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ABSTRACT

This guide outlines some considerations relevant to planning quality educational programs. "Observations on the Writing of Educational Specifications" discusses the importance and effectiveness of educational specifications and the planning procedure in the development of educational specifications. "Characteristics Which Help to Identify the Needs of Middle School Students" looks at the physical, social, emotional, and intellectual characteristics of middle school students. "Suggested Purposes and Functions of the Middle School" presents what should be considered as the basis for the planning and development of a realistic program for the middle school. "To Test the Adequacy of Your Planning" presents sample questions to help assure that planning is as relevant as possible. And "Summary" discusses the role of the middle school and reiterates the characteristics of the middle school youth. (WR)

A GUIDE TO THE WRITING OF EDUCATIONAL SPECIFICATIONS
IN THE PLANNING OF MIDDLE SCHOOL PROGRAMS

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The development of this bulletin grew out of increasing interest in the middle school as an organizational and administrative pattern in planning public school programs.

Following a series of visits to schools locally identified as "Middle Schools" in Connecticut, the Bureau of Elementary and Secondary Education recognized the need for a guide to help local school planners in their efforts to establish middle schools.

This bulletin is addressed to local boards of education, building committees, architects, public school superintendents, principals, staff members and others interested and involved in the planning, development and construction of middle schools. It attempts to outline some considerations relevant to planning quality programs.

OBSERVATIONS ON THE WRITING OF EDUCATIONAL SPECIFICATIONS

Educational specifications are a communication from members of the education profession to members of the design profession. It is through this document that school planning groups, both lay and professional, report a desired educational program to an architect who is to design and produce a building to accommodate and facilitate this program and its services.

Educational specifications are important to the architect who may consider applying for the commission, and particularly to the firm which is awarded the planning contract. They are also important to educators and the community, for without such a document, the architect must make assumptions and decisions that govern educational matters which are not the prerogative nor the wish of architects.

The effectiveness of educational specifications as a communication instrument depends upon, at least, two primary considerations:

1. They refer in specific and well-organized form to matters of education in terms of people, activities, places, things and systems which constitute the educational program.
2. They are essentially a verbal document stating a design problem, not its solution. Tables, charts, illustrations and diagrams, therefore, are included only when needed to explain a program.

The planning procedure in the development of educational specifications involves three important steps:

1. A detailed study of the community and its needs, its growth patterns and population mobility, its enrollment projections and other factors detailed in School Building Economy Series Bulletin #2, Long Range Planning. While such a plan is an essential

prerequisite, only a few elements of it will be needed by the architect and should be summarized in the educational specifications.

2. The development of a comprehensive statement of a philosophy of education. Heretofore, such statements have often been mere collections of platitudes. The philosophy must be translated into a statement of activities, numbers, age groupings and time spans. The school that evolves must be a living translation of this philosophy of education.
3. The writing of the educational specifications which, in outline form, include the following:
 - (a) Long Range Plan - A brief statement of the long range educational plan for the town as adopted by the local board of education, including the organizational pattern for the school system.
 - (b) The Project - The relationship of the specific school building project to the long range plan and organizational pattern of the school system. What age groups are to be served by the regular program and why. What evening or non-school day use. What financing is available for this project. What can be set aside as "a post-construction contingency fund."
 - (c) Enrollment Data - Enrollment data for the entire school system, including growth experience and projection. Initial operating capacity for the specific project, with planned future expansion.
 - (d) Program Statistics - The general nature of the program, including group sizes, numbers of groups, numbers of teaching

stations, numbers of individual learning stations, specialized instruction or subject needs in terms of numbers of students and scheduling patterns.

- (e) Learning Activities - A clear, concise statement of the purposes of each learning activity area which will give a sense of feeling for that area. Description of what kinds of things will be happening there, keeping in mind the consideration that activities projected for next year may be quite different from those that will be taking place ten years hence.
- (f) Space Needs - Space needs to house the curriculum, including the function, utilization, size and inter-relationship of each area with other areas.
- (g) Support Facilities - Required support facilities, including areas for administration, conference, media, health, guidance, staff (group and individual), food service, custodial services, supply, storage and others.
- (h) Systems - Specialized systems requirements, such as inter-communication, clock, cable and/or closed circuit television, dial retrieval and electronic learning.
- (i) Environment - Requirements for environmental control, such as acoustics, lighting, darkening, heating, ventilating and air conditioning, and accompanying aesthetic considerations.
- (j) Equipment - Specialized equipment and furniture required to carry out the function of each area including equipment lists and provision for sculpture, murals, paintings or other art objects.
- (k) Security and Safety Needs - Requirements for protection against vandalism, fire, theft, accidents, etc.
- (l) Site Development - Site development requirements, including

instructional, recreational, service facilities and landscaping.

Detailed as the educational specifications should be, they cannot be regarded as a rigidly fixed entity. While they will clearly set the design problems for the architect, they can also serve to promote dialogue between the architect and his clients in an effort to seek modifications or solutions which will provide maximal efficiency, economy, comfort and beauty. It is a fact of life that program compromises, based upon ability to pay, often have to be made. When the architect "costs out" various elements of the building project, the clients must make the difficult decisions as to how a minimal, an average or a superior solution will affect the educational program in each case.

CHARACTERISTICS WHICH HELP TO IDENTIFY THE NEEDS OF MIDDLE SCHOOL STUDENTS

Essential prerequisites to the identification of the purposes and functions of "the middle school" are both an awareness and an understanding of the specific and general characteristics and needs of the students who will be served by such a school.

While there may be considerable overlapping and interrelatedness between and among the characteristics of this age group, any generalizations may be identified according to those which are essentially physical, social, emotional and intellectual.

Physical - In relation to body development, appearance and activity, students of middle-school age exhibit:

- Increased interest in the physical aspects of the body, including its functions and changes.
- Generally rapid, though irregular, physical development with resultant differences among peers due to uneven growth and development. Girls are generally more mature physically than boys at the same chronological age.
- Awkward and clumsy movements due to bone growth preceding muscle growth.
- Considerable attention to personal appearance and concern with irregularities such as skin blemishes, scars, obesity, etc.
- Conformity with "in" styles - of clothing, hair style, etc.
- Extreme restlessness with great need to release physical energy--but they often tire easily.
- Talkativeness.
- Responsiveness to a variety of non-structured and leisure activities.

--Be sensitive to criticism of personal shortcomings and are often easily offended.

--Be anxious, doubtful and confused about their physical and intellectual development, social relationships and adult authority.

Intellectual - In relation to their intellectual experiences, students of middle-school age tend to:

--Be curious and inquisitive.

--Prefer active over passive learning activities.

--Relate intellectual activities with immediate and short-range goals.

--Prefer interaction with peers during learning activities.

--Desire opportunities to express originality on an individual basis.

--Be interested in both concrete and abstract exercises and to be more able to deal with abstract concepts than formerly.

--Desire opportunities to participate in practical problem solving situations.

--Show interest in races and cultures other than their own.

--Challenge "idealistic" teachings.

--Be interested in making fuller utilization of basic skills used in the elementary school.

--Evaluate personal capabilities, both attributes and limitations.

--Show strong, intense interests, not always sustained, in various pursuits.

SUGGESTED PURPOSES AND FUNCTIONS
OF THE MIDDLE SCHOOL

If the general and specific characteristics of the students in the middle school age group are to be the bases for the planning and development of a realistic program, the suggested purposes and functions of the middle school would include:

To provide a program for pre- and early-adolescents which is relevant to individual needs and societal demands in a world where there is constant change and a rapidly expanding body of knowledge. Such a program would consciously aim toward the continuing development of self-directing individuals, capable of solving problems through both rational and creative endeavors.

To provide an educational environment where the child is most important and has opportunities for success. Such an environment would facilitate communication and afford opportunities for meeting interpersonal needs.

To provide orientation to and exploration of the broad spectrum of educational experiences in the world of work, living and leisure.

To provide for a transitional period of continuous adjustment between the programs of the elementary school and the senior high school. This would include emphasis upon a continuation and enrichment of basic education in the concepts and skills pertinent to the general education of the pupil.

To provide more adequately for guidance and counseling through the provision of special services and personnel. Aptitudes, interests and capacities of individual pupils would be discovered by testing, counseling and exploratory work.

CONSIDERATIONS IN PLANNING THE LEARNING ENVIRONMENT IN THE MIDDLE SCHOOL

The middle school program should be tailored as carefully as possible to the needs, interests and abilities of the child. The primary objective is the motivation to learn and the awareness of the various methods of learning, rather than the mere acquisition of knowledge. The essential skills, understandings and attitudes to be acquired within each discipline, as well as between and among disciplines, must be carefully defined within the framework of this objective.

The Program

The program which motivates learning in the middle school must include experiences which provide each child with opportunities for increasing self identity, for comprehension of his environment and attainments of full potential in the development of understanding and skill. Developmental goals include improvements in rational thinking procedures and increased competency in identifying, analyzing, classifying, manipulating, measuring, listening, viewing, communicating and expressing. Sensory experiences should permeate the entire program to activate student involvement in experimentation and exploration. The nature of all of these experiences, their quality and adequacy will strongly influence a child's image of himself, his establishment of values about learning and living, and consequently his development as an individual and a member of society.

Resources

A wide range of learning resources should be available to all students and staff. The variety, adequacy, accessibility and appropriateness of such materials, equipment and personnel should be commensurate

with the program they are designed to support. A well developed and equipped educational center is the base for providing essential and effective student and staff resource services.

Organization

The pattern of organization of a middle school is not the only determinant factor in establishing a quality educational program designed to serve the needs of pre- and early-adolescents. A key lies in the program itself. However, once a program is developed, careful consideration should be given to selecting a flexible organizational pattern that will best accommodate it. Factors related to the organizational pattern of a school include time scheduling, grouping patterns, and personnel assignments. An individualized and flexible program demands a flexible time schedule.

We see no reason why regular schedules need to be followed faithfully in any of the schools, or why it is necessary for all pupils to spend the same number of minutes each week in class instruction in the various contents or indeed why every subject should be taught every day. Granted that guidelines are needed to ensure that each subject receives its fair share of attention through the year, it seems clear that many American schools, especially at the secondary level, have long been crippled by slavish adherence to requirements of time allocation and class schedules. All too often the program has been dictated not by the actual needs and interests of pupils but by the way the school clock has been divided.^{*1}

Grouping patterns appropriate to a flexible program might include heterogeneous, homogeneous and multi-age groupings, or varying combinations of these, as well as opportunities for independent work and study.

*1 Alexander, William M. and Robert H. Anderson, Toward 1975: A Guide to Schools in Howard County, Maryland. Board of Education of Howard County. 1966. p.8.

In determining personnel assignments, consideration should be given to the requirements of such approaches as team teaching, differentiated staffing, tutorial programs, independent study, or a combination of these, and how they may contribute to the needs of students.

Services

Essential to an effective school program is a carefully developed plan which will insure the necessary administrative and supportive services. Those services include administration, guidance, health, special education and maintenance.

Spaces

The basic consideration in designing the school plant is the accommodation of the facility to the program of the school. The middle school plant must reflect the transition from the concept of the self-contained classroom to the mobility of smaller groups and even individuals in later years. Variety, flexibility and accessibility of spaces are prime considerations.

Provision must be made for a variety of spaces, ranging from large to small group areas, individual work spaces, staff resource centers for individual and group planning and for the preparation of a variety of teaching media, laboratories and conference rooms. Flexibility of space can be achieved by means of mobile partitions, a variety of area dividers and multi-purpose facilities.

TO TEST THE ADEQUACY OF YOUR PLANNING

The accuracy of your answers to the following sample questions can help assure that the architect's planning will be as relevant as possible.

1. How do you plan organizationally to accommodate your instructional program to the learning needs and progress of your students?
2. In what specific ways will an individual student's schedule differ from that in the conventional junior high school? Cite your evidence.
3. What alternative approaches to instruction are to be provided?
4. What provision has been made for growth in independent study skills? Cite your year-by-year planning toward this.
5. In what ways does the total school program coordinate the various subject fields? In what ways are the instructional endeavors in any one subject field linked to other areas of activity?
6. What is your plan for evaluating program effectiveness on a year-by-year basis? What base line data will you employ? How many aspects of growth will these survey? To what provisions for program modification for individuals and for groups will these studies and assessments lead?
7. What provision for building adaptations will be made for changes in program from year to year?
8. What factors in the total middle school program indicate that the emphases are upon the child and his opportunities for success?
9. What provisions are being made to assure that the background, experience, training and attitudes of the staff members are commensurate with child-centered rather than subject-centered approaches to working with middle school students?
10. What components of the middle school program will facilitate student and staff communication and enhance the scope and quality of

- interpersonal relationships? How are factors which might inhibit communication and interpersonal relationships to be eliminated?
11. What opportunities are afforded in the school program for orientation and exploration beyond the "academic" areas? What opportunities are afforded for familiarization with the worlds of work, living and leisure? What variety of provisions have been made for making the immediate and larger community a learning laboratory?
 12. How will the middle school program be articulated with the elementary and secondary programs? What provisions are included in the program for those students who have not yet mastered the basic skills at the elementary school level? What provisions are included for those students who are "ready" for facets of the curriculum that have traditionally been "reserved" for the high school?
 13. How adequate are the facilities, staff and program for the expanded role of guidance and counseling during the middle school years? Cite your evidence.
 14. How do you plan to identify and maintain an on-going assessment of the aptitudes, interests and capabilities of your students? How do you plan to adapt this diagnosis and assessment to the teaching program?
 15. What evidence have you that the purposes and functions of the middle school are understood and supported by the pupils, staff, parents and community? What roles do students and parents play in the design implementation and evaluation of the middle school program?
 16. What provision has been made for the selection and use of learning resources? Will the number, variety and range of resources provide students with appropriate experiences supportive to the learning program and their special needs? What plans do you have to facilitate student and teacher access to these resources when they are needed?

SUMMARY

Middle school youth are shifting their close relationships and intimate feelings from the immediate family to a broader population. Interest in a wider circle of their peers, including a sudden awareness of the opposite sex, takes root. Their tastes, values, interests and attitudes change. They explore, inquire, seek increasing ways of self-expression. They seek involvement in social groups, and must have acceptance by their peers. They begin to assert their independence, rebel against authority, and want to have something to say about decisions that affect them. School planners cannot overlook the special characteristics of these youth when curricula and the learning environment are being developed. It is necessary to provide coordination of meaningful co-curricular activities, based on social, athletic, intellectual or special interest drives.

The facility to house a middle school program should be most carefully planned. It should represent the flexibility of the program, the rapidly changing child, the motivating atmosphere. Above all, it must be a dynamic force, a living institution.

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