
This publication has been developed to assist local boards of education, superintendents, and their staffs in the organization and development of educational specifications. Part 1 presents a conceptual and operating primer on what educational specifications are—the purpose, the process, the personnel, and the product. Part 2 is designed to provide more specific information relative to the organization and content of the educational specifications document. An outline is provided for the specifications that will permit a high degree of flexibility for adaptation to the variations of local situations while, at the same time, providing sufficient guidance for the bewildered educator who "doesn't know where to start." (Author/MLP)
THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS
Once the decision to construct a new educational facility or to construct a major addition to an existing facility has been made, the first and perhaps most important step in the process of providing a facility that truly enhances the educational program is the development of educational specifications. With the approval of the board of education and with the assistance of his staff and others selected to assist him, the superintendent of schools must assume the responsibility for the organization and supervision of the educational specifications project, as well as serve as liaison between the board of education, the school staff, and the citizens of the community.

This publication, a descendant of Educational Specifications which was published in May, 1968, has been prepared as a guide for superintendents, boards of education, and others responsible for developing educational specifications. A preliminary draft of this publication was field tested in several school systems including Harnett County, Greenville City, Asheville City, Fairmont City, Macon County, Gaston County, Mitchell County, Greene County, and Buncombe County. Copies of the preliminary draft have been distributed through professors at Appalachian State University, University of North Carolina at Greensboro, and East Carolina University to graduate classes in educational administration for review and suggestions. Through workshops sponsored by two of the Regional Education Service Centers, input was solicited for modifying or improving the preliminary draft. At the State Superintendents Conference on Education for Tomorrow held in Winston-Salem, copies were distributed to architects, engineers, and educators for comments and suggestions.

This publication represents the input of all the responses received from these distributions and from the field tests. To those educators, architects, and engineers who offered suggestions we extend our appreciation. In addition, I wish to acknowledge the efforts of Dr. Douglas L. Pearson, Educational Consultant, Division of School Planning, who organized and wrote the publication and Ms. Patricia Mann, Draftsman-Artist who illustrated and managed the production of the publication.

J. L. Pierce, Director
Division of School Planning
What are Educational Specifications?
INTRODUCTION

This publication has been developed to assist local boards of education, superintendents, and their staffs in the organization and development of educational specifications. The responsibility for programming a new educational facility that may affect thousands of students and may cost in the millions of dollars is both an exciting and a humbling experience. In many instances this challenge and, at the same time, wonderful opportunity becomes the responsibility of educators who have had little or no experience with the educational specifications process or the product.

This guide was developed because most educators have little knowledge concerning either the purpose, the process, the organization, or the contents of the finished product called "educational specifications". The organization of this publication provides both a conceptual background and a suggested organizational framework for the content of the completed document.

Part I of this publication attempts to present a conceptual and operating primer on what educational specifications are; why they are developed; how they are organized; and who should be involved and how. Basically, Part I answers the questions What? Why? Who? and How?

Part II is designed to provide more specific information relative to the organization and content of the educational specifications document. In the past, the quality and quantity of the specifications content have varied greatly. Size has varied from two pages to several hundred pages; either extreme is ineffective for obvious reasons. The intent of Part II is to provide a skeleton for the specifications that will permit a high degree of flexibility for adaptation to the variations of local situations while, at the same time, providing sufficient guidance for the bewildered educator who "doesn't know where to start."
General information about educational specifications — the purpose, the panel, and the product. Participating in the development of educational specifications is a challenge and a privilege that only a few people have the opportunity to enjoy. It is a serious responsibility when one considers the many students and their families affected over the 50-year life expectancy of a school facility.

Any will have a positive, neutral, or negative effect on the educational process. The degree upon how effectively the educational specifications committee functions contained in Part I is introductory and explanatory in nature. An attempt is made to provide answers to the following questions:

1. What are educational specifications?
2. How are educational specifications developed?
3. Who should be involved?
4. What are the general responsibilities of those involved?
5. How should the educational specifications document be organized?
6. Are educational specifications developed?
WHAT ARE EDUCATIONAL SPECIFICATIONS?

DEFINITION
Educational specifications may be defined as a written means of communication between educators and design professionals. Through this medium educators describe the educational program and identify factors which affect learning and teaching, thus providing a data base for the architect to use in creating the building plans and specifications.

CHARACTERISTICS
Some characteristics of educational specifications are:

- They are the responsibility of the educators.
- They should be based on a predetermined educational program.
- They should state the educators' concept of facility and program needs and leave methods of satisfying the needs to the design professionals.
- They should be free of rigid prescriptions.
- They are concise and to the point.
- They are best developed through the involvement of educators and community representatives.

WHY DEVELOP EDUCATIONAL SPECIFICATIONS?

MEANS OF COMMUNICATION
The primary purpose for developing educational specifications is to provide an effective means of communication between the educational agency and the design professions. In addition to written educational specifications, discussions and visits to existing facilities may greatly aid in communication and understanding. Hopefully, open and effective communications will result in a better facility.

MEANS OF SHAPING INDIVIDUAL REACHING A CONSENSUS
Another purpose for developing educational specifications is to provide an opportunity to analyze pertinent information and to firm up their thinking with regard to:

- Services to students and staff
- Philosophy and objectives
- School organization
- Methods of instruction
- Program of studies
- Furniture and equipment
- Desired environment
- Utilization of space

Rarely will a collection of individuals achieve consensus on these variables. The educational specifications provide a forum for discussion and group research, reading, visiting existing facilities, and consensus should be achieved among the educators and design professionals.
What are educational specifications?

Specifications may be defined as a written communication between educators and design professionals. Through this medium, educators describe their vision and identify factors which affect learning, providing a data base for the architect to develop building plans and specifications.

Characteristics of educational specifications are:

- Responsibility of the educators.
- Be based on a predetermined educational goal.
- Define the educators' concept of facility and the means and leave methods of satisfying the needs of the design professionals.
- Be free of rigid prescriptions.
- Concise and to the point.
- Best developed through the involvement of building and community representatives.

Develop educational specifications?

Purpose for developing educational specifications is an effective means of communicating the agency's philosophy and the design professions. In educational specifications, discussions and activities may greatly aid in communication and facilitate, open and effective communications for facility.

Means of shaping individual thought and reaching a consensus

Another purpose for developing a set of educational specifications is to provide an opportunity for the staff to collect and analyze pertinent information about many critical factors and to firm up their thinking with regard to:

- Services to students and community
- Philosophy and objectives of the school
- School organization
- Methods of instruction
- Program of studies
- Furniture and equipment
- Desired environment
- Utilization of space

Rarely will a collection of individuals agree regarding all of these variables. The educational specifications process provides a forum for discussion and debate. Through individual and group research, reading, visitation, and free discussion, a consensus should be achieved and communicated to the design professionals.
MEANS OF PUBLIC RELATIONS
Still another purpose for the development of educational specifications is to solicit the active involvement of the community. In the process of developing educational specifications, parents should be actively involved on committees or subcommittees, and citizens representing various community agencies should be contacted for information and opinions. This process provides a valuable medium through which the community may learn of the proposed plans and through which they may contribute to the project. An informed and actively involved community is more likely to be supportive than an uninformed, passive community.

MEANS OF CONTINUOUS AND FINAL EVALUATION
A fourth purpose served by educational specifications is that of evaluation. Written educational specifications provide a tangible statement against which the various stages of the design and construction process may be evaluated. A continuous dialogue should exist between the architect and the educators concerning the compatibility of the educational program and the facility. The document may also serve as a valuable instrument for evaluating the facility one or two years after occupancy. An effort should be made to determine if, in fact, the facility does what the educators said they wanted it to do.

WHO SHOULD BE INVOLVED?

PROFESSIONAL STAFF
If educational specifications are to accurately communicate both the activities that will occur in the proposed facility and the user requirements that are implied by those activities, teachers, principals, and supervisory staff responsible for planning and implementing the program must be represented on the steering committee. The insight and sensitivity to the program that must be housed and hopefully enhanced by the facility can best be provided by those who design and implement the program.

PARENTS
Since the school is a social institution the facilities should reflect the needs of the community and to communicate to the parents and various representatives should be involved in making decisions. These usually quite willing to leave the description of the program and user requirements up to the professionals. As is the case in most construction projects capital outlay may be needed to finance the project. If a number of parents and other community organizations are positively involved in developing specifications and in reviewing the various stages of the project, the necessary public support should be more thusiastically obtained than had the involvement of students.

STUDENTS
The clients of the schools — the students — have been consulted less in the development of educational specifications than any other group; this is because they are most affected by school facilities. The involvement of students may be limited in terms of contributions, especially in elementary school facilities. Students help to translate the feeling of the population concerning desirable and undesirable school facilities. Often they can suggest ideas that are very important to students.

Perhaps the most valuable aspect of student involvement and the resultant responsibility, students are more likely to adopt a consen
EDUCATIONAL RELATIONS

for the development of educational specifications is that educational specifications provide a valuable medium through which the various stages of the planning process may be evaluated. A condition exist between the architect, and the compatibility of the educational program must be represented on the educational specifications. These individuals can contribute substantially to the process in general ways and are usually quite willing to leave the description of the instructional program and user requirements up to the professional educators.

As is the case in most construction projects, local funds for capital outlay may be needed to finance the project or to supplement other sources of funds. The availability of local funds is directly related to the public support that exists for the project. If a number of parents and other community representatives are positively involved in developing educational specifications and in reviewing the various stages of the design, the necessary public support should be more easily and enthusiastically obtained than had the involvement not occurred.

STUDENTS

The clients of the schools — the students — have traditionally been consulted less in the development of educational specifications than any other group; this is difficult to justify since they are most affected by school facilities. While the involvement of students may be limited in terms of substantive contributions, especially in elementary projects, student representatives help to translate the feelings of the student population concerning desirable and undesirable features of a school facility. Often they can suggest ideas, overlooked by adults, that are very important to students.

Perhaps the most valuable aspect of student involvement, however, is in the degree with which they are able to internalize the facility as belonging partly to them — not just to the board of education nor to the superintendent. As a result of positive representative involvement and the resultant sense of responsibility, students are more likely to adopt a constructive, protéc-
tive attitude toward the school rather than a destructive and hostile attitude.

A word of caution is appropriate. It is better not to involve students at all than to invite their participation and then to ignore their contribution or, even worse, to patronize them. Informed and sensitive students are quick to recognize pseudo-involvement and hypocrisy; they are just as quick to react negatively to such an approach.

DESIGN PROFESSIONALS

Due to increasing demands for school construction, rising costs, and changing programs the time-consuming process of developing complete educational specification documents before beginning the design process is becoming difficult to justify. It also appears inappropriate to exclude the design professional from a process which would enable him to develop an intensified sensitivity to the educators, their program, and the physical requirements of that program; this sensitivity is difficult to attain through the medium of the written word alone. The design process begins as the designer mentally transforms ideas and emotions that develop freely from the committee discussions into abstract form and structure; this feeling for the program is rarely transmitted through the written document.

The designer should maintain a low profile during the initial stages of the educational specification procedure, acting only as a consultant and observer. After the first two chapters of the document have been written and approved by the board of education, the designer may begin work on schematic-type sketches. These are subsequently examined by the steering committee and revisions are made in the written material, in the sketches, or in both. Frequently educators have difficulty recognizing unobtrusive problems until an attempt is made to solve the obvious ones; it seems that graphic descriptions often reveal latent problems or alter the original ones completely.

For these reasons, the design professionals should be involved in the development of educational specifications as early in the process as possible. There is really no substitute for the cooperative interaction between intelligent educational planners and talented design professionals.

EDUCATIONAL CONSULTANTS

Educational and design consultants, a North Carolina Department of Public Instruction agencies, or institutions of higher education little or as much as the local unit desires, experienced in the educational specific valuable in offering direction and informing educational specifications committee; a few outside consultants is that they provide a somewhat unbiased and objective. Having seen and schools in and out of North Carolina, design consultants are abreast of innovative, successful facilities and can provide a fresh approach may be overlooked by local personnel. The School Planning is available to provide architectural consultants upon the request education.

WHAT ARE THE GENERAL RESPONSIBILITIES OF INVOLVED?

The organization of the educational specifications will, by necessity, differ from situation to situation, but generally, specific responsibilities and duties all however, have a few basic responsibilities that remain constant throughout the process regardless of the specific case.

The following chart lists some of these responsibilities, indicating the individual or group who has responsibility for executing each. The chart also indicates individuals or groups who are normally involved in each responsibility.
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**SUMMARY OF RESPONSIBILITIES FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS**

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<tr>
<th>BOARD OF EDUCATION</th>
<th>SUPERINTENDENT</th>
<th>CHAIRMAN OF STEERING COMMITTEE</th>
<th>STEERING COMMITTEE</th>
<th>STEERING COMMITTEE SUBCOMMITTEES</th>
<th>PROGRAM AREA SUBCOMMITTEES</th>
<th>DESIGN PROFESSIONALS</th>
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- **PRIMARY RESPONSIBILITIES**
- **INVolVEMENT**
**SUMMARY OF RESPONSIBILITIES FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS**

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HOW SHOULD THE EDUCATIONAL SPECIFICATIONS DOCUMENT BE ORGANIZED?

The Division of School Planning suggests that the educational specifications document contain three general chapters as follows:

Chapter I: Introduction and Background Information
Chapter II: General Design Considerations
Chapter III: Educational Activities and User Requirements

These three areas provide the architect with the essential information that is necessary to develop an awareness of the educational planning process, a sensitivity to the general needs and values of the educators who will use the facility, and a detailed understanding of the educational program that must be contained and enhanced by the building that is to be designed.

The sequence of the three chapters is logical in that they proceed from the general to the specific. In the process of designing a building, architects also proceed from general concepts (schematic drawings) to general floor plans (preliminary drawings) to more specific technical plans (working drawings). For this reason, the proposed organization seems to be both logical and consistent with the architectural procedures.

If the design professionals have been selected by the completion date of Chapters I and II, this information may be approved by the board of education and submitted to the designers to begin developing their architectural program. This procedure will save time in an inflationary era when time is expensive; it will also permit a high degree of designer/educator interaction as the designers attempt to interpret the educators’ general, verbal information into generalized, visible form.

HOW ARE EDUCATIONAL SPECIFICATIONS DEVELOPED?

To suggest that there is only one method by which educational specifications would be naive, since factors that influence the process vary from situation to situation. Some of these variables are:

- Time schedule
- Size of the project
- Funds available
- Personalities and competencies of the design team
- Organization of the local central committee
- Commitment to educational specifications
- Willingness to accept change
- Commitment to involvement

Not only do these variables differ from situation to situation, but the importance of certain variables may change as the process begins.

Nevertheless, as a point of departure, the following chart is provided as one way the process may proceed. The process is recommended by the Division of School Planning with the realization that it may be necessary and desirable due to local conditions.
HOW SHOULD THE EDUCATIONAL SPECIFICATIONS DOCUMENT BE ORGANIZED?

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HOW ARE EDUCATIONAL SPECIFICATIONS DEVELOPED?

To suggest that there is only one method for developing educational specifications would be naive. The many variables that influence the process vary from situation to situation. Some of these variables are:

- Time schedule
- Size of the project
- Funds available
- Personalities and competencies of the educational leaders
- Organization of the local central office
- Commitment to educational specifications
- Willingness to accept change
- Commitment to involvement

Not only do these variables differ from unit to unit, but the importance of certain variables may change within a unit after the process begins.

Nevertheless, as a point of departure, the following flow chart is provided as one way the process may be organized and may proceed. The process is recommended by the Division of School Planning with the realization that departures may be necessary and desirable due to local conditions.
SUGGESTED PROCESS FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS

1. Superintendent and board of education decide to begin the educational specifications process.
2. Superintendent appoints steering committee chairman.
3. Board of education interviews architects.
4. Board of education selects architect.
5. Superintendent and chairman appoint steering committee composed of staff, teachers, parents, students, consultants, and architect.
6. Superintendent requests assistance of consultants.
7. Steering committee visits, studies, and discusses individually and collectively.
8. As a group, steering committee discusses items relative to Chapters I and II.
9. Chairman appoints subcommittees to write preliminary draft of Chapters I and II.
10. Introduction subcommittee writes preliminary draft of Chapter I.
11. General design subcommittee writes preliminary draft of Chapter II.
12. Introduction subcommittee distributes preliminary draft of Chapter I to other members of steering committee.
13. General design subcommittee distributes preliminary draft of Chapter II to other members of steering committee.
14. Steering committee discusses Chapters I and II and approves or amends them.
15. Alterations are made if necessary and working drafts of Chapters I and II are prepared.
16. Steering committee approves final draft of Chapters I and II.
17. Steering Committee presents Chapter I and II.
18. Board of education approves Chapters I and II.
19. Board of education presents Chapters I and II.
20. Steering committee representatives from the committees complete preliminary draft of Chapter III.
22. Steering committee representatives from the committees submit ideas to steering committee periodically.
23. Final draft of Educational Activities and User Requirements submitted to steering committee.
25. Steering committee compiles and presents Chapter III.
27. Board of education approves Chapter III.
28. Steering Committee combines Chapters I, II, and III.
29. Educational Specifications and duplicate sets submitted to architect.
30. Architect periodically submits plans to the superintendent, board of education, and Division of School Planning for review and evaluation.
SUGGESTED PROCESS FOR THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS

17. Steering Committee presents Chapter I and II to the board for approval.
18. Board of education approves Chapters I and II.
19. Board of education presents Chapters I and II to the architect.
20. Steering committee representatives from the various program areas begin work with other faculty on detailed educational activities and user requirements of Chapter III.
21. Architect begins architectural program and schematics.
22. Steering committee representatives from the various program subcommittees complete preliminary draft of Chapter III.
23. Final draft of Educational Activities and User Requirements (Chapter III) submitted to steering committee.
24. Architect submits ideas to steering committee for discussion and approval periodically.
25. Steering committee compiles and presents Chapter III to board of education.
26. Architect submits ideas to Division of School Planning for discussion and approval periodically.
27. Board of education approves Chapter III.
28. Steering Committee combines Chapters I, II, and III into completed Educational Specifications and duplicates.
29. Steering committee presents completed document to board of education and to architect.
30. Architect periodically submits plans to the steering committee, chairman, superintendent, board of education, and Division of School Planning for review and evaluation.
II provides an explanatory discussion of the three
orders that are suggested for the educational specifications
ment. The information that is suggested for each chapter
intended to be all inclusive. The type and volume of infor-
will vary from situation to situation. The information is
ized in Part II to coincide with the suggested outline for
ducational specifications document. The main sub-
ons of the outline are:

Chapter I: INTRODUCTION AND BACKGROUND
Secondary Information
The Planning Process
The School Community
Developmental Characteristics of Students to be Served
General Educational Philosophy

Chapter II: GENERAL DESIGN CONSIDERATIONS
Budget Limitations
Initial and Long-Range Student Capacity
General School Organization
Flexibility Requirements
Environmental Atmosphere
Handicapped Students
Requirements Common to All Instructional Areas
Faculty Work Space and Offices
Community Use of the Facility
Site Development
Additional Requirements

Chapter III: EDUCATIONAL DESIGN
Discernible Trends
Educational Philosophy
Specific Objectives
Teaching Methodology
Main Instructional Areas
Capacity (students and/ or areas
Student grouping capabilities
Activities
Special environmental considerations
Media and equipment required
Utilities required
Storage space required
Furniture required
Miscellaneous requirements
Peripheral Areas
Spatial Relationships
Within departments
Between departments
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in Part II to coincide with the suggested outline for
educational specifications document. The main sub-
parts of the outline are:

Chapter II: EDUCATIONAL ACTIVITIES AND
REQUIREMENTS

Discernible Trends
Educational Philosophy
Specific Objectives
Teaching Methodology
Main Instructional Areas
Capacity (students and/or staff) and number of areas
Student grouping capability of areas
Activities
Special environmental considerations
Media and equipment required
Utilities required
Storage space required
Furniture required
Miscellaneous requirements
Peripheral Areas
Spatial Relationships
Within departments
Between departments and special areas
Chapter I
INTRODUCTION AND BACKGROUND INFORMATION

Chapter I of the educational specifications document provides the design professional with general information enabling him to develop a sensitivity for the community, for the students to be housed, and for the educational philosophy that must be reflected in the design solution.

The following items are useful to the designer and may be supplemented with other information that is appropriate for specific projects.

THE PLANNING PROCESS
This brief statement would identify why the document was developed, how it was developed, and who was involved. Ideally the architect will have been involved from the beginning; if this is the case, this information may be very brief or even omitted. However, if the designer was not selected early, the planning process should be described in detail.

THE SCHOOL COMMUNITY
A description of the school community may include information concerning its historical background, cultural background, population trends (by age levels), employment characteristics, socio-economic characteristics, educational needs of the community, climatic conditions, general community progressiveness, cultural and recreational facilities available, and anticipated community use of the facility.

DEVELOPMENTAL CHARACTERISTICS OF STUDENTS TO BE SERVED
A description of the social, emotional, mental, and physical developmental characteristics is useful to the architect in making decisions regarding the size, colors, dimensions, textures, and shapes. Since there is constant interaction between man and his environment and because human relations are so affected by the quality of the environment, environmental factors should be designed to allow the individual to do those things which are appropriate to his development with a minimum of conflict with the environment.

GENERAL EDUCATIONAL PHILOSOPHY
The introductory chapter should include a philosophy or statement of beliefs about the educational philosophy that must be reflected in the design solution. It is imperative that this be accomplished early in the planning process. The following items are useful to the architect in making decisions regarding the size, colors, dimensions, textures, and shapes. Since there is constant interaction between man and his environment and because human relations are so affected by the quality of the environment, environmental factors should be designed to allow the individual to do those things which are appropriate to his development with a minimum of conflict with the environment.

Chapter II
GENERAL DESIGN CONSIDERATIONS
The second chapter of the educational specifications document is intended to be more specific than the background chapter while still free of any detailed statements or decisions about the general requirements that must be met in the design of the new facility.

The following information suggests typical general requirements that each committee will find appropriate for this section of the document. These are by no means all inclusive; there may be additional general requirements that each committee will find appropriate for this section. All the items discussed must be included in this section of the document.

BUDGET LIMITATIONS
If the board of education has placed a limit on the project, this information would apply to this section of the document.
Chapter I

SECTION AND BACKGROUND INFORMATION

The educational specifications document is professional with general information enabling sensitivity for the community, for the students, and for the educational philosophy that must be the design solution.

Items are useful to the designer and may be with other information that is appropriate for

PROCESS

dent would identify why the document was developed, and who was involved. Ideally, this information may be very brief or even if the designer was not selected early, the should be described in detail.

COMMUNITY

of the school community may include informa-
s historical background, cultural background, cultural background, (by age levels), employment characteristics, characteristics, educational needs of the com-

conditions, general community progressive-

recreational facilities available, and an-

nity use of the facility.

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rs should be designed to allow the individual s which are appropriate to his development

with a minimum of conflict with the environment or with other individuals.

GENERAL EDUCATIONAL PHILOSOPHY

The introductory chapter should include a system-wide philosophy or statement of beliefs about education; it is imperative that this be accomplished early in the process as it will color the many decisions which will be made later. It must be noted, however, that a "philosophy" is not an end in itself; it must be used to evaluate every decision and every policy that is made. For instance, how valuable is a commitment to developing self-disciplined and self-directed students if the organization, the teaching methodology, and the curriculum are so structured that students are seldom allowed to weigh alternatives and to make choices? In other words, a statement of philosophy should be functional and active rather than decorative and passive.

Chapter II

GENERAL DESIGN CONSIDERATIONS

The second chapter of the educational specifications document is intended to be more specific than the introduction and background chapter while still free of any rigid prescriptions. Basically, this chapter should contain a series of position statements or decisions about the general requirements that must be met in the design of the new facility.

The following information suggests typical items that may be included in this section of the document. The suggested items are by no means all inclusive; there undoubtedly will be additional general requirements that each local steering committee will find appropriate for this section. Neither is it implied that all the items discussed must be included in the treatment of general design considerations.

BUDGET LIMITATIONS

If the board of education has placed a limitation on the cost of the project, this information would appropriately appear in this section of the document.
INITIAL AND LONG-RANGE STUDENT CAPACITY
An estimate of the initial student population to be housed by the new facility as well as a projection of the future capacity is necessary. If the board of education has a policy statement regarding the maximum size of schools, it should be referred to at this point.

GENERAL SCHOOL ORGANIZATION
This information should provide answers to such questions as:

- How will the students be advanced through the program from year to year (vertical organization)?
- How will the students be organized in groups (horizontal organization)?
- How will the program and staff be organized — by departments, by subject areas, by broader activity areas, or by grade levels?
- Will the organization of one grade or level be substantially different from another? For instance, in a junior high school grade 7 may be largely self-contained; grade 9, largely departmentalized; and grade 8, a combination of both.

FLEXIBILITY REQUIREMENTS
The general requirements of flexibility that must be provided for in the new facility should be described. Does the curriculum and instructional methodology call for weekly or daily flexibility in modifying the instructional spaces? Will the program, on the other hand, require the flexibility to modify the spaces and mechanical support system yearly or less often? If the program provides for students to engage in a variety of learning activities with various sized groups, the architect must be so informed so that the concept can be incorporated into the general design of the facility at the beginning.
ANGE STUDENT CAPACITY

Initial student population to be housed by as a projection of the future capacity is of education has a policy statement in size of schools, it should be referred to

ORGANIZATION

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ENVIRONMENTAL ATMOSPHERE

This paragraph might describe the characteristics of the atmosphere that should exist to maximize the teaching/learning interaction and to enhance the growth and development of the total individual. Once the desired atmosphere has been described, the role that the following basic environmental elements play in producing the desired effect should be discussed:

- Acoustical
- Aesthetics: form, color, orderliness and variety
- Olfactory
- Safety
- Sanitation
- Tactile
- Thermal
- Ventilation
- Visual: lighting, textures, shadows, windows

HANDICAPPED STUDENTS

The design professionals must be informed of the total commitment that educators have made for quality education for all students including those who are handicapped. Ramps, elevators, and handrails should be provided for the convenience of students who require them. New buildings must conform to the new building code requirements for handicapped persons; the Department of Insurance should evaluate the schematic drawings to assure full code compliance.

COMMUNITY USE OF THE FACILITY

The degree and nature of community utilization of the new facility should be described. Entrances and exits, security provisions, the spatial relationship of special service areas, parking areas, and the design of the mechanical systems are all affected by the evening community utilization that is anticipated.

REQUIREMENTS COMMON TO ALL INSTANCES

There will be general requirements that are common to all instructional areas. Rather than having these requirements described by a program subcommittee, a statement describing considerations in this chapter of the document should be provided to avoid duplicated effort. Typical of such common requirements are chalkboards, tackboards, clocks, house phones, and ventilation controls, and public address systems.

FACULTY WORKSPACE AND OFFICES

Early in the program planning for the new facility, the decision should be made relative to the location of faculty workspace and offices. Some faculties prefer a large work area that is separated from and close to the faculty lounge, professional storage area. Others prefer smaller, decentralized work areas in the department or grade level schools. Some faculties prefer a combination of the centralized and decentralized approaches. Since this affects the overall organization of the facility, the decision should be made early in the planning process and included in this chapter of the educational document.
ATMOSPHERE

Light should describe the characteristics of the atmosphere that exist to maximize the teaching/learning environment. The desired atmosphere has been developed to maximize the teaching/learning environment. The following basic environmental elements ensure the desired effect should be demonstrated.

- Color
- Orderliness
- Variety
- Textures
- Shadows
- Windows

COMMUNITY USE OF THE FACILITY

The degree and nature of community utilization that will be made of the new facility should be described. The location of entrances and exits, security provisions that are required, the spatial relationship of special service areas, the location of parking areas, and the design of the mechanical/electrical support systems are all affected by the evening and summer community utilization that is anticipated.

REQUIREMENTS COMMON TO ALL INSTRUCTIONAL AREAS

There will be general requirements that are common in all instructional areas. Rather than having these repeated by each program subcommittee, a statement describing these general considerations in this chapter of the document will prevent duplicated effort. Typical of such common requirements are chalkboards, tackboards, clocks, house phones, storage, light and ventilation controls, and public address speakers.

FACULTY WORK SPACE AND OFFICES

Early in the program planning for the new facility, a decision should be made relative to the location of faculty work areas. Some faculties prefer a large work area that is centrally located and close to the faculty lounge, professional library, and supply storage area. Others prefer smaller, decentralized office and work areas in the department or grade level centers. Still other schools prefer a combination of the centralized and decentralized approaches. Since this affects the overall design of the facility, the decision should be made early and a position statement included in this chapter of the educational specifications document.
SITE DEVELOPMENT

All too often site development is overlooked in the educational planning for a new school. The necessity of play areas, nature trails, outdoor theaters, and outdoor athletic facilities, in addition to a well maintained and attractive natural environment, have important implications for the design of the facility, its orientation to the site, and the total budget for the project. For this reason the designer must be informed of the general site development requirements early in the process.

ADDITIONAL REQUIREMENTS

Other general requirements that may be discussed in the General Design Considerations chapter are listed below:

- Student commons area or areas
- Student lockers
- Student circulation: interior and exterior
- Covered bus loading/unloading area
- Covered walk-ways
- Display cases
- Capacity for closed-circuit and educational television
- Vehicular circulation and parking: faculty, students, visitors, bus, and service vehicles
- Communication systems: house phones, a bell or tone system, a one-way public address system, a master clock, and strategically placed public phones
- Custodial lockers and showers
- Materials-receiving areas

Rigid prescriptions are restrictive and tend to stifle the architect's creativity in solving design problems; however, general descriptions of the desirable characteristics of these requirements will be beneficial to the architect.
Chapter III

EDUCATIONAL ACTIVITIES AND USER REQUIREMENTS

The third major chapter of the educational specifications document is the most critical in terms of communicating specific information to the design professionals. If a facility is to be designed that truly enhances the instructional program, the architect must have a thorough understanding of the activities and user requirements of the program that is to be housed. The success with which educators are able to describe the activities that will take place in every area of the facility is critical to the effectiveness of educational specifications.

Architects, not educators, are trained to creatively provide design solutions to fit the activity requirements of a particular educational problem. Past experience has suggested that educators are prone to describe not only the activity but to suggest the solution as well. For example, rather than describing the desired flexibility for modifying the size of instructional spaces to accommodate groups of varying size, educators in the past have attempted to provide a solution to the problem by specifying the use of movable, accordion-type, wooden doors, etcetera. Consequently, the architect is limited when perhaps another solution would have been better and less expensive. Words such as carpet, terrazzo, air-conditioning, desks, venetian blinds, are all examples of solutions to problems. The fewer words of this type found in the educational specifications the more useful the document will be to the design professional.

The main task for the educator is to describe in detail the activities that will take place in the school and to describe the desirable conditions under which they should occur. Educators should also describe the type of media and equipment that will be used as well as the utilities that are needed. The solutions to these needs and conditions should be left to the design professionals.

Chapters I and II may be developed by the whole Steering Committee including staff, parents, students, design professionals, and consultants. Chapter III, however, must be developed by the professional educators working in subcommittees representing their areas of special interest for an elementary school and a high school. The various ways these subcommittees may be organized is provided in the appendix.

This chapter of the educational specifications should be written as concisely as possible by committees representing grade levels, department areas, and each of the special service areas. School Planning suggests that coverage of activities and user requirements may be organized as follows:

- Discernible Trends
- Educational Philosophy
- Specific Objectives
- Teaching Methodology
- Main Instructional Areas
  - Capacity (students and/or staff) areas
  - Student grouping capability of areas
  - Activities
  - Special environmental considerations
  - Media and equipment required
  - Utilities required
  - Storage space required
  - Furniture required
  - Miscellaneous requirements
- Peripheral Areas
  - Above items as appropriate
- Spatial Relationships
  - Within departments
  - Between departments and special areas

The following discussion provides some guidelines for various items in the suggested outline.

DISCERNIBLE TRENDS

From wide reading, discussions with other schools, and other sources, the facilitator should identify the major trends in their res
Chapter III

INAL ACTIVITIES AND USER REQUIREMENTS

Chapter III of the educational specifications is most critical in terms of communicating to the design professionals. If a facility is to truly enhance the instructional program, there must be a thorough understanding of the activities and user requirements of the program that is to be housed, which educators are able to describe the ac-

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The following discussion provides some amplification of the various items in the suggested outline.

DISCERNIBLE TRENDS

From wide reading, discussions with consultants, visits to other schools, and other sources, the faculty subcommittees should identify the major trends in their respective areas. The
trends and their implications for the curriculum and the facility should be written as thoroughly, but concisely, as possible.

EDUCATIONAL PHILOSOPHY

The specific philosophy of each faculty subcommittee should be presented briefly to serve as a benchmark against which the following information and future design decisions can be evaluated. The philosophy may be composed of a simple list of the basic beliefs or principles. In any event, it should be as direct and concise as possible without sacrificing quality.

SPECIFIC OBJECTIVES

The subcommittees should describe the specific performance objectives that they hope to accomplish in their area. Observable and/or measurable performance objectives are more valuable in evaluating the program and the facility than broad generalities such as “to encourage...”, “to develop an appreciation for...”, and “to acquire an understanding of...”. For assistance in developing specific objectives, refer to the publication, Handbook for Planning in the Local School System, developed by the Division of Planning of the North Carolina Department of Public Instruction.

TEACHING METHODOLOGY

Prior to describing the methodology that will be utilized in the new facility, the faculty subcommittees are encouraged to critically evaluate their current methods. Having decided upon the methods that will be employed in the new facility, the subcommittees must accurately describe them to the architect. The space, the electrical/mechanical support systems, and the media required by a teacher who lectures for fifty minutes are quite different from those required when the students are actively involved in student-initiated learning activities in various size groups.

MAIN INSTRUCTIONAL AREAS

The Division of School Planning suggests that the following information should be developed as thoroughly as possible for each of the main instructional and support areas. The data should be organized and presented in a brief with little editorializing. A clear, succinct statement is more effective than a long-wordy one.

Capacity (students and/or staff) and number of main instructional or service areas (classroom spaces) that they will require. They should set a maximum student capacity that they expect at any one time; this paragraph should list the maximum number of staff that will be expected in these areas.

Student Grouping Capability of Areas — grouping will vary appreciably from school to school. Therefore, each subcommittee should describe the amount of group variation that instructional areas must accommodate. If a great deal of activity will occur within an area, there are design techniques that may facilitate the logistics of this method of decreasing the size of spaces by moving small areas within larger areas by changing colors, furniture, floor levels, floor coverings, or walls; and treating the areas with special acoustical properties to retard sound transfer.

Activities — As thoroughly as possible, list or otherwise describe the type of activities that may occur in small groups in instructional areas since provision for sound abatement barriers may be necessary. The effectiveness of these activities in enhancing the Instructional program and obstructs the program.

Special Environmental Considerations — environmental requirements such as space, acoustical, or mechanical requirements should be communicated at this point. Typical of such co
applications for the curriculum and the facility should be developed as thoroughly as possible.

**PHILOSOPHY**

Philosophy of each faculty subcommittee should be organized and presented in a brief and concise form with little editorializing. A clear, succinct statement is generally more effective than a long-winded one.

**Capacity (students and/or staff) and number of like areas** — In this paragraph each subcommittee should indicate the number of main instructional or service areas (classrooms, pods, home bases) that they will require. They should also describe the maximum student capacity that they expect to be in these areas at any one time; this paragraph should also describe the maximum number of staff that will be expected to work in each of these areas.

**Student Grouping Capability of Areas** — The amount of grouping will vary appreciably from school to school and within the same school. Therefore, each subcommittee should describe the amount of group variation that the main instructional areas must accommodate. If a great deal of small group activity will occur within an area, there are design techniques that may facilitate the logistics of this methodology. Typical of such techniques are designing flexibility for increasing or decreasing the size of spaces by moving the boundaries; defining smaller areas within larger areas by using different colors, furniture, floor levels, floor coverings, or large graphics on walls; and treating the areas with special acoustical properties to retard sound transfer.

**Activities** — As thoroughly as possible, the educators should list or otherwise describe the type of activities that will take place in the main instructional areas. In addition to large group activities, care should be taken to describe any simultaneous activities that may occur in small groups in the main instructional areas since provision for sound abatement and visual barriers may be necessary. The effectiveness of this communication may make the difference between a facility that enhances the instructional program and one that limits or obstructs the program.

**Special Environmental Considerations** — Any special environmental requirements such as special illumination, acoustical, or mechanical requirements should be communicated at this point. Typical of such considerations are...
black-out" capability in certain areas, sound treatment in music areas, dust collection capability in shop areas, special ventilation in Home arts or chemistry areas, wet areas in elementary instructional spaces, non-spark light switches in paint areas, visual and acoustical privacy in guidance suite, and special lighting in art area.

**Media And Equipment Required** — Each subcommittee should list or otherwise explain the educational media and/or special equipment that will be required by their particular program. This information is vital in designing the electrical/mechanical support system for each area. For example, it is much easier and less expensive to design and to wire a facility for in-house, closed circuit television in the beginning than to add it later.

**Utilities Required** — If there are special utility requirements in addition to those implied by the media and equipment requirements, they should be explained at this point in as much detail as necessary. Hot and cold water in the elementary instructional areas, a shower and washer/dryer in the health area, exterior power receptacles near the outdoor hard-surface play areas, and ample power receptacles in a multi-purpose room are examples of special utility requirements.

**Storage Space Required** — Special storage requirements (in addition to the normal storage closets, shelves, or lockers) should be described by each subcommittee. Inadequate storage of the proper amount or size is almost always a problem when educators fail to explain precisely what their needs are. It is also helpful to the design professionals to indicate which storage areas are to be open or enclosed, to indicate which ones require security provisions, and also to indicate which storage areas may be used for highly flammable materials.

**Furniture Required** — A list of furniture to be contained in each instructional area by type and quantity is also helpful to the designer. Brand names should be avoided since they tend to stifle the creativity of the design professional in securing furniture that may be superior to the brand to which you are accustomed. The more thoroughly educators are able to communicate furniture needs, the more likely the facility and the furnishings will complement one another.

**Miscellaneous Requirements** — There will be special needs from department to department; properly included at any other place. Additional considerations may be described at this point.

**PERIPHERAL AREAS**

Each program subcommittee should detail areas that are required. Traditionally these have been called storage rooms, practice rooms, teacher offices, production and purpose rooms, equipment rooms, sem visual rooms, and reception areas.

These areas should be described in as much detail as necessary. The same considerations would apply as outlined above for the main instructional areas, for the sake of continuity, it is suggested that as closely as possible whenever possible.

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*Diagram of a building layout is present, but not transcribed.*
In certain areas, sound treatment in collection capability in shop areas, special me arts or chemistry areas, wet areas in instructional spaces, nonsparking light switches in and acoustical privacy in guidance suite, ng in art area.

**Miscellaneous Requirements** — There will invariably be special needs from department to department that are not appropriately included at any other place. These miscellaneous considerations may be described at this point in the educational specifications.

**PERIPHERAL AREAS**

Each program subcommittee should describe any peripheral areas that are required. Traditionally these peripheral areas have been called storage rooms, practice rooms, conference rooms, teacher offices, production and work rooms, multipurpose rooms, equipment rooms, seminar rooms, audio-visual rooms, and reception areas.

These areas should be described in as much detail as is necessary. The same considerations would apply to peripheral areas as outlined above for the main instructional areas. For the sake of continuity, it is suggested that the outline be adhered to as closely as possible whenever it is applicable to a particular area.

A list of furniture to be contained in each room, by type and quantity, is also helpful to the design professionals to ensure that the furniture is adequate. Special storage requirements (in formal storage closets, shelves, or lockers) should be explained by each subcommittee. Inadequate amount or size is almost always a problem. Educators fail to explain precisely what their needs are; the more likely the facility and the better.

Miscellaneous Requirements — Any special needs from department to department that are not appropriately included at any other place. These miscellaneous considerations may be described at this point in the educational specifications.

**PERIPHERAL AREAS**

Each program subcommittee should describe any peripheral areas that are required. Traditionally these peripheral areas have been called storage rooms, practice rooms, conference rooms, teacher offices, production and work rooms, multipurpose rooms, equipment rooms, seminar rooms, audio-visual rooms, and reception areas.

These areas should be described in as much detail as is necessary. The same considerations would apply to peripheral areas as outlined above for the main instructional areas. For the sake of continuity, it is suggested that the outline be adhered to as closely as possible whenever it is applicable to a particular area.

A list of furniture to be contained in each room, by type and quantity, is also helpful to the design professionals to ensure that the furniture is adequate. Special storage requirements (in formal storage closets, shelves, or lockers) should be explained by each subcommittee. Inadequate amount or size is almost always a problem. Educators fail to explain precisely what their needs are; the more likely the facility and the better.
SPATIAL RELATIONSHIPS

If it is important that the main instructional areas of a subcommittee be adjacent to or near those of another area or near a special service support area, these requirements should be described in this paragraph. It is also important for the design professional to know if there are areas that should be separated for various reasons. Any relationship, positive or negative, should be described.

The designer must also be informed of the desired relationship between the main instructional areas and their peripheral areas within a program area.

The relationship of the various spaces within a program area, as well as the relationship between program areas and the special service support areas, may be summarized verbally or graphically. The Division of School Planning suggests the following techniques.

Within Departments — To summarize the desired relationship of the main instructional areas and their peripheral areas within a particular program area, an abstract "bubble" drawing is effective and simple to develop. Sample spatial relationship "bubble" drawings are provided for an administration suite and a science department. These examples are intended only to illustrate the technique, not to recommend or suggest the relationships contained in them.

Between Departments And Special Areas — A spatial relationship matrix is suggested for summarizing the desired relationship between organizational units for the entire school. It is suggested that each subcommittee be provided with a blank matrix containing the titles of all the subcommittees (or areas) on the two axes. After each subcommittee has indicated the desired relationship with each of the other subcommittees (or areas), the steering committee should combine the individual matrices into one spatial relationship matrix for the entire school.

Sample matrices are provided for an elementary school and for a high school. These are intended to illustrate only the technique and not the relationships within the matrices; the relationships will differ from school to school depending upon the differing philosophies, organizations, and teaching methodologies.
that the main instructional areas of a subject to or near those of another area or near support area, these requirements should be paragraph. It is also important for the design if there are areas that should be separate reasons. Any relationship, positive or negative, should also be informed of the desired relationship between main instructional areas and their peripheral program area.

of the various spaces within a program, a relationship between program areas and support areas, may be summarized verbally. Division of School Planning suggests the following:

— To summarize the desired relationship between instructional areas and their peripheral areas within a program area, an abstract “bubble” drawing is useful to develop. Sample spatial relationship are provided for an administration suite and entrance. These examples are intended only to illustrate, not to recommend or suggest the specifics.

- Special Areas — A spatial matrix is suggested for summarizing the desired organizational units for the entire school. At each subcommittee be provided with arranging the titles of all the subcommittees (or boxes). After each subcommittee has indicated its relationship with each of the other subcommittees, the entire committee should combine the into one spatial relationship matrix for the entire school.

These are intended to illustrate only the spatial relationships within the matrices; the specifics of school to school depending upon the philosophies, organizations, and teaching methodologies.
### SAMPLE ELEMENTARY SCHOOL RELATIONSHIP MATRIX

<table>
<thead>
<tr>
<th>Location</th>
<th>Administration</th>
<th>Media Center</th>
<th>Art</th>
<th>Music</th>
<th>Gymnasium</th>
<th>Kindergarten</th>
<th>Learning Area - Team 1</th>
<th>Learning Area - Team 2</th>
<th>Learning Area - Team 3</th>
<th>Learning Area - Team 4</th>
<th>Cafeteria</th>
<th>Teacher Lounge/Workroom</th>
<th>Custodial</th>
<th>Delivery</th>
<th>Commons Area</th>
<th>Bus Ingress/Egress</th>
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<tbody>
<tr>
<td>Administration</td>
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- **Direct Access**: ◆
- **Indirect Access**: ◐
- **Convenient, but not necessarily available**: ◐
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Convenient, but not necessarily adjacent: □

Access: □
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Convenient, but not necessarily adjacent: □
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SAMPLE HIGH SCHOOL RELATIONSHIP MATRIX

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POSSIBLE ELEMENTARY SCHOOL SUBCOMMITTEE ORGANIZATIONS

Kindergarten
Primary Grades
Intermediate Grades
Exceptional Children

OR

Learning Area I
Learning Area II
Learning Area III
Learning Area IV

OR

Kindergarten
Grade 1
Grade 2
Grade 3
Etcetera

Media Center
Administration
Food Services
Pupil Personnel Services
Transportation
Operation of Plant
Professional Library/Lounge/Work Area/Offices
POSSIBLE SECONDARY SCHOOL SUBCOMMITTEE ORGANIZATIONS

English
Social Studies
Foreign Languages

Science
Mathematics

Music (Vocal & Instrumental)
Art
Drama

Physical Education & Athletics

Home Economics
Industrial Arts
Office & Business Education

Distributive Education
Trade & Industrial Education
Agriculture & Horticulture

Clubs & Activities
Media Center

Faculty Lounge/Library
Faculty Workroom/Offices

Exceptional Classes
Health
Guidance
Administration

Food Services
Transportation
Operations & Maintenance

Or

Humanities
Science
Mathematics
Cultural Arts
Physical Education
Practical Arts
Vocational Arts

Clubs & Activities
Media Center

Faculty Center

Exceptional Classes
Health & Guidance
Administration
Supportive Services

26 SUBCOMMITTEES

14 SUBCOMMITTEES

11 SUBCOMMITTEES
PUBLICATIONS OF THE DIVISION OF SCHOOL PLANNING

SCHOOL PLANNING GUIDE SERIES
A Digest of Educational Planning  (June, 1963)
Educational Specifications  (May, 1968)
Minimum Check List for Mechanical and Electrical Plans and Specifications  (Aug., 1969)
Facilities for Early Childhood Education  (March, 1970)
Planning for Education: people and processes  (March, 1973)
Planning for Built-Up Roofing  (May, 1974)
Facilities for Occupational Education: grades 7-12  (September, 1974)

North Carolina Laws Relating to Public School Construction  (1966)

Planning for Shops and Laboratories

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