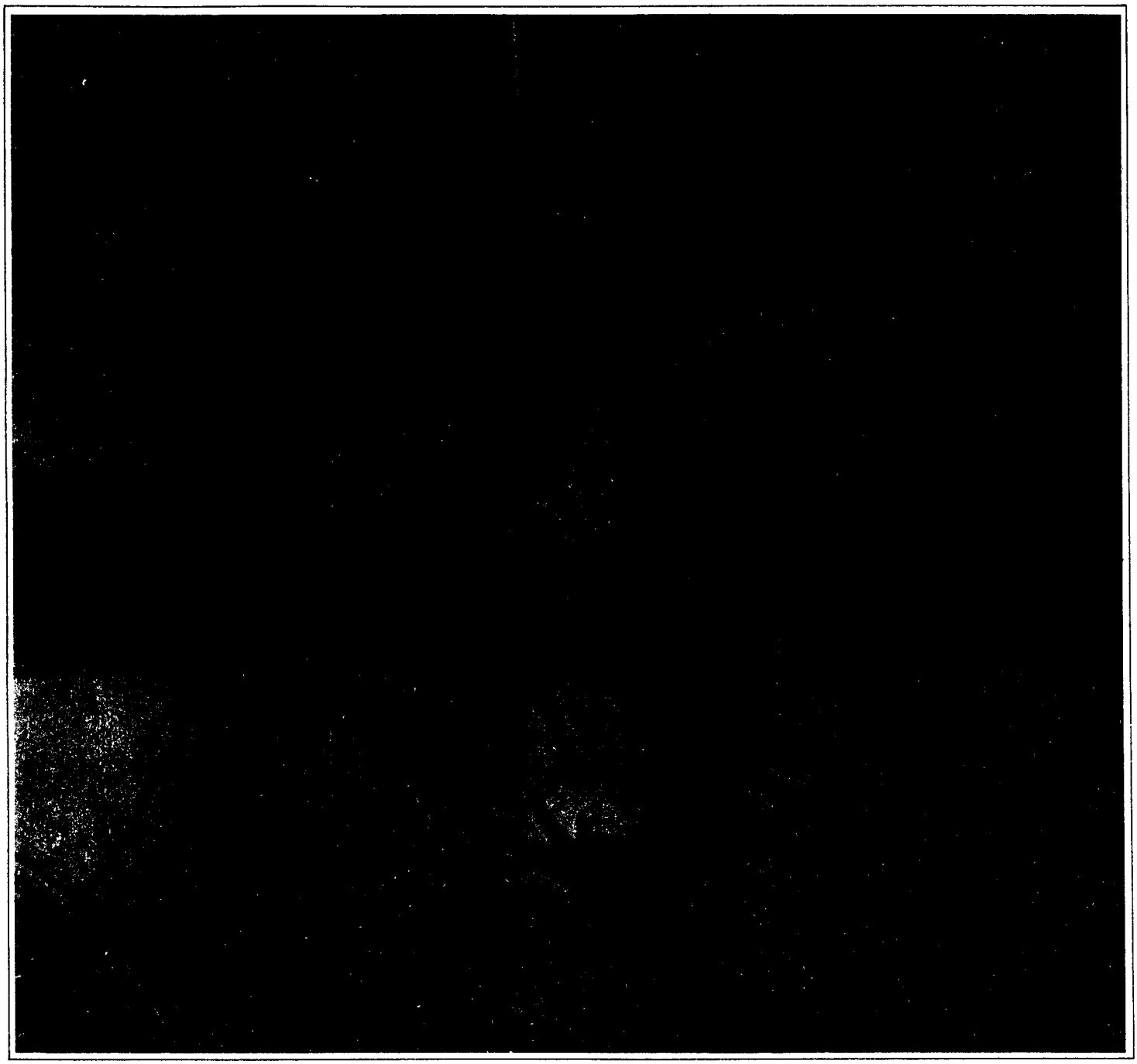
TO PLAN A SCHOOL



CALIFORNIA STATE DEPARTMENT OF EDUCATION Wilson Riles, Superintendent of Public Instruction, Sacramento, 1971

TO PLAN A SCHOOL

Prepared by the
BUREAU OF SCHOOL PLANNING
and based on a report by
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This publication, which was funded under provisions of Title V of the Elementary and Secondary Education Act was edited and prepared for photo-offset production by the Bureau of Publications and the Bureau of School Planning, California State Department of Education, and was published by the Department, 721 Capitol Mall, Sacramento, CA 95814

Printed by the Office of State Printing

1971

Foreword

In providing for the education of the children of California, it is essential that school buildings be planned in such a way as to facilitate the efficient operation of the educational program they are to house. A perfect melding of program and facilities does not just happen; it must be caused to happen. It is caused by a process known as school planning.

Instructional programs and the space that houses those programs are inseparable. The process of welding the two into a functioning whole must not be threatened by any dialogue or controversy over who provides the planning service because the thoughtful planning of schools is essential to the continued forward movement of education.

The success of the school planning process depends heavily upon human relations. It therefore ultimately depends on the skill of the planner in involving the right people at the proper time in the planning process. The purpose of this publication is to assist the planner to identify the people and organizations that should become involved and to help clarify the process for the person who is seldom involved in school planning. I hope that these explanations and suggestions will lead to the continued improvement of educational facilities for the benefit of California's schoolchildren.

Superintendent of Public Instruction

Preface

The fundamental premise upon which this publication is based is that instructional programs and instructional space are inseparable concepts. One cannot be planned or executed properly without full attention to the other. *To Plan a School* deals with the problems of planning educational facilities and with the characteristics and roles of school planners, particularly on the state level.

We are living in a time of fast-changing technology in educational methods, facilities planning, and construction techniques. An increasing number of school district governing boards, educators, planners, architects, and engineers are confronted with making quick judgments of the merits or demerits of well-financed and well-promoted "schemes" for speeding up the learning process, taking shortcuts in planning processes, or in obtaining "instant housing." The pace is fast, the stakes are high, and the decisions made are binding on generation after generation of students and teachers as well as on the taxpaying public.

In our pressure-packed dollar-oriented society, progress in good school planning depends on sound processes and guidelines for making key decisions wisely. This publication is dedicated to providing such a foundation.

To Plan a School is based on a report prepared by a highly skilled, technically oriented author – Delbert Ward, Associate Professor of Architecture at the University of Utah. He wrote basically for a nontechnical audience of school district governing board members and educators and to remind architects and engineers that planning educational facilities is a well-defined art and science that requires the application of specialized knowledge and competence.

This publication was prepared under the direction of Charles D. Gibson, recently retired, Chief of the Bureau of School Planning.

EDWIN H. HARPER
Associate Superintendent of Public Instruction; and Chief, Division of School Administration and Finance

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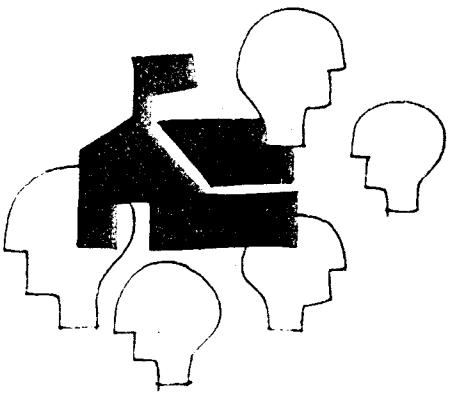
INTRODUCTION

Community Needs

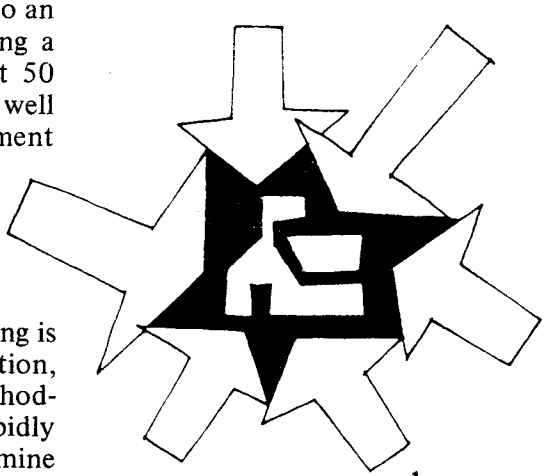
A planned school is much more than housing for a predetermined number of pupils. It has its beginning well before the site is selected, the name of the school is chosen, or construction is begun. The plan for such a school must be based on community needs, educational objectives, and the instructional methodology to be used. The location of the facility and the arrangement of space within it must be in harmony with the educational objectives that are to be attained.



This publication presents the concept of a complete process for planning schools, although no specific process is recommended. The main purpose of *To Plan a School* is to promote understanding of school planning and to clarify fundamental concepts about the process. Tomorrow's schools can provide rich educational experiences for children if creative thought and effort are expended today. Mobilizing and channeling creative effort is part of effective school planning.

In school districts whose administrators have recognized the need to plan schools rather than just build them, the beginnings of each new school may be traced to numerous preparations, evaluations, and decisions over a long period of time. Expanding neighborhoods have been carefully studied; land options have been obtained for possible school sites within these growing areas; and educational philosophies have been translated into statements, programs, and facilities. When it is time to build a specific school, districts that have taken the proper planning steps can proceed efficiently and effectively. Important decisions need not be made with inadequate information and under pressure of time.

In those districts whose trustees and administrators have not been farsighted and have failed to perceive the development of schools as a continuing process, the task of planning a specific school can lead to an unrewarding venture. Those who have responsibilities for planning a school must remember that the school may be used for at least 50 years, and it should enhance the learning experience tomorrow as well as today. A poorly planned school is therefore an unsound investment in education.



Dynamic School Planning

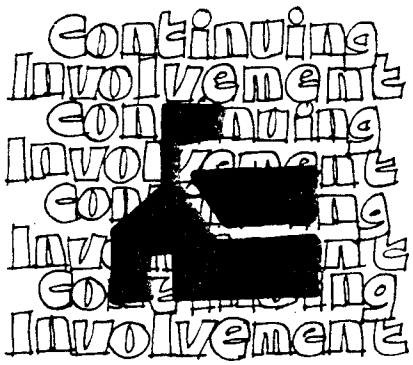
Effective school planning is a dynamic process since most planning is done under constantly changing conditions. Shifts in the population, changes in the family structure, and variations in educational methodology all contribute to the dynamic nature of education. This rapidly changing pattern requires the school planner to be ready to examine new techniques and procedures, accepting those that appear to have

merit and including them in his approach to new facilities. For example, as the population expands, increasing use of land of marginal value will seriously affect school planning; floating schools may be developed for congested seaside cities, and parts of schools may be built in the air space above drainage channels or streets. Cities built within weatherproof domes would place school construction completely within a new frame of reference.

Those engaged in developing new schools must develop techniques for coping with this dynamic situation. There are successful techniques in use today as part of the school planning process. Those who plan educational facilities should keep in mind that examination of today's educational methods rather than reuse of past methods is the way to create a school that will meet the needs of tomorrow.

School planning should not be limited to a single process or even to several processes. Rather, every school district and every school planner should develop and follow a process that is appropriate to the situation at hand.

Continuing Involvement

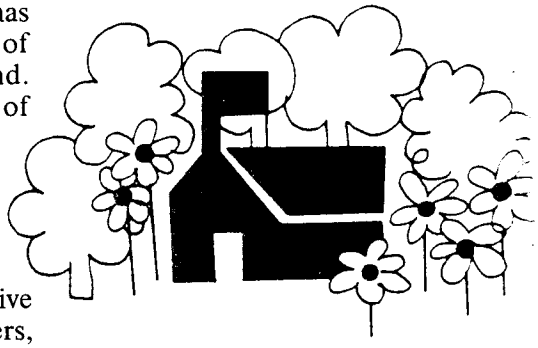


The most successful school planners are those who are continually involved in the planning process and are thus able to keep abreast of the dynamics of change – the dynamic situations with which they are concerned. A school district administrator must give attention to requirements for facilities, not just when enrollment overload is imminent, but continually. Decisions involved in the building of new facilities should be based upon sufficient data that have been evaluated over a reasonable period of time. Facilities should be created to satisfy demonstrated needs rather than opinions about what is needed. Continuing involvement in school planning is the means for determining these needs.

What is continuing involvement? Since school planning ought to involve several skills, several persons are normally involved in the process. Continuing involvement means different things to these different people. For the school administrator, continuing involvement means maintaining up-to-date records on present facilities, educational programs and enrollments, and population distribution in the areas concerned. It means preparation of statements on educational philosophy, with provisions for regular conferences with faculty members in order to understand their aspirations and needs with respect to teaching. It also means preparation of demographic studies based upon current information about family structure and expanding neighborhoods. It means identifying areas of community life to which schools can contribute their resources and the skills of their personnel.

For the independent planner of educational facilities, whether he is a consultant or an architect, continuing involvement means something else. For him the task is one of keeping abreast of educational methodology and innovation, with the architect playing a major role in relating these elements to the structure of schools. It means evaluation of completed facilities and their use. It means creative thinking about new facilities and improvement of existing facilities to serve the educational goals of the school district concerned.

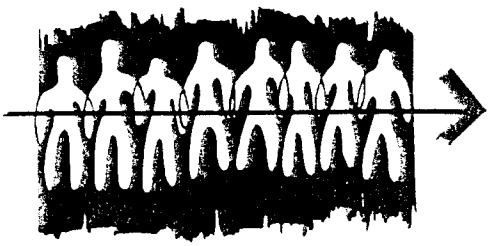
The school administrator and facilities planner are well prepared to handle the development of a specific new facility if their planning has been based on continuing involvement. They will have a storehouse of experience and information that can be applied to the problem at hand. Meaningful learning environments are created through this type of school planning.



Creative School Planning

Stimulating educational environments are the result of creative thinking on the part of planners, architects, administrators, teachers, and laymen. Creative school planning probably involves a degree of innovation, but innovative planning alone does not provide good schools. A new type of teaching station for each new school project, even if it is an imaginative design, is not necessarily creative planning. Change just for the sake of change is of little value. Well-conceived features of a school do not require that they be discarded in a relatively short time.

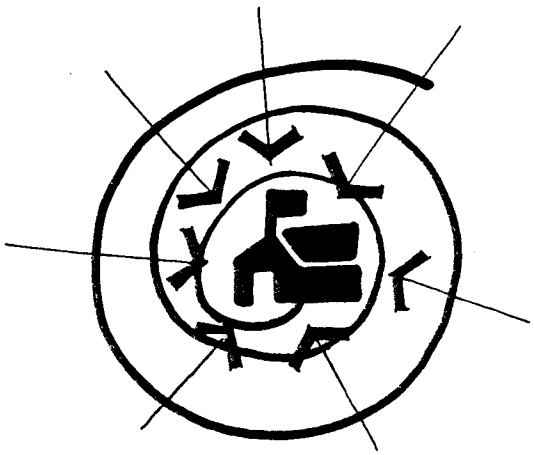
Creativity in school planning involves examining needs thoughtfully and then translating them into workable, usable learning environments. The current trend in the direction of flexibility of teaching space is a result of creative effort. Spatial features that allow this flexibility may vary from school to school, but the basic concept of flexibility develops through creative effort. Creativity in the design of spatial features must evolve from creative teaching programs and methodologies. Thus, the creative effort comes from teachers and administrators as well as from school designers, for teaching and the use of space in schools are interdependent.



Participation

Effective school planning is a coordinated effort. It requires the participation of school district administrators, school principals, teachers, architects, laymen, and specialists in projecting enrollments, selecting teaching equipment, designing lighting arrangements, and

providing for acoustics. For example, the teacher may not understand the total implications of her desire for a room that permits a variety of audiovisual experiences almost instantaneously, but she does understand that if her need is satisfied, she will be more effective as a teacher. Alone, the teacher, designer, or engineer may not understand all the implications of creating a facility that is adaptable to several different uses, but together they may be able to see the situation as a whole. Discussion among persons of various skills for the purpose of exploring solutions to specific problems is the method used to achieve progress in school planning; successful planning requires the cooperative participation of everyone involved. Great effort should be made to provide opportunity for the meaningful exchange that can occur in a direct dialogue between the kindergarten teacher or the chemistry teacher or the counselor and the designer.



Programming

Educational programming is an integral part of school facilities planning because specific educational needs must be translated into specific designs. Before these designs can be developed, the professional staff of the school district must prepare a comprehensive description of the district's educational program. This program is sometimes called an "educational specification." A good educational specification is neither just a listing of spaces, areas, and numbers of people, nor is it just a set of sketches showing spaces and furniture. Rather, it is a comprehensive statement of the educational philosophy of the district and teachers, identifying the users and uses of the facility in general and in detail and stating the performance requirements of spaces and furnishings.

A good educational program is not a summary of the ideas of one person. The program is a composite and comprehensive summary of the planning effort; it is a statement of the creative thinking of administrators, teachers, and facilities planners.

There are many good ways to prepare an educational program. Some think the program can best be prepared by the administrator before he hires an architect. In these situations, the administrator confers with his staff and together they discuss the educational program of the school that is to be built, the location of the proposed plant, and the amount of money available for the facilities. The material that results from this discussion is compiled and is called an educational specification.

Others think an educational program should be prepared under the leadership of a specialist, usually a private or state consultant, whose business is writing educational specifications. Still others hold the view that the preparation of the educational specification is best supervised by the architect who is designing the project.

Probably the best way to develop an educational program is through a process in which all of these persons are involved. In such a process, ideas and decisions on educational methodology, spatial requirements, and financing priorities occur through interaction of those who are developing the program.

The educational program serves not only as a basis for the design and construction of a particular school but also as a guide to school personnel and administrators in the proper use of the facility. It also serves as a statement of the current philosophy of education of the school district concerned. The document becomes a stepping stone in systematic and regular reevaluations by the district of its educational philosophy and objectives.

Involvement in designing the educational program by those who will be implementing it is especially important. Decisions about instructional methods must be made with the participation of the instructional staff of the school district, but instructional methods affect facilities. Therefore, those who will use the facilities should have a feeling for effective educational techniques and for the facilities appropriate to them. When these persons join with designers in exploring space needs and arrangements, the outcome can only be valuable.

The preparation of a valid, imaginative program or educational specification is the first step in assuring a facility that will meet the objectives of the local community and instructional staff.

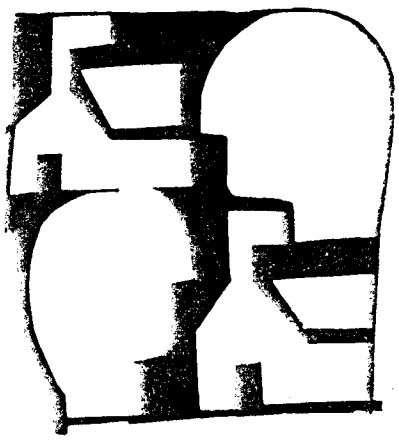
WHO WILL PLAN OUR SCHOOLS?

The educational facilities planner is somewhat new in terms of recognized professional skills. His role in the field of education is typical of the specialization that is characteristic of our society.

With the advent of this specialized professional, the question arises: Who will plan the schools? What group of persons will serve as educational facilities planners? Will it be the administrators, who are ultimately responsible for the educational system? Will it be the architects, the traditionally accepted school designers? Will it be the teachers and school principals, who understand the students and the inner workings of a school curriculum? Will it be the educational facilities planner, an evolving professional who has studied school systems, curricula, and facilities?

The Planner's Role

Perhaps the question of who will plan our schools is not the right question at all. Capable school planners are to be found within each of the groups just mentioned. A more profitable consideration is the question of what is to be planned. To create the best possible schools, concern should be focused upon a thorough and objective definition and evaluation of the needs that must be met. The best way to achieve thoroughness and objectivity is through deep involvement and critical effort. Attention ought to be focused upon asking the right questions at the right time.



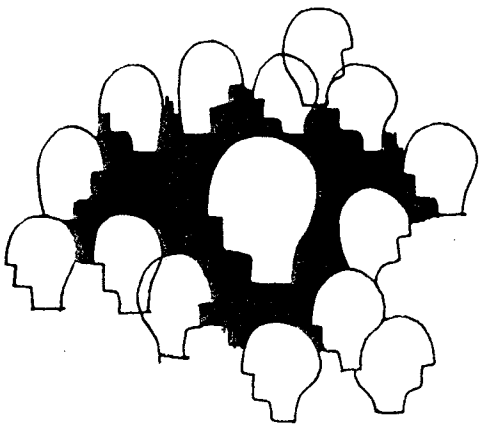
The process of planning schools requires evaluation of the most diverse of problems, ranging from the location of the facility to its size, from program and curriculum to type of space available. It also requires reevaluation of many of the district's policies. These include policies with respect to teaching methods, program content, and traditional notions of education. It is through questioning of such policies that those engaged in the planning process are stimulated to seek improved facilities and better educational methods.

The task of planning schools is more than a mechanical accomplishment of a number of preestablished steps, although these actions are certainly necessary. For example, enrollment projections and site evaluations can be explicitly defined steps, but teaching methods and curricula are less easily evaluated and require thoughtful attention. Imagination – a still more elusive factor – is also necessary in any approach to school planning. Imagination is required to ask the right questions. The right questions asked at appropriate times throughout the school planning process contribute greatly to thorough and imaginative solutions to problems. The ability to formulate these questions and then use them to motivate the planning process is a rare skill.

The role of an effective school planner is difficult to describe except in the most general way. There is clearly no substitute for experience. A broad background and knowledge of current trends in school operation and instruction are essential to one who would serve as the "asker of questions." One way of further examining the role of the planner is to describe his functions. Two of these functions are those of "catalyst" and "doer." These functions represent the nature of the planner's involvement in the planning process.

As a catalyst, the planner stimulates those directly engaged in the planning of a specific school. He may stimulate district administrators by asking searching questions about enrollments, enrollment projections, cooperation with other community agencies, or initial cost versus long-term investment. He may stimulate teachers by suggesting alternatives to the instructional methods that have generally been used in the district. He may ask about services other than those traditionally offered by the school to satisfy community needs. He may stimulate expanded thinking about the new school by suggesting that visits to certain existing schools might be helpful in the planning process. The school planner is a catalyst in that he operates in a manner that causes those directly engaged in planning a particular school to do their best to create a viable program and facility. The school planner does not engage in the specific tasks of data gathering or interpretation of enrollment or other statistics. His function is to encourage those directly responsible to see that these tasks are done properly.

In his role as a doer, the school planner at times serves as an "input agent," providing information that is needed in the planning of schools for particular districts. He may interpret information for the district concerned and make recommendations for consideration by the district's administrators. The administrators make decisions that are based on the materials and recommendations of the planner. The planner then reverts to his role as a catalyst in the planning of the physical plant. In operating as a doer, the school planner relies heavily on his own background and knowledge, which must be kept up to date.



The Planner's Characteristics

It is even more difficult to describe the characteristics of the school planner than it is to define his role. This consideration deals with human traits, where generalizations are rarely representative. There are many ways in which school planners may operate in the roles suggested in the previous paragraphs. The methods and individual characteristics of planners vary widely, even among those who are most successful.

It seems profitable to discuss a school planner's characteristics by considering the people with whom he works. This eliminates the danger

of making inaccurate generalizations about individuals. By considering the environment in which the school planner works, substantial insight is gained into those characteristics that make him most effective.

First, and most important, the process of planning schools is a process that involves cooperation among school district administrators, teachers, designers, and specialists in teaching methods, lighting, materials, and maintenance. Each of these persons has important ideas and can contribute meaningfully to the planning process. In serving as a catalyst, the school planner's role is to ensure that each group member contributes objectively, comprehensively, and cooperatively. The school planner becomes, in effect, a human relations expert.

Second, the planning of a school requires consideration of many specific details, such as teaching methodology, population analysis, school site selection, teaching equipment, environmental technology, and space organization. It is not necessary that the school planner be an expert in all of these fields. Clearly, this would be too much to expect. On the other hand, the school planner must be aware of these things, particularly with respect to their influence on the educational process. The school planner must therefore become informed in these fields so that he can discuss them with experts and so that he can recognize the influence of each of these areas on the operational success of a school.

Third, the planning of a school necessarily occurs within the circumstances of a specific district, community, and state. Each school district has its own particular planning opportunities as well as constraints. It is important to recognize that these unique circumstances exist, that they must be reckoned with, and that each must be satisfied. The school planner must be informed on what the constraints are and be astute in recognizing them within communities.

This discussion of the school planner has been focused on the process rather than on the person. The "who" is less important than the "how." The question, "Who will plan our schools?" really means "Will our schools be planned?"

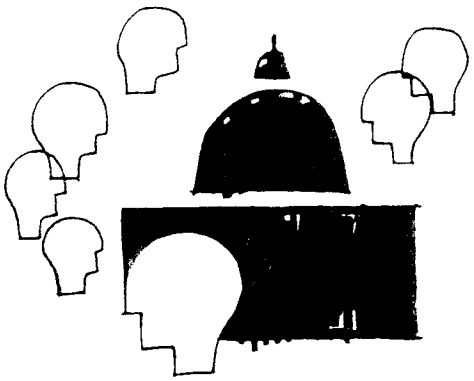
THE STATE-LEVEL SCHOOL PLANNER

This section is a discussion of the state-level school planner, a person usually employed within the State Department of Education. It is an examination of the school planning services that are available through such individuals.

The ability to plan schools cannot be thought of as a quality unique to any individual, discipline, or agency. School planning cannot be viewed as any particular group's special domain. The necessary skills and qualities can be found in a number and variety of persons, ranging from specialists on the staffs of school districts, to architects, to private educational consultants, to specialists employed at the county, state, or federal government levels.

The school planner in the Department of Education is in a unique position to further the objectives for planning a school discussed earlier. He has a broad overview of the planning for educational facilities that is going on throughout the state. He has a unique access to decision makers at the school district level. Many school districts, particularly the smaller ones, cannot justify a full-time staff planner and yet need the expert advice that can be provided by planning specialists.

The Functions of the State-Level School Planner

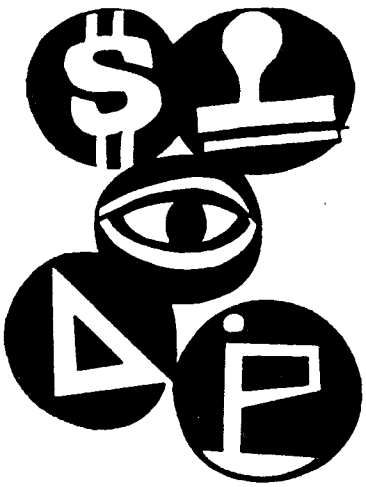


The state-level school planner's position is unique in several respects. He has, for example, a substantially more diverse clientele. Some of the demands on his time are mandated by state regulations, but his counsel is often freely solicited. He has the backing of the Department of Education, which gives him the status of an expert as well as an authority regarding some school planning matters. He also represents the state's philosophy regarding school facilities and optimum use of these facilities and school resources in general. These unique aspects of the position of the state-level school planner suggest, at least partly, his functions. The major functions of the school planner at the state level are described in the following paragraphs.

Overviewer

The overviewer function operates in two directions. The first and probably the more important direction is that of offering broad evaluation and guidance to districts regarding their physical plant utilization and needs. Regionally and statewide, the Department of Education school planner has observed the planning of many school facilities, some of which are now operating successfully and some of which are operating unsuccessfully. He has probably observed firsthand most situations in school planning that school district personnel might be expected to encounter as they plan a new school. In short, the nature of the school planner's work at the state level brings him into

contact with numerous situations, and the alert school planner can share this experience at appropriate planning phases with school districts.



The other direction of the overviewer function is one of providing feedback to the State Department of Education. Because of his constant and varied experiences with school districts in planning schools, probably no other person or group in the state's educational system is more aware of the benefits and problems related to school facilities. Such information, properly recorded, serves to guide state-level decisions affecting school planning and facilities.

Advocate

The advocate function is one of encouraging the planning of schools. It may be asked whether this function is unique to the state-level school planner. Most people who have been concerned with and involved in the development of school facilities could be considered school planning advocates. Almost all have experienced the benefits of planned schools. But, consider the unique role of the Department of Education school planner. He also has access to State Department of Education resources that permit him to encourage school planning. Seminars, regional and local meetings, and information lectures can be organized and scheduled by the state-level planner more readily than by private consultants, local school officials, or even some universities. In other words, the state-level school planner can be an effective advocate solely because of his access to the users and to facilitating resources.

Information Disseminator

Information dissemination is possibly the most well known of the several functions of the state-level school planner. To be most effective, information services should be viewed in at least two ways.

First, there is that information about schools, school planning, and school utilization that is made available to planners and teachers and to anyone else who wants to learn more about schools. Such information ought properly to include general facts and philosophies from the national and state levels as well as specific, detailed facts and philosophies that will help school districts develop the best possible facilities in conformity with state and local procedures.

Second is the information provided to the state-level school planners by people in the field. Such information is required by the state-level school planner for dissemination to the school administrators or designers with whom he is working. The school planner in the field is in a unique position to identify areas in which information is needed by the people with whom he works. He is then able to search for promising practices and provide information about them to others. He may also be confronted with new or special situations that require further

investigation and refinement and for which additional data must be compiled. In this sense, information is generated as well as disseminated.

School Planner-in-Fact

Large school districts normally have the resources to retain specialists in school planning either as part of their staff or as private consultants. Not all of them do so, but there are only a few large districts that do not have the resources to employ these specialists.

But what of small school districts? Are they to build their schools without the assistance of these planning specialists? More generally, one could ask, "Is school planning to be considered a benefit that can be enjoyed only by the wealthier or larger districts?" Few of us would support that view, and most states have established offices to provide school planning services for the benefit of all their school districts.

There is another aspect of school planning in which the state-level school planner has an important function; it relates to the frequency with which schools are constructed. Large districts usually erect schools at a frequency that increases the experience of their school planners. These planners not only learn through their mistakes, but they also gain valuable understanding of state controls and regulations. The state-level school planner serves these districts by helping the district planner avoid losing his perspective through involvement in the affairs of only one district.

Planners in school districts that engage in the planning and construction of new facilities once every decade or even less frequently cannot gain the experience of planners in large districts. A school planner employed at the state level is invaluable to these smaller districts because he can guide the planning process, refer to the educational plants and systems on which he has worked, and help the district follow state procedures.

The state-level school planner provides direct and adequate school planning services when needed. However, he should not be expected to replace the private consultant or the district staff school planner. But he can, and frequently does, provide complete planning services to school districts which, without state-level services, would do without school planning.

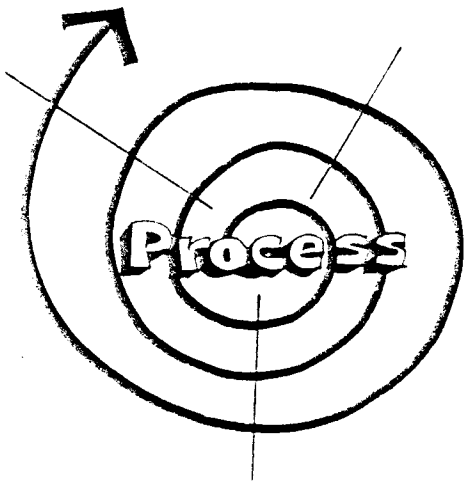
The School Planner's Roles

The unique aspects of the state-level school planner's position suggest his roles. These range from working partner to authority. These roles do not necessarily vary from one state-level planner to another, and each will probably be assumed by every state-level planner at various times, according to circumstances.

In comparison with school planners serving as private consultants or as members of district staffs, the state-level school planner is in a unique position. He seeks the development of the best possible educational facilities commensurate with the resources available. This is not unlike the objective of any school planner. In adapting to specific situations, he may act as a consultant, advising and criticizing; or as a working partner doing specific planning tasks; or as a catalyst encouraging more creative and forward-looking planning.

Another role of the school planner is that of supervisor. It is his obligation to the state to see that its resources are used wisely and prudently in the construction of school facilities. The state-level school planner is in a position to reject the proposed building plans of a school district. There are rare occasions on which he will have to use his authority to delay a project until a positive approach to the situation appears possible. School planning consultants and district staff school planners rarely, if ever, have this authority. The authority of the state-level school planner must be used judiciously lest the school planning office of the State Department of Education become only regulatory in nature.

School planning of the type that is based on a handbook of requirements should be avoided. Such handbooks are often an outgrowth of a regulatory approach to school planning. Paragraphs of requirements will not guarantee a well-planned school, even though the requirements themselves may be sound. Care is needed to assure that requirements do not discourage investigation of good planning practices, restrict imaginative application of sound planning practices, encourage uniformity in instructional methods and programs, or foster a policy that disregards local conditions and needs. The state-level school planner should serve as a buffer between the school district and the regulatory actions and requirements of state agencies.



The School Planning Process

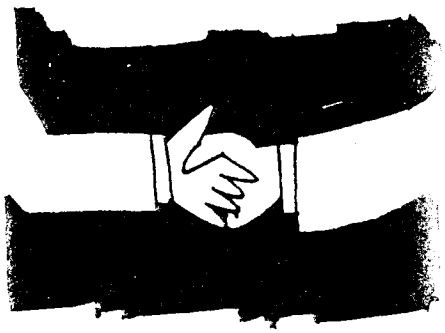
The process of school planning has been emphasized throughout this publication. Much has been said of its importance, and something has been said of its qualities, but little has been said of its application. Almost anyone can plan, and most people do. The school planning process requires knowledge of the dynamics of change on the part of the planners, involvement of interested groups, data compilation and interpretation, identification of needs and objectives, and creativity. These elements have already been examined in some detail. The process must be systematically applied – systematic in that all parts of the planning process have been included at the proper times and systematic in that a definite plan of action has been followed.

Adequate school planning will not take place just because certain steps or actions have been completed. The organization of action sequences, and the involvement of the right people at the right times are essential to good planning. The proper application of the school planning process will lead to the construction of exciting schools.

School planners must understand the application as well as the importance of the planning process. Only through a complete identification of needs and resources can adequate educational facilities be developed. Proper application of the school planning process reduces the chances of creating improper, inadequate, short-term, or unpleasant facilities and increases the chances of creating sound facilities of long-lasting value that have been built with prudent use of limited resources.

The School Planner's Qualities

A school planner's involvement in the planning process consists in relating to, working with, and guiding people. His success as a school planner will therefore be determined by his skill in human relations. The most brilliant ideas are worth nothing if they are not translated into reality through other people. Plans prepared without the involvement of everyone concerned may be sterile. They may not be realistic, or the usefulness of the resultant building may be very limited by a lack of understanding by those who live in and use the facility.



The school planner's role as consultant, adviser and critic, working partner, or catalyst may be improved by the planner's ability to relate well to the people he serves. This role may be enhanced by his human relations skills. His functions as overviewer, advocate of good planning, information disseminator, or planner-in-fact will be amplified as he gains the respect of his colleagues in school districts. This respect is gained largely through his ability to relate to other people.

In short, the amount of public confidence, respect, and support attained by the school planner depends on his human relations skills. However, it must be pointed out that there are times when the state-level planner may find no other way to achieve plan improvement than to say plainly, "What you are proposing is not a good plan, and I cannot give you state approval for it." This approach is only to be used when all other positive methods of human relations fail to produce the desired results.

The school planner must make several commitments to his work. The first is dedication to good education and the belief that education is worthwhile as well as necessary. Second is the belief that the benefits from a good environment are enormous. And finally is the conviction that good education and good environment are inseparable.

BENEFITS OF PLANNING SCHOOLS

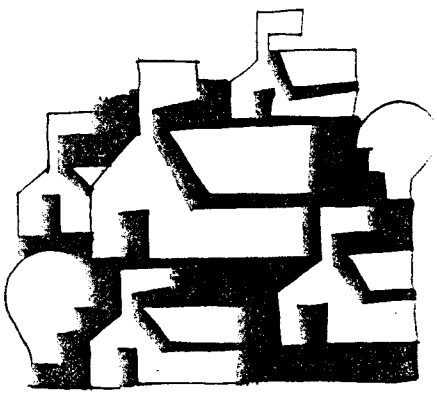
There are always questions regarding the benefits of any endeavor and how to evaluate them. This is also true for school planning. Does the school planning process result in better educational facilities, and are there any other benefits to be derived from planned schools? Questions may also arise about the kinds and results of evaluations that might have been done on planned schools.

The first questions to ask in any discussion of benefits gained through school planning are (1) Who is receiving the benefits? and (2) Who is measuring the benefits? The different views expressed in the answers to these questions will reflect differences in values and in the standards on which evaluations are based. For example, the school district administration may stress the importance of satisfying immediate school housing needs. Their evaluation of a planned school might reflect the need for rapid construction of buildings with minimal delay. The State Department of Finance may stress the importance of economy. That department's evaluation of a school would be influenced by the space available in the building in relation to the cost of constructing the facility. Each person's point of view influences him in his evaluation of the benefits of a school.

The main concern here must be with the creation of a quality learning environment which permits evaluation, and learning is demonstrably better in some of those situations. Individualized instruction, with its increasing attention to the individual as the focus of education, has improved and broadened through increased attention to educational programming. Programming was identified in previous paragraphs as a significant part of the planning process. Most of us would hope that the individualized instruction concept can continue to be expanded and improved. How can it be accomplished but through school planning as it has been described? Educational program and educational facility are firmly linked. What happens in one necessarily happens in the other.

Educational Aptness

The benefits of planned schools can be identified from several points of view. Educational benefits – the most important ones – are described in the following paragraphs.



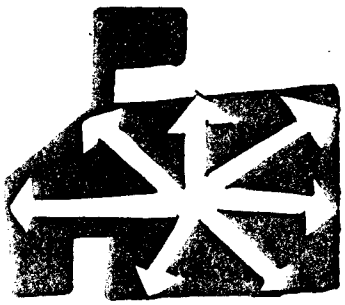
Instructional Methods

School planning provides one impetus for regular review of instructional methods. Teaching methods change. New philosophies of instruction, of learning, and of techniques of instruction are introduced regularly into our schools. Systematic and frequent evaluation that takes changes in teaching methods into account is beneficial to the instructional program of every school. School planning that is carried

out as suggested in this publication requires evaluation of the instructional program for projected new schools and of existing schools for which alterations are planned. Such evaluations can be useful even when no construction is comtemplated.

Curricula

School planning involves discussions about instructional methods and space requirements. These discussions, in turn, automatically lead to discussions of curricula. School planning thus provides the impetus for regular review of school curricula. Curriculum changes may alter space requirements in schools, and, since curriculum changes occur often, curricula should be reviewed regularly. It should be remembered, however, that proper school planning involves members of the instructional staff as well as administrators who are responsible for curricula.



Improved Space

Adjustments in space arrangements for schools are generally best made in an incremental fashion. Abrupt and dramatic changes should be avoided. Change in educational facilities does not necessarily mean improvement, but change that is brought about by thoughtful searching and evaluation can lead to improvement through incremental adjustment. School planning is the process of thoughtful search and evaluation. The continuing improvement in the concept of flexible instructional space provides one example of the value of the school planning process.

Adequate Housing

A part of the school planning process is the establishment of accurate enrollment projections. This information provides the basis for conclusions on the need for school facilities and on the most advantageous sites for the buildings. A comprehensive school planning process will result in the allotment of the proper amount of instructional space for the school district concerned at a specific time and location. It will permit effective budgeting of school funds and will help form the basis for decisions on priorities for use of limited resources. Enrollment projections will facilitate the purchase of good school sites in advance of escalating land values in rapidly growing areas. School planning helps school districts obtain optimum value from capital outlay funds expended.

Properly Designed Housing

Funds for education are severely limited, as are most public funds. Limited financial resources require decisions on priorities for achieving quality education through effective use of the funds available. Space

and facilities in which to carry on an effective teaching-learning process must be included in these priorities, along with faculty and administrative salaries, materials, and maintenance. For the most part, innovation, experimentation, and adaptation in programs and facilities are outgrowths of these decisions on priorities. That is, too rarely are innovation and experimentation included in annual plans as respectable program functions. Most of the time they occur because of constraints placed upon programs of long standing in the district. Innovation and experimentation are words even less frequently applicable to facilities. Yet, innovation and experimentation with facilities must also be considered in any serious effort to achieve capital outlay effectiveness.

Thoughtful consideration of the various possible alternatives has been shown to contribute to increased space utilization in schools. School planning fosters this open-minded attitude among educators and designers. Beneficial results of this attitude include elimination of circulation corridors that are wasteful of space, reduction of single-use spaces in schools, and phasing out of space types that have limited educational value or are little used.

Construction Flexibility

Educational and technological changes occur at a rate that outdates many schools only a few years after they are completed. Educational changes are related to attempts to improve upon individualized instruction, and they affect scheduling, grouping, and instructional methods. Technological changes affect building equipment; heating, cooling, and lighting systems; and instructional tools and media. For example, improvements within the past decade of such electronic devices as "teaching machines" could outdate the electrical system of any school building that is more than a few years old.

Concepts of space within school buildings evidence the influences of these changes. Greater attention to flexibility in construction systems and space layouts has increased the length of time that a school is valuable as an educational facility. This, in turn, improves cost effectiveness in long-term use of the facilities, since construction modifications to maintain educational value are needed less frequently, are less complicated, and are more quickly and easily completed in flexible space schools.

Illumination

For many years schools were built with general illumination for each room. Illumination levels, contrast, and glare control were discussed but were rarely explored and were even more rarely incorporated into school design.

School planning has changed this in California. Administrators and architects alike have been alerted to the improved learning environ-

ments that are possible when attention is given to all features of a school building, including illumination. They, along with lighting fixture manufacturers, have adopted sound and sensible lighting practices in school construction.

Acoustics

Concern about the environmental characteristics of school space has brought about significant improvement in the acoustics of instructional space in a manner that goes beyond sound control. Traditionally, concern with acoustics has focused upon controlling the transmission of sound through the walls that separate rooms. Innovations in the use of space, such as the illumination of partitioned areas, have increased the opportunities for sound transmission from one area to another. This has caused concern about acoustical control within large, open areas where individualized instruction methods are replacing standard classroom procedures.

It has been found that the use of carpeting in schools effectively reduces noise in open instructional areas. Carpeted floors also offer a warmth that is immediately appreciated by students. The benefits of carpeted floors have long been recognized and used in commercial buildings, yet only recently has carpeting become an accepted floor covering in schools. Capable school planners are largely responsible for this achievement.

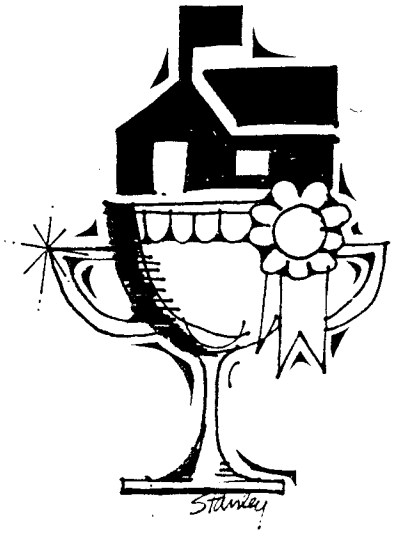
Spatial Quality

A pleasing and functional instructional environment rarely comes about accidentally. It is created through caring and through considerable effort. Probing questions from school planners and others have led to changes in the use of space in schools. In part, these changes can be attributed to adjustments made to gain flexibility and improve lighting and acoustics. However, this does not completely explain the changes that have occurred in the use of interior space. Another concern has been the quality of the environment; that is, does the space and its arrangement produce feelings of comfort, adequacy, beauty, and other pleasant emotional responses in those who use the space? Functional and aesthetic considerations are equally important in planning the use of space. Schools that adults find enjoyable and in which their senses of sight, touch, and hearing are satisfied are also generally enjoyable for children. Children are also more likely to respect and try to preserve such an environment.

Experiences to Share

School planners gain a wealth of knowledge about schools through their constant involvement in planning and evaluating them. They see instructional methods that produce superior sensitivity in youngsters;

they see other methods that are not satisfactory. They see buildings that complement the instructional effort; they see buildings that stand in the way of superior programs. They have an opportunity to see more and learn more about schools than most educators, teachers, or designers. Furthermore, they have observed the processes by which many schools were planned and can draw conclusions about effective school planning. The great value of this experience is that it can be used to guide future school planning programs. This knowledge can and should be shared with educators, school administrators, architects, and other persons who are engaged in creating schools.



Breadth to Share

School planners who regularly are engaged in their work gain a breadth of knowledge about state regulations, local attitudes among residents, construction practices, financing constraints, and many other factors which are extremely valuable for efficient and effective school planning. Guidance for district administrators and architects on these aspects of school planning will benefit everyone with respect to time saved and better educational facilities.

The value of school planning is apparent when all of the aspects of the education process are harmoniously and thoughtfully blended into ideas on the use of space that is available for schools. Facilities and instructional programs are inseparable.

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