy and adequacy of the goals being used.
4. obtain reactions from the group on the need to change, amend, or add goals.

5. gather all of the reactions and suggestions provided during the dialogues on goal adequacy and relevance and assess whether a redevelopment of the school system plan is required; if so, begin organizing the recycling of the school system planning process.

6. If not, analyze the material gathered from the community for suggested modification of the school system plan or of a subsystem plan; begin the recycling of the school system planning process at the point of needed modification.

Modification Objective 2

To provide a means by which major changes can be made in the school system plan or in any of the subsystem plans.

Addition of goals and changes in base data result in the need for modification of the plans. An example of a change in base data would be that of a large industry moving into the community, causing a significant increase in pupil population. The new industry would dictate the need for a modification of both the school plant plan and the financial plan. The school system plan must be flexible enough to recognize, accept, and adapt to major changes in the community. Failure to do so will result in the loss of respect and support for the plan.

Modification may require the extreme from restating the objective of the subsystem and the subsequent replanning which that entails, down to partial replanning within a subsystem. The breakdown between modification
and adjustment is that point at which merely changing some phase of operation is insufficient and a replanning of that phase is required. For example, adjustment may call for a change in scheduled time for a pupil experience, say from one hour a week to two. Modification may call for a total rescheduling of the whole subsystem or department within a subsystem. Modification in this case would require developing alternatives, considering consequences, studying interrelationships; many of the same procedures required in the original planning.

To meet this objective the planner must:

1. continuously update base data and analyze the data for implications on the subsystems' plans or the school system plan.

2. share the change in data with the subsystems and obtain a reaction from them on implications of the new data on the subsystems' plans.

3. assess whether the data require a modification of the subsystems' plans and the school system plan.

4. if so, initiate the recycling procedure at the point of the planning process where modification must begin.
CHAPTER 5

COMPETENCIES FOR SCHOOL SYSTEM PLANNING

In the development of the objectives in Chapter 4 a number of required actions of the planner followed the discussion of each objective. Analysis of these required actions along with a consideration of the implications of the goals and objectives lead to the recognition of competencies needed by the planner if the school system plan is to be completed.

General Education

School system planning is comprehensive educational planning at the local school district level. A needed competency is that in education, and what education includes at the local school district level.

So much that the planner does is in the field of education that even a brief discussion of it seems superfluous. However, because his work with teachers and other school staff personnel is so important, reviewing some of the tasks which require expertise in education is in order at this time.

Of prime importance to the planner is his competence to work with the subsystems in the preparation of alternatives. He must know the objectives of the subsystems, what their resource needs are, and how the subsystems interrelate. He must be able to talk the teachers' language, react to questions, ask questions himself, and assess quality of work progress.
He must get the feel and understanding of what the teachers, counselors, administrators, and supervisors are trying to develop.

Implicit in this knowledge of teachers and teaching is the knowledge of children. In reality, all that is being done in school system planning is being done to help children learn. Although the planner may work indirectly toward this goal, he must not lose sight that, ultimately, the children are the prime recipients of the successes of the planning process, as well as the prime casualities of its failures.

The synthesis phase requires the competencies of an educational generalist. During this phase the planner must work with the alternatives of each of the subsystems. He must assess the feasibility and worth of each alternative. He must recognize or develop interrelationships. He even may have to develop alternatives for subsystems.

The service phase requires that the planner be knowledgeable and competent in school plant and administrative organization. He must be able to work with or even be a school plant planner, and work with and understand school administrators. He must be able to communicate and create in these two areas of education.

In the support phase the planner must know school finance. He must be able to work with clerks, treasurers, business managers, and auditors. He must know school finances, the regulations and limitations, state foundation programs, federal aid provisions, and funding foundations.

Another major consideration which prompts the plea for an educational generalist in the planner's role is the possibility of the superintendency
and even the principalship being occupied by non-educators. In Ohio, just recently, the Association of Superintendents removed itself from the Ohio Educational Association. The gap between teachers and administrators seems to be widening. Only time will tell whether the end of the turmoil will result in an educational administrator with no professed or desired competencies in education. If such does develop, who is to be the educational generalist? Who is to see and understand the whole of the school system? Who is to attack the fragmentation which administrator/teacher separation might create? School system planning and the school system planner might fill such a dangerous and undesirable void.

**Organization**

Much of the success of the planner will depend upon his ability to organize data, to sequence and schedule activities, and to bring the right groups of people together at the right time. Analysis of the required actions of the planner results in eight major tasks which require organizing skills:

1. organize the planning effort.
2. organize the community and school staff for dialogues on the goals of the school system.
3. organize meetings, programs, and large-group sessions with community and school staff.
4. organize the bringing together of participants in the planning effort.
5. organize the development and use of the data information system.
6. organize the change procedure.
7. organize the evaluation procedure, self-evaluation and formal evaluation.

8. organize the planner's own work and data.

Creativity

Any time something new is developed there is the opportunity to be creative. Alternatives are developed when preparing a school system plan. Whether the alternatives are creative depends upon the amount of freedom to create, the creative skill or talents of the planner himself, the creative skill of the participants in the planning effort, and the ability of the planner to bring forth the creativity from those in which it resides. Creativity is possible and called for in:

1. the development of the school system plan itself, the entire process.

2. the innovative or experimental means of working within state rules and regulations.

3. the preparation of alternatives by the subsystems.

4. the syntheses of subsystem alternatives.

5. the development of subsystem alternatives by the planner.

6. the development of school plant plan alternatives—long-range, immediate-action, and short-range.

7. the development of alternatives for administrative organization.

8. the development of alternative financial plans.

9. the development of the change procedure.

Human Relations

School system planning is a cooperative/coordinative endeavor. It requires the planner to contact and work with a variety of people. Analysis
of the required actions reveals that the planner has contact with:

1. the decision-makers.
2. the planning staff.
3. specialists and consultants.
4. clerical staff assisting the planning participants.
5. U.S. Office of Education personnel.
6. state department or agency personnel.
7. school staff of other school systems.
8. community institutions and agencies.
9. the school attorney.
10. the representatives to the state legislature.
11. directors and participants of conferences, workshops, and seminars.
12. housing developers and contractors.
13. local government officials.
14. local civic groups and service clubs.
15. state, regional, and local planners.
16. school public relations man.
17. total faculty of the school system.
18. administrators.
19. pupils.
20. teacher training institutions.
21. pupil personnel staff.
22. clerk/treasurer and/or business manager.
23. citizens of the community.
The planner has many roles to play. With some he must be the leader. He must be dynamic and forceful. He must be an authority, and he must act like one. With others he must be passive. He must listen rather than talk. He must know what he needs from the group. He must lead the discussion toward the needed information. To some he must be persuasive. He must sell what he is doing. He must show need, and what he has to offer. He must overcome opposition, reluctance, or apathy in the participant. School system planning requires participation and involvement from numerous people of varied backgrounds, abilities, and interests. The planner must be able to work with all of them.

Communication Arts

The arts of communication relate very closely to the competency of human relations. Many of the people whom the planner contacts will have an interest field outside of that of education. Their time is valuable and, although they may be willing to give an abundance of time to the planning effort, they want the planner to be brief but efficient in his work with them. Being ill-prepared not only reduces the chances of receiving what is desired but also wastes the time of the person contacted. Being able to state the problem and need clearly, and to request information in an understandable fashion is a great asset to the planner.

Communications also relates to the way a required task and scheduled deadline is accepted by the planning participants. Analysis of the actions reveals a number of deadlines to be met by planning participants other than the planner. The decision-makers have to make decisions before subsequent planning phases can be completed. Community groups and school
subsystems are asked to react to material and modify their own material. Individual citizens are asked to participate in an endeavor about which they may have little interest or understanding. The communications skills of the planner will be taxed to the limit to get the involvement necessary and the actions required.

Success in human relations and efficiency in performing his required tasks demand that the planner be a good oral communicator. He must be able to speak to large groups, small groups, and individuals. He must speak formally and informally. He must explain, inspire, question, react, criticize, and recommend. He must speak to pupils, parents, teachers, administrators, and lay citizens. He must speak correctly yet on a level which can be understood by the communicatee. Much of the success of school system planning will depend upon the oral communication skills of the planner.

Writing is one of the arts of communication. The importance of written materials produced by the planner is so great that the writing task is given singular importance. Analysis of the actions reveals the variety and magnitude of the writing required:

1. a statement on the need for school system planning, what the school system plan is.
2. the document on the goals of the school system.
3. a brief interpretation of the goals of the school system.
4. the initial document assembling the subsystems' alternatives.
5. the final document on subsystems' alternatives.
6. the original document on the syntheses.
The type of writing the planner must do is varied. His writing must explain, direct, interpret, and persuade. He must write to audiences of educators and non-educators, to citizens who are supportive and citizens who are critical. He must be able to communicate in as few words as possible, yet keep the attention of the reader when more extensive writing is necessary. To be able to write easily and understandable is a distinct asset to the planner.

Analysis

Unfortunately, just having data does not guarantee anything. What do the data tell? What implications do they have? How can they be used for the purpose of preparing a school system plan? The planner has a major role to play in the use of data just as he does in the collection of data.

Much of the data collected during the development of the data information system will be used by the subsystems in their planning. The planner has the obligation not only to provide the data to the subsystems but also to assist the subsystems in analysis. One of the main reasons
why the planner should attend as many subsystem planning sessions as possible is to insure that the planning is based on valid assumptions and factual data. Much time will be lost if a subsystem is permitted to plan without regard to the proper use of data.

Much of the other data, that which comes to the data information system as the planning effort progresses, is much more complex. The qualitative data from community requires a specialist on community analysis to decipher and interpret. The alternatives of the subsystems are complex data which the planner uses in preparing syntheses. The self-evaluations and formal evaluations provide additional data which require analysis and interpretation. He must have the knowledges, skills, and abilities to perform this function.

**Evaluation**

The planner is involved actively in the evaluation process. First, he works with the subsystems in the preparation for self-evaluations and in the analysis of the evaluation for necessary adjustment or modifications in the subsystems' plans. Second, he performs the self-evaluation of the school system plan. Third, he works with the evaluation team in the formal evaluation of the subsystems' plans and the school system plan. All of this active involvement in the evaluation process requires that the planner has some knowledges, skills, and abilities in evaluation. When the tasks of criteria development and the selection of an evaluation team are added, the task area of evaluation becomes even more formidable. A planner who does not have a competency in evaluation endangers the development and the permanency of the school system plan.
Planning

The school system planner must be an educator, an organizer, a creator, a communicator, an evaluator, and an analyst. Any one of these roles is worthy of specialization. In fact, if an organizer may be defined as an administrator, only the creator is not a specialized work field. School system planning is a complex process which requires the effort of many people. Some of the people will be laymen to education and to planning. Some of the people will have expertise in particular subsystem areas and in specific skills. The planner cannot be expected to have the same type of competency as the expert, but he must have enough knowledge to work with the expert and to guide the efforts of the expert toward ends required by the plan.

There may be times, however, when the size and financial ability of a school system will deny the use of specialists in the planning effort. The planner will be required to be the expert in the many tasks. The citizens of the community, the board of education, and the school system staff will look to him for analysis, evaluation, and creativity. With this qualification on the limits of his expertise, the planner must be competent in some highly specialized areas.

Setting Goals and Objectives

Review of the literature on systems analysis highlighted the need for the analyst to seek answers to the "ought" questions. Mention has been made of the constraint of poorly defined and conflicting goals. The planner has a prime function to perform in the establishment of goals for the school system and objectives for the subsystems.
Goals are the guiding lights for the planning process. The planner must make sure that the goals are real and comprehensive. His work in the goals function is to make sure that more than "lip service" is given to goal development. He must analyze data on community, interpret data and read between the lines. He must draw out the shy, the belligerent, the uninterested, and obtain useful reactions from them. He must insure that minority groups are involved, that young people are involved, and that community leadership is involved. He must know "people" and groups of people.

He must force community to look deeper than surface reactions. He must force them to interpret the meaning of the goal, the implications of the goal, and the consequences of the goal. He must force them to consider other people and other groups and the effect of the goal on them. He must insure that the goal is really desirable, really valid, and has some possibility of being achieved.

Objectives direct the activities of the subsystems just as goals direct the activities of the school system. There is the same danger that the setting of objectives will not be given serious and in-depth study. Objectives must relate to goals. They must be for the purpose of advancing the goals. Each subsystem will be challenged to insure that objectives meet this criterion.

The planner must work with the subsystems to insure that proper and purposeful attention is given to objectives. He must assess those developed, give his reactions, and prod the subsystems to delve into the implications and consequences of the objectives. He must require them to consider relationships, both to in-school groups and community groups. He must insure
that policies and regulations are considered. He must prohibit the subsystems from moving on in their planning until the objectives are valid and comprehensive.

Preparing Criteria

Emphasis in evaluation requires that some standard be set by which to measure the attainment of an objective. The planner must help the subsystems in the preparation of criteria. A weakness in education has been the failure to develop measures of its product. Much emphasis is being placed on the output of education. Efforts in this area must be applied in the preparation of subsystem objectives and criteria. The criteria must spell out the conditions which must be met for the objectives to be achieved. The criteria must be quite detailed and specific and will require extensive study. The planner will play a lead role in the preparation of criteria.

Preparing Alternatives

Goals, objectives, and criteria give the school system direction. Alternatives give the school system choice. Planning requires the preparation of alternatives in all areas of endeavor. Selecting goals from the array collected is really choosing from alternatives. Alternatives are prepared in all of the subsystems, in the service systems, and in the financial planning. The emphasis on alternatives is a challenge to school systems and educators who may have become set in their ways. The challenge society is giving to education to prove the validity of its methods and content has caused educators to assess what they are doing. The results of the assessment have not been too complementary. Research has directed attent
to new concerns, the pre-school age and the minority groups. The romantic critics are bemoaning the process and product of the schools. Individualized instruction is being advanced, and new organizing for pupil contacts and groupings are being offered.

The planner must require that alternatives be varied and feasible. He requires that the alternatives be developed far enough to assess feasibility. Those which are feasible must be detailed further so valid comparisons can be made. The planner assesses alternatives, aids in preparing alternatives, and prepares alternatives himself. He must be knowledgeable in all of the areas of subsystem, service, and finance to assess and prepare alternatives in them.

Performing Cost-Effectiveness Analysis

A choice must be made among the alternatives prepared. Cost-effectiveness analysis can provide valuable information toward the making of the choice. The feasible alternatives have been prepared and detailed to permit a comparison to be made. Objectives and criteria have been developed. Costs for plan implementation and operation and future-year costs have been estimated. The planner must use these data to provide information on the best alternative when considering both output and costs. The least expensive alternative need not be the most economical one. Even a little money spent for nothing is money wasted. The most expensive alternative need not be the best one either. Money alone does not guarantee product. Only by considering cost and program together can a valid decision be made on the best alternative.
CHAPTER 6

SUMMARY

Educational planning has different meanings dependent upon the context in which it is used. Many times the context is related to the governmental level where the planning is performed. Educational planning on the national level has different goals than does educational planning at the local level. The purpose of this dissertation was to define comprehensive educational planning at the local school district level. To avoid using educational planning to name planning on all levels, a new term, school system planning, was devised to name the planning process on the local school district level.

School system planning is comprehensive in that it requires planning for all elements operating within the school system. It is educational planning because the heart of the school system plan is the educational program to be conducted in the school system.

Planning for education at the local level requires that a framework be developed which directs the planning and clarifies relationships. Recognition was given to the directives, influences, and pressures which both interior and exterior elements have on school system planning. In addition, the school system itself directs, influences, and pressures elements both inside and outside of its boundaries.

From the recognition of relationships, a three-tiered framework of strategic, tactical, and operational educational planning was created.
School system planning is tactical planning. Tactical planning respects that which is on a higher governmental level, and also respects that which is a part of the school system. The school system is a part of the state educational system. The school system is also just one of the systems operating within the community. In addition, the school system itself is composed of subsystems. Tactical planning requires that each system must respect the large system of which it is a part, while at the same time respecting a degree of autonomy for each system, large or small.

School system planning promotes cooperation of the school system with other elements of the supersystem. The school system should not be permitted complete autonomy. It must relate with other systems in the state and community.

School system planning also promotes coordination of the subsystems. No subsystem can be permitted complete autonomy. It must relate to the other subsystems and to the school system.

In addition to the values of cooperation and coordination, school system planning helps to place the school system in an advocating rather than a reacting position. Planning helps to prepare for the future. It helps to develop the future. The school system must do more than simply carom amid the pressures of the day. School system planning requires that the school system have a direction; that it have goals and objectives. Planning requires that the resources of the school system, both material and human, be utilized most effectively toward the realization of the goals and objectives.
How the school system can realize the values of planning, and how school system planning can be performed within the framework were detailed in the development and clarification of the goals of school system planning. Preparation for planning insures that the ends and means of planning are considered. Developing school system goals gives direction to the planning effort. Suboptimizing, synthesis, and service system planning insure that the planning is comprehensive. Financial planning insure that adequate resources are available to implement and operate the plan. Adjustment insures that the plan continues in operation and is improved. Evaluation is required to measure the effectiveness of the plan and to suggest needed changes. Modification insures that the plan is relevant.

The Planner in the Administrative Organization

School system planning is a complex, time consuming process. The magnitude of the planning effort requires that a full-time planner be a member of the staff. The complexity and the uniqueness of the process require that the planner possess specialized skills. All of these factors support a position of director of planning being created and filled within the administrative organization of the school system.

In considering the place of the planner in the administrative organization, two major conditions must be considered. First, the planner must not be permitted to become a power figure in the organization. Mention was made earlier in the dissertation that the school system plan should not be a one-man plan. The plan evolves from many
people and the interaction of many people. The planner must not be so powerful that the desired involvement, interaction, and reaction of the planning participants are dictated or manipulated. Second, the planner must have enough power to insure that the planning effort is respected and completed. The planner must have enough "clout," either direct or indirect, to receive participation from the school staff. How the planner is placed within the administrative organization will influence the amount and type of power the planner will possess.

Before moving into a discussion of the place of the planner, mention should be made of the relationships which should exist between the planner and the other staff members. Basic to the relationships is the ability of the planner to work with the other staff members. A position in an administrative organization means little if the person holding the position cannot work with the staff. Simply assuming a title guarantees nothing. Placing the planner in the organization provides that the planning effort has been respected to the point of securing a person to prepare for, direct, and complete the planning. The planner must secure and develop the staff, clarify the values to be received from the planning effort, and gain the cooperation of other staff members. These tasks require human relations skills which no staff position by title alone can give.

Several factors give direction to the placement of the planner on the staff. The planner will have a planning staff composed of both permanent and volunteer personnel. The permanent staff will in most cases be much smaller than the staff of any other school subsystems, i.e., business and maintenance staff or curriculum and instruction staff. These larger subsystems can have fifty to a hundred or more personnel. The volunteer personnel add a
unique factor. Many of the volunteer staff of the planning effort will be permanent staff in other school system elements, i.e., teachers, counselors, supervisors, and so forth.

Another factor is that the planner and his staff must have access into all of the subsystems which make up the school system. These subsystems are involved in developing goals and objectives, in the preparation of alternatives, in evaluation, and in adjustment and modification. The planning staff must have freedom of movement in and out of all of them.

The planner must use the channels of communication which a subsystem has established for administration and operation. The planner respects the organization of the subsystem and capitalizes on the data available through that subsystem. But the planner must be able also to move into the subsystem to gather additional data or gain additional involvement beyond that provided by the existing structure. He must not do so, however, with disregard or disrespect for the present structure.

Finally, the planner must be in a position where he can observe and analyze interrelationships within the school system. He must have access to the hierarchy of the system. Access at this high level also provides the planner with the stature needed for the planning effort.

All of the factors discussed require that the planner have a place in the organizational structure which respects the planning effort as a singularly important function. The planner must not be buried in one of the operating subsystems. The planning component must be outside of
an operating unit to insure that the planning is not dictated or con-
strained, and also to insure that the planning component has access to
all subsystems.

The planner must be a member of the superintendent's cabinet and
be involved in the workings of the cabinet. Being in this position provides
the planner with the needed stature and also provides access to the
operating units at the highest level. Needed clarification of the planning
effort and means of implementing and operating the planning effort can be
gained from the planner's presence on the cabinet. His relationships with
assistant and associate superintendents and his functioning within the
elements administered by them can be detailed and agreed upon.

The planner is in a position outside and above that of the operating
units. He is an arm of the superintendent, possessing the "clout" which
such a position provides. He is also a member of the superintendent's
cabinet through which his role is clarified and through which his power
is controlled. By being in such a position he has access to all operating
units without being controlled by any one of them. He has a channel of
communication to every element of the system, directly to the head of each
major element. He has a direct channel of communication to the superinten-
dent and easy access to the community. From such a position the planner has
the means to conduct a successful planning effort.

In smaller school systems where resources prohibit the type of
administrative organization suggested in the previous discussion, the
planner and the planning component must be located in the first administra-
tive unit large enough to support the component. For some systems the
largest unit may be a county office or educational service center. Other situations may require the planning component to be located in an intermediate unit, which could serve less than a county or a number of counties. The school system planner located in an administrative unit composed of a number of school systems must be placed so he has access to all of the school systems. He must work as an arm of the superintendent of the local school system. To gain access to the local schools, the planner must be a member of a cabinet which consists of the large unit head and the local superintendent. This arrangement is similar to that proposed for the larger school systems, but with the superintendents of the local schools making up the cabinet in place of the assistant superintendents as was the case in the large school system. The planner must take great care to see that the planning service is available to all local school systems, and not allow one school system to demand an unreasonable amount of his time. Also, if planning is desired on a county-wide or intermediate district-wide basis, it should not be considered school system planning, and should not take the planner away from his service to the local schools.

**Implications for Training Programs**

A framework and process for school system planning have been developed. The framework and process along with the competencies developed in Chapter 5 suggest that a special program is needed to prepare the planner.

**The Planning Process**

Competencies dealing with goals and objectives, criteria, alternatives, and analysis require that a planner be well prepared in the planning
process. Study of planning theory—past, present, and developing—is required. Proficiency in the new planning techniques must be attained. The planner must study operations research, PERT, systems analysis, and PPBS. He must study how these procedures are being applied in the public sector and in education. He must keep up-to-date on new developments and new techniques.

A planner must study the capabilities of the hardware of data processing equipment and the computer. He must know how the newer processes are being used in planning and how they are being used in education.

General Education

The heart of school system planning is the educational program. Much has been written in this dissertation on the need for the planner to be a generalist in education. School system planning requires that the planner collect, analyze, and synthesize data from many areas of education. He must be prepared thoroughly enough in each area to enable him to understand, interact, react, and suggest activities and procedures which may improve each area. Some of the areas will require more preparation than others, with special emphasis placed on working in the suboptimization and synthesis phases of educational program development.

Special mention needs to be made of the ability to help the community and school system develop goals and objectives for the school system. Ability in this endeavor requires a special skill in getting goals and objectives recognized and explained, and in getting the goals and objectives stated in a manner which directs effort and which permits measurement. This does not mean that the planner has preconceived goals and objectives and manipulates
the community and school system to recognize and accept them. Rather, this means that the planner knows education, people, school system operation, state regulations, and societal pressures. From all of these data he guides the community and school staff to develop their own goals and objectives, and to develop them meaningfully and with understanding of what they imply. Preparing planners to complete this task successfully will challenge any training program.

Organization

The planner must be trained to know how to organize and administer a planning effort. He must know the needs, the relationships, and how to keep the process moving. Management information systems, such as PERT, offer a means of organizing and monitoring the planning effort. The planner must know how to select and apply a management information system applicable to the total planning effort.

Creativity

The school system planner must either be creative or provide the environment in which creativity is drawn from planning participants. The training program should provide the planner with an understanding of creativity, as well as provide him with opportunities to be creative.

Human Relations

An understanding of the community and people is required if human relations skills are to be improved. The planner must have a basic knowledge of psychology, sociology, and political science. He must study
small group theory and be given sensitivity training. He must study the development and operation of power structures, and community/school relationships. He must be familiar with the politics of education. He must know how demographers work, the influence economists are having on education, and the federal/state/local interrelationships in education and in the community.

**Communication Arts**

Communications skills are needed in writing, speaking, and listening. The planner must be given the opportunity to write. He must write for different audiences and for different purposes. He must prepare programs for various audiences and for various purposes. He must be given opportunities to prepare and deliver oral presentations. Listening is most important. To be a good listener may be the most important communications skill developed by the planner.

**Evaluation**

The planner must have more than a basic knowledge and skill in evaluation. Much of the success of the school system plan depends upon the plan being evaluated. It must be considered early and throughout the planning process. Evaluation is considered when goals and objectives are developed. It is considered when criteria are prepared. The plan of each subsystem must be susceptible to evaluation. The planner must be more proficient than most in the evaluation process.
Further Research

Further study and development are needed in several areas. It is difficult at this time to see the direction cost-effectiveness analysis will take when applied to subsystem alternatives. There are those who question whether the procedure can be used in such a situation. Experience of planners, analysts, and educators in cost-effectiveness analysis in education in general will help to clarify its use in school system planning.

Evaluation in education is under careful study. The importance of the process to education in general and to school system planning in particular require that the research be continued. How to prepare measurable goals and objectives, and how to develop meaningful and valid criteria in education are questions vital to improving education. School system planning will benefit greatly from answers being found.

A natural extension of this dissertation is to develop a training program for the school system planner. The preparation of the planner will provide a challenge to graduate schools and colleges of education. The planner needs a variety of knowledges, skills, abilities and appreciations. He must be given access to an abundance of information, and be offered experiences in a multitude of activities. Simulated exercises and internship experience could be included in the training program. The material in this dissertation provides some direction toward developing a training program for school system planners.
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