

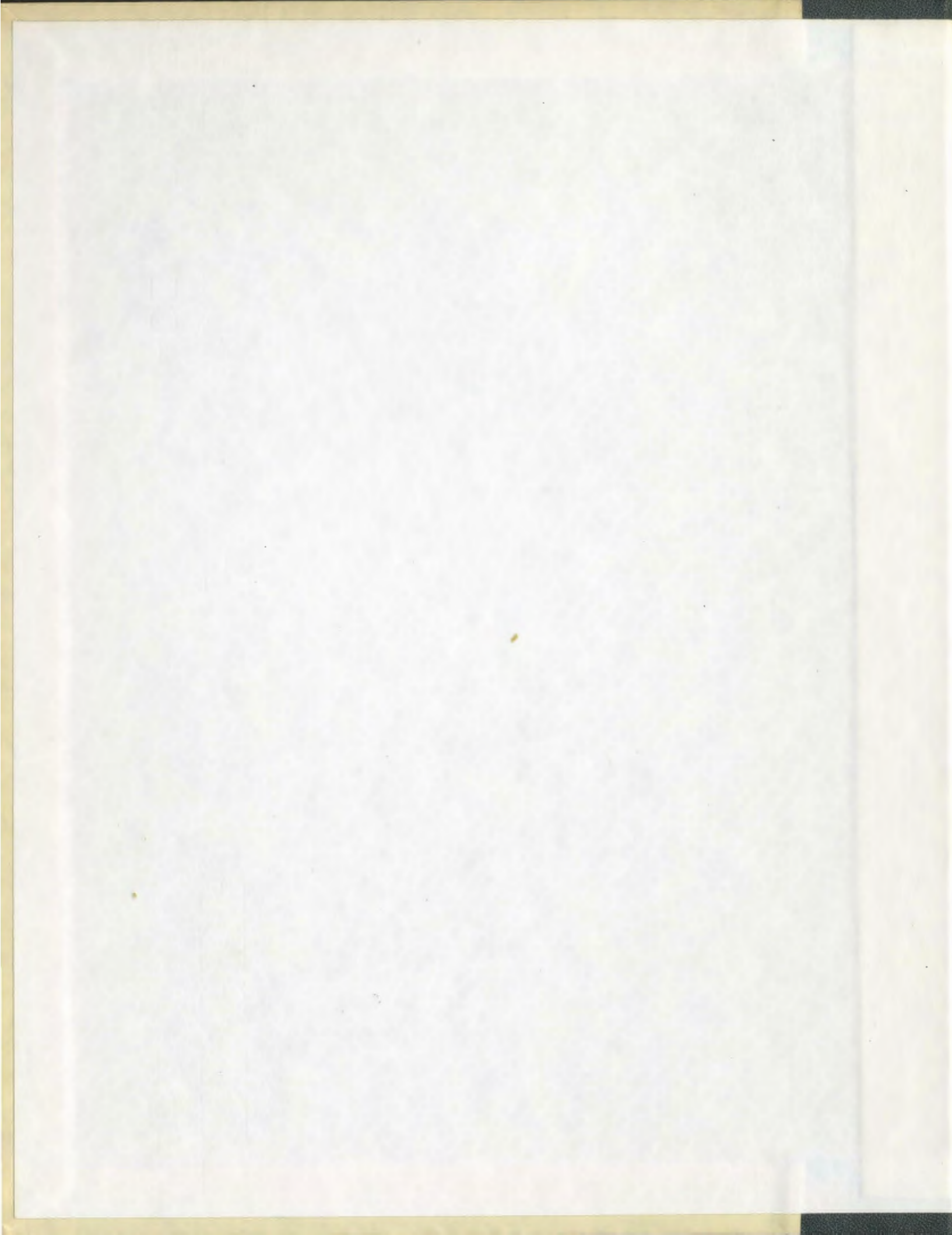
THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS
FOR A PRIMARY SCHOOL

CENTRE FOR NEWFOUNDLAND STUDIES

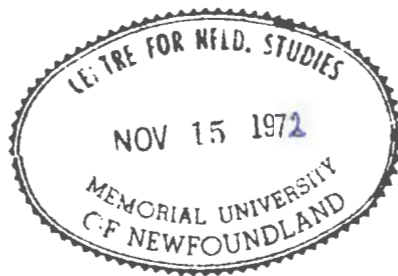
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FRANK S. LEE



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THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS
FOR A PRIMARY SCHOOL

A Report of a Project
Presented to The Faculty of Education
in Partial Fulfillment of the Requirements
for the Degree of
Master of Education

by



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May, 1972

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

The undersigned certify that they have read and recommend for acceptance the report of a project entitled, "The Development of Educational Specifications for a Primary School," submitted by Frank S. Lee in partial fulfillment of the requirements for the Degree of Master of Education.

Date _____

ABSTRACT

This project was designed to develop and illustrate the implementation of a process of educational facility planning in a selected school district in the Province of Newfoundland and Labrador. As a secondary aim, it attempted to provide for the primary teachers of that district a comprehensive program of in-service education and to fulfill this aim by involving them, along with school board members, administrators, parents and other school personnel, directly in the planning of a primary school for the town of Grand Falls.

A definite plan of action was developed and approval was received from the Exploits Valley Integrated School Board to institute the project in its district. A steering committee was first appointed and given the responsibility of completing the organizational form of the project and generally administering it. This group then appointed ten sub-committees each of which studied and prepared, in the standard form provided by the steering committee, reports on designated areas of the new school. To assist them in preparing their reports, sub-committees were provided printed and other types of audio-visual materials and opportunities to visit curriculum projects in action or to meet

with specialists in specific curriculum areas. All sub-committee reports were studied by the steering committee and used to write educational specifications for the proposed school.

Upon completion of the project, it was felt that it was successful both in terms of its end product--the educational specifications--and of the process by which the educational specifications were written. Recommendations to persons contemplating a similar process of educational facility planning emphasized the successful aspects of this process. These included (1) an adequate supply of printed and other audio-visual materials, (2) a suggested outline for sub-committee reports, (3) a high degree of participation, and (4) a flexible organizational form. A building needs survey, to determine both the quality and quantity of facilities required, was stressed as being necessary before the actual planning of facilities is begun.

Recommendations to assist educational planners on a provincial basis pointed to the following needs:

1. for each school district to prepare and have available a comprehensive master plan of its educational needs for at least a ten-year period.
2. for additional planning personnel to be attached to school district offices, to regional educational offices and to the provincial Department of Education.

3. for long-range planning and financial commitment on the part of the provincial government.
4. for closer attention by educational planners to the needs of youth as reflected in the school curriculum.
5. for a high degree of co-operation in planning between school districts and the various institutions of higher education in the province.

ACKNOWLEDGEMENTS

The nature of the work described in the pages of this report demanded the active participation and co-operation of a great number of people. The writer wishes to express his sincere appreciation for the contributions of each one of them. The persons who served as members of both the steering committee and the various sub-committees worked extremely hard and sometimes under less than ideal conditions to complete their assigned tasks. The names of all these persons are listed in Appendix C. The writer is thankful as well to the Exploits Valley Integrated School Board of Grand Falls, Newfoundland, for permission to conduct this project in its district and to its supervisory and clerical staff for their willing assistance throughout the course of the project.

Mr. Walter Cull, Superintendent of Education for the Exploits Valley Integrated School Board deserves credit as being one of the first in this province to recognize the need for and to encourage the kind of teacher participation in educational facility planning which has made this project successful. His support and enthusiasm inspired all who were involved in it.

It was Dr. P. J. Warren, Head, Department of Educational Administration, Memorial University of Newfoundland,

who was mainly responsible for arousing the writer's interest in the area of educational facility planning. Without his early encouragement and prodding, the project would probably not have been undertaken.

A very special word of appreciation is due Dr. Robert Fisher, Acting Head, Department of Educational Administration, Memorial University of Newfoundland, who was the project supervisor. His advice, guidance and encouragement throughout the successive stages of the project made the work more enjoyable and contributed in no small measure to its final success.

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS AND METHODS USED

I. THE PROBLEM

Introduction and Justification of the Project.

This project was concerned with the development and implementation of a process of educational planning to provide a primary school building that would be program-oriented and functional for the pupils and teachers who would use it. It also attempted to integrate the planning method devised into a program of in-service education for the primary teachers of a school district and to involve as well school board members, administrators, parents, classified school personnel and the public generally in the planning process. It was hoped that the study would result in a clear and well defined set of educational specifications to guide the architect in designing a new school and in recommendations to guide future planners of similar educational facilities.

Evidence provided in recent years has clearly shown that the planning of educational facilities in Newfoundland has in the past been a haphazard and generally unorganized process. Most of this evidence comes from The Report of the Royal Commission on Education and Youth, which was completed in 1968. In the chapter entitled "School Buildings, Facilities

and Maintenance," this report states:

School buildings are often considered accessories to the educational process. It is said that they have no reason for existence per se, that they are not ends in themselves. Yet, there is little doubt that their nature determines to a high degree the scope and quality of the educational opportunity provided. Their nature in turn is largely determined by the educational and technical planning which precedes their construction. All too often school buildings are planned and erected with so little thought to the nature of the goals sought that the educational activities must be restricted to fit the physical facilities provided.¹

A brief presented to this Commission by the Provincial Department of Health, reported that a survey of one hundred eighty-seven schools conducted in 1965 found 35 to 45 percent of them to be unsatisfactory in terms of structural conditions, lighting, ventilation and heating.²

Dr. P. J. Warren, Chairman of the Commission, in an address to the teaching staff of Grant Collegiate in November, 1967, stated:

I have been appalled at some of the school facilities seen during the past three years--facilities that were planned without any recognition of the area, the educational specifications, without any recognition of broad responsibilities that we have to the children to provide not only the academic programs, but social, recreational, physical, and other types of education, that we must provide.³

¹Report of the Royal Commission on Education and Youth, (Province of Newfoundland and Labrador, 1968), Vol. II. p. 74.

²Ibid.

³Brief on the Expansion of High School Facilities, (Springdale Amalgamated School Board, 1967), p. 20.

Among the causes of these conditions, the report includes:

- (1) An absence of specialized knowledge of school construction both on the part of provincial authorities and the local school boards.
- (2) Lack of appreciation for adequate supervision of school construction.
- (3) Lack of appreciation of the need for good facilities and what good facilities include.⁴

Further causes of this situation and a possible remedy were pointed to in the following statement from the Report:

The Department . . . has no regulations for school construction, no building code, no formula for estimating cost. The cost and therefore the quality of the building has been determined by the ability of school boards to pay 30 or 40 percent of the construction cost as stated in the Education Act. The Commission is of the opinion that if millions of dollars are to be spent on school construction some machinery should exist to assure that full value is received for the money spent and that buildings are erected in line with some basic standards.⁵

The report further states:

With a new emphasis on curriculum, the demand for special services, guidance and counselling, team teaching, the new role of the library, an awareness of the 'non-average' child, and the variety of teaching-learning situations, it becomes necessary for principals and other professional educators to play a large part in the planning of future schools. In other words there must be team planning, on the part of boards, principals, superintendents and architects. For large schools, team

⁴Royal Commission Report, pp. 74-75.

⁵Ibid., p. 75.

planning should begin at least a year before construction is begun. In their planning, school boards should avail of all expert and professional advice within their reach.⁶

Though three studies in the area of school planning, providing educational information for use by architects, have been conducted in Newfoundland in recent years, none have provided either the degree of involvement or the kind of comprehensive information suggested by the above statements.

The first of these studies, conducted by the teaching staff of Grant Collegiate, resulted in a brief containing recommendations for the expansion of high school facilities being presented to the Springdale Amalgamated School Board in November, 1967. To the writer's knowledge these recommendations have not yet been implemented.

Two more recent studies were conducted during the school year 1969-70 by professional advisory committees set up to advise the Building Committee of the Avalon Consolidated School Board. These studies resulted in sets of recommendations concerning educational requirements for a proposed elementary and junior high school being presented to the school board. In each of these studies, recommendations were made by committees composed in each case of the assistant superintendent, one supervisor and six principals.

The present study was designed to provide the kind of

⁶Ibid., p. 76.

team planning experience that has been suggested by The Report of the Royal Commission on Education and Youth.

Statement of the Problem

Having provided evidence of the inadequacy of educational facility planning procedures in Newfoundland, the general purpose of this study was to devise a systematic method of planning new school facilities that would place major emphasis on the school program, the activities for which the school would be used and the pupils and teachers who would use it. The study further attempted to implement the planning process devised and to develop a set of educational specifications for a school in the town of Grand Falls in the Exploits Valley Integrated School District. The development of this latter document involved school board members, administrators, teachers, classified school personnel and parents of this school district.

The study also attempted to follow the planning process through the architectural stage after the educational specifications document had been presented. The purpose of this stage of the study was simply to report post-educational specification activity and to indicate the interpretative role that could be played by educators at this stage of planning.

II. DELIMITATION

This study was conducted in the Exploits Valley Integrated School District and included participants involved

with primary education from the towns of Bishop's Falls, Botwood, Grand Falls and Windsor. Transportation difficulties prevented Buchans and Point Leamington teachers from being included in the project.

III. LIMITATIONS

1. This study was limited to the development and implementation of a planning process in the Exploits Valley Integrated School District of Newfoundland and to the school personnel employed in that district. Consequently, any inferences drawn from the study must be limited to this district.
2. No attempt was made to select participants of particular qualifications or experience except to get a representation of all groups involved in primary education.
3. The study was further limited to the planning of a school building and makes no attempt to control the administration of the building process.
4. The study was developmental and descriptive in nature. Except for rudimentary school enrolment projections, no statistical analysis is given.

IV. DEFINITION OF TERMS

Primary School.--A school attended by children in their first, second, third and fourth years of formal education corresponding generally to Kindergarten, Grade I, Grade II and Grade III.

Primary Teacher.--A teacher of children in their first, second, third, and fourth years of formal education corresponding generally to Kindergarten, Grade I, Grade II and Grade III.

Supervising Principal.--A principal of a high school who is responsible for supervising the operation of schools supplying students to his school.

Supervisor.--A professional educator employed by a school district to supervise and coordinate the programs in and between schools of that district.

Educational Specifications.--Statement of the educational program and its implications for space, space relationships and environment in a school. They are characterized most importantly by their effectiveness in communicating educational needs to the architects and engineer who will design and erect our school buildings. A detailed analysis of the nature of educational specifications is contained in Chapter II.

The Exploits Valley Integrated School District.--This is one of the educational districts in the Province of Newfoundland and Labrador serving generally the needs of pupils of the Anglican, United Church, Salvation Army and Presbyterian religious denominations. The district office is located in Grand Falls and for administrative purposes the district is divided into six zones with headquarters in Buchans, Grand Falls, Windsor, Bishop's Falls, Botwood and Point Leamington. Each zone is administered by a Supervising Principal. This study was carried out in the Grand Falls Zone and the

proposed school is intended to replace two old buildings in this zone.

Denominational Educational Committee.--A committee established under the Newfoundland Department of Education Act, 1968, outside the Department of Education and for the purpose of representing one or a group of religious denominations in carrying out this Act. The Integrated Denominational Educational Committee, to which reference is made in this report, represents the Anglican, United Church, Salvation Army and Presbyterian religious denominations.

V. SOURCES OF DATA

Information used in developing the process of planning described in this study was gained from a survey of the literature pertinent to the topic. Participants in the study who provided recommendations on which the actual educational specifications are based were provided with appropriate print materials, films, filmstrips and tapes. Participants were also encouraged to draw on their own experience to as great a degree as possible. In cases where it was felt necessary and appropriate, arrangements were made for groups of teachers to meet with consultants in specific fields or to visit schools where particular educational processes were being carried out.

Data on which projections of school enrolment are based were obtained from two sources. Records of births, by year, from 1956 to 1970, inclusive, were obtained from the records of religious denominations which send children to the

integrated schools of the district. Records of past enrollment were obtained from the annual statistical returns of the schools that the new facility will replace.

VI. THE PLANNING TECHNIQUE

After developing the planning guide to be used, a proposal to carry out the study in their district in the school year 1970-71, was presented to the Exploits Valley Integrated School Board. The planning guide made provision for the District Superintendent to appoint, in September, 1970, a steering committee to be convened by the writer and composed of at least one supervisor and one school principal from the zone. This committee was to be responsible for completing the organizational form of the study, deciding what people to involve in the study, identifying time factors, developing forms for reports and communications, disseminating information and generally developing policy for and administering the study. This committee would in turn appoint, with the approval of the Superintendent, sub-committees to study and prepare reports on designated areas of the school being planned.

Sub-committees were to be set up to study:

1. Kindergarten Learning Spaces
2. Special Education
3. General Learning Spaces (Grades one, two and three)
4. Music Area
5. Art Area

6. Library Resource Centre
7. Assembly-Multi-Purpose Space
8. Administrative, Teacher Planning Area and Lounge
9. Service Areas (Washrooms, custodial and maintenance work area and general storage)
10. Site

Motivation and discussion materials for participants would be provided by:

1. A district-wide workshop held early in the school year for all primary teachers and focusing on "Curriculum Trends for the Future and Their Implications for School Construction."
2. Visits by participants to schools where new methods are being attempted and discussions with consultants in specialized curricular areas.
3. The provision of print and audio-visual materials for use by participants working in specific areas.

Sub-committees were to present written reports to the steering committee in a standard form provided for that purpose (Appendix A). The information and recommendations contained in these reports were to be studied by the steering committee and then used to write educational specifications for the proposed school.

VII. TREATMENT OF THE DATA

Information gained from a review of the literature and that incorporated in reports of sub-committees was

placed in a standard form (Appendix A) and after careful scrutiny by the steering committee used to prepare a draft of educational specifications. All participants in the study were given an opportunity to review and suggest revisions in this draft before a second was prepared for presentation to the School Board and subsequently to the school architect.

Records of births, by year, obtained from the denominational representatives in Grand Falls, the town for which the school was planned, were used to find an average ratio between the number of pre-school children in the community and those who attended kindergarten in any particular year. This ratio was then used to project kindergarten enrolment for a further five years.

Past enrolment records were used to find average survival ratios from grade to grade in the schools being replaced. These ratios were used to project the enrolment in each grade for a further five years.

VIII. METHOD OF DATA PRESENTATION

Information obtained from the literature and from sub-committee reports is presented in the form of a standard educational specifications document.

Data used to project enrolments and the actual projections are presented in tabular form, with accompanying explanations, in the text of the report.

A comprehensive report of the process of developing the educational specifications is presented in narrative form.

IX. ORGANIZATION OF THE REPORT

The following chapter presents a review of the literature related to the study in an attempt to indicate what educational specifications are, how they are developed and what should be included in them. Chapter III is a narrative presentation of the process followed up to the final educational specifications. In Chapter IV, a description of the activities which followed the presentation of the educational specifications is contained. The final chapter provides a summary of the study, some general conclusions, recommendations and implications for further study.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter presents a summary of the literature pertinent to the process of writing educational specifications in an attempt to determine what they are and how they are developed. The chapter presents views relating to the following six questions:

1. What are educational specifications?
2. What information is included in educational specifications?
3. Why are educational specifications necessary?
4. Who is responsible for developing educational specifications?
5. How are educational specifications developed?
6. What is the nature of the educational specifications document?

The practice by educators of writing sets of specifications for each new facility or for each facility extension is a relatively new one. Nelms points out that the use of this document may not be widespread for some of the following possible reasons:

1. Educational specifications are not accepted by some plant planners as necessary in school plant planning.

2. Diversification among planners as to what data should be included in educational specifications.
3. The lack of established acceptable methods by which this data may be presented to the architect.
4. The misconceived opinion that the educator has little or no responsibility for assisting in the planning of new school facilities.
5. The awareness of the real value of adequate educational specifications to the usefulness of the completed school plant as well as to the architect.
6. The time element involved in preparing useful educational specifications.
7. The pressing need for school facilities which does not allow time for preparing a multipage document of the plant requirements of the educational program.¹

The latter two of these reasons are probably most prevalent and cause more mistakes in the planning process than any other. It is undoubtedly true that too many of our schools are planned and built in an atmosphere of crisis. Seldom is the physical layout of a school planned before the money has been allocated to build it and then it is too late; for once the money is committed, people expect the construction to begin. The squeeze on time for

¹Walter L. Nelms, "Standardization of Educational Specifications," American School Board Journal, CLI, (July, 1965), pp. 44-46.

planning, created in this way, often results in schools being designed by formula and with little or no regard to the educational program. Rice provides an example of this when he says:

Many schools are designed only by formula and index numbers, for example, divide the elementary enrolment by 30 and you have the number of equal-sized classrooms required; multiply the standard classroom area by 1.5 for the size of the kindergarten; divide the total enrolment in half to get the size of the auditorium; arrange the boxes along the corridor according to the dictates of site, and so forth.²

In the past when schools were characterized by uniformity, this type of planning may have been acceptable but with the present emphasis on diversity and flexibility in educational programming, a more rational approach to school plant planning is necessary.

I. WHAT ARE EDUCATIONAL SPECIFICATIONS?

Because of their nature and the varying purposes for which they are written, attempts to define educational specifications have usually ended in generalities. One characteristic which does, however, appear to persist is that of communication between educators on the one hand and architects and engineers on the other. Waite, for example, defines educational specifications as:

a means by which school authorities communicate their wishes and needs to the design team of architects and engineers. At their best they (1) convey

²Arthur Rice, "Here Are Some Facts That Affect Schoolhouse Planning," The Nations Schools, LXV (April, 1960), pp. 74-79.

understanding without confusion (2) are free from pedagogic jargon and (3) set the problem without hampering the design team in terms of solution. At their worst the opposite of these factors is true.³

A planning guide of the North Carolina Department of Public Instruction sees educational specifications as:

written means of communication between the educators and the design professions. They are the communicative media through which the educators identify the educational program and factors which affect learning and teaching, thus providing a basis for the architect to use in developing the building plans and specifications.⁴

The figure on the following page, adapted from the above guide, also helps define educational specifications by placing them in their proper perspective with respect to the total planning process.

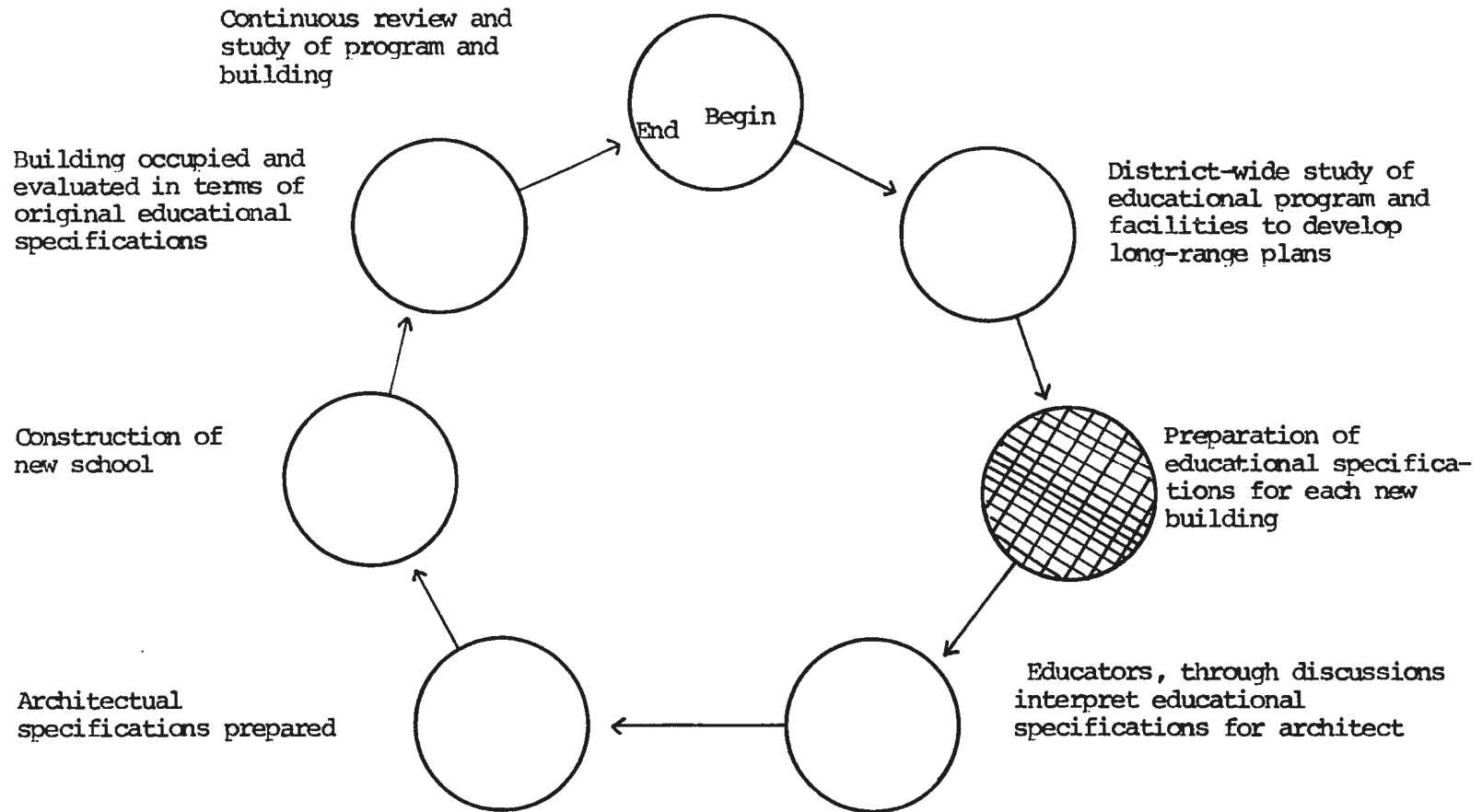
Sometimes educational specifications are confused with those written by the architect. Wilson attempts to eliminate this confusion and to further define educational specifications by pointing to the differences between them. These differences are contrasted below:

<u>Educational Specifications</u>	<u>Architectural Specifications</u>
1. Describe an educational program in terms of	1. Describe the school building in terms of physical

³L. L. Waite, "Educational Specifications: Key to Good Buildings," American School and University, XXXVIII (March, 1966), pp. 32-33.

⁴Educational Specifications (School Planning Guide Series - 3, Publication No. 411); Raleigh, North Carolina: Department of Public Instruction, Division of School Planning, 1968), p. 4.

FIGURE 1
 THE PLACE OF EDUCATIONAL SPECIFICATIONS
 IN THE PLANNING PROCESS



⁵Ibid., 6.

Educational Specifications

processes and activities that are to be carried on by the various groups that use the building.

2. Describe the people and what they will do within the classroom.
3. Describe how the building is to operate.
4. Begin with a statement of the general philosophy of the educational program.
5. Describe teaching methods and educational goals.
6. List teaching materials and equipment room by room.

Architectural Specifications

materials, dimensions and shapes.

2. Describe physical materials and measurements for classrooms.
3. Describe how the building will look.
4. Begin with a statement of general conditions of the contract.
5. Describe the various standards of workmanship and the various processes to be used in the construction of the building.
6. List in great detail all of the special material and all of the special building techniques to be used in a particular part of the building.

He continues with the following example:

Architectural specifications might say that a particular classroom is to have brick walls, asphalt tile covering and be 30 feet long and 26 feet wide. The educational specifications describing the same area might state that the room is to be used by various groups of pupils to a maximum of thirty; that pupils will occupy the room throughout the normal school day and will engage in reading, individual seatwork, informal games and dramatics; that specified numbers of tables, chairs and desks of various shapes and sizes will be required; that hot and cold running water, electrical outlets and other specified conveniences will be required for pupils to carry out the various activities; and that specified items of instructional equipment should be included in the classroom, in order to efficiently execute the program.⁶

In summary, educational specifications are a means whereby school authorities communicate their requirements, with regard to school buildings, to the architectural team that will eventually design such buildings. They constitute a written communicative media through which educators identify the educational program and isolate factors which affect learning and teaching, thus providing the architect with a sound basis for developing building plans and specifications.

II. WHAT INFORMATION IS INCLUDED IN EDUCATIONAL SPECIFICATIONS?

If educational specifications are to serve the purposes for which they are intended, they must provide the kinds of information that will enable an architect to design a

⁶Russell E. Wilson, "Educational Specifications," The Nations Schools, LVI (October, 1955), pp. 71-74.

school building. This information must reflect the qualitative and quantitative characteristics of the educational processes and procedures.

Wilson states that "the recommended contents for educational specifications can be summarized in three major areas: (1) philosophy and curriculum, (2) administrative organization, and (3) non-instructional service requirements."⁷

Wilson and Saavedra state that:

Educational specifications, in written form, should define clearly all the tasks that administrators hope to accomplish in the new school. They begin with a general statement of the philosophy of education of the school district and a more detailed statement of philosophy - or objectives - of the new building. This will include goals, resources, planned activities and an outline of present and future offerings - use for adult education or other community use

Next the educational program and its demands upon space must be detailed in a meaningful fashion. Broad goals must be translated into situations in which children can achieve these goals and ideals.⁸

With respect to the curriculum, the School Planning Guide of the North Carolina Department of Public Instruction⁹ identifies four areas to which careful attention should be given:

1. The Purposes of Education--If the program is to be studied in an attempt to provide facilities

⁷Russell E. Wilson, "Planning the Content for Educational Specifications," The Nations Schools, LVI (November, 1955), p. 79.

⁸William O. Wilson and Louis E. Saavedra, "Edspecs: Foundation for Good Buildings," American School and University, XXXVIII (May, 1966), pp. 26-28.

⁹Educational Specifications, op. cit., pp. 7-10.

consistent with its needs, the purposes of education must first be looked at. Resulting statements should permit the educational specifications to give an indication of what education is, in terms of methods of acquiring, synthesizing, applying and generalizing from knowledge, of the social process that operates within the school and how skills are acquired through the activities of pupils and teachers.

2. The Individual.--It must be recognized that learning is a personal matter. Consequently, recommendations for the provision of educational facilities must reflect a concern for the individual and his place in the school.
3. Shaping the Program.--In outlining the educational program, the educators must consider aspects that are fixed by the state as well as those set by the local board of education. All activities in which pupils interact with teachers in a learning situation are part of the program and should be identified in the educational specifications.
4. Technology.--The importance of providing children with a wide variety of devices and resources for learning is becoming increasingly recognized. Similarly, more and more educators are coming to realize that a place of learning does not have to

be confined inside four walls. The educational specifications should then specify what technology and resources will be used in the learning-teaching process.

The non-instructional service requirements aspect of the educational specifications deals with such items as heating, ventilation, lighting, acoustics, special spaces and space relationships.

In addition to the above, Wilson and Saavedra¹⁰ point out that the educational specifications should provide for the architect as much background information about the project as possible. One such item would be the nature of the community to be served by the school. Community growth and mobility of population should be analyzed as well as the economic and sociological background of the community. Maps of the area to be served should be available as should lists of cultural and recreational facilities already existing in the vicinity. A second consideration in this regard is site, an analysis of which would determine adequacy in terms of size, drainage, available parking space and present and planned vehicular traffic patterns of the area. The final consideration in providing background information is the nature of the project being undertaken--whether the building will be built

¹⁰Wilson and Saavedra, op. cit., pp. 7-10.

to maximum size at the present time or provision will be made for expansion and, if so, what will be included in each building phase. Optimum and maximum enrolment anticipated and the grades to be served should also be included.

In summary, the educational specifications should provide for the architect as much and as many kinds of information as possible concerning the school curriculum, its administrative organization, its environment and the community in which it is located.

III. WHY ARE EDUCATIONAL SPECIFICATIONS NECESSARY?

As has been noted in the section of this chapter devoted to the definition of educational specifications, they are primarily necessary as a means of communication between educational authorities and the architects chosen to design their school facilities. Wilson supports this statement when he says, "edspecs [sic] are the means of placing the educator in direct and meaningful communication with the school architect."¹¹ This communication need not necessarily be restricted to the written document but can be followed up by discussions and visits to other buildings.

The School Planning Guide of the North Carolina Department of Public Instruction¹² provides several other reasons why

¹¹Wilson, "Educational Specifications," op. cit., pp. 71-74.

¹²Educational Specifications, op. cit., pp. 4-5.

educational specifications are necessary. One of the most important of these is that they provide an opportunity for administrators, school board members, teachers and parents to collect and analyse information about their community and their school. In particular, they provide an opportunity for these people to crystallize their thinking with regard to services to students and the community, philosophy and objectives of the school, school organization, methods of instruction, program of studies, desired environment and utilization of space. For staff members, especially, this could be an excellent form of in-service education.

Educational specifications are necessary also to provide much needed community involvement and commitment in education. The gathering of information from the community provides an opportunity for numerous contacts with individuals and the agencies they represent. These contacts can be profitably used to inform people of what plans are being made and to enlist their support.

The process of preparing educational specifications also serves to facilitate educational decision-making and the acceptance of those decisions since school staffs and the public are involved from the beginning.

Perhaps one of the most important reasons pointing to the necessity of educational specifications is that they can help prevent many of the planning errors which have been made in the past. Such errors include erecting a building without knowing what is to be done with it; failing to explore trends,

innovations and experiments; placing the educational program in the hands of an architect without giving him adequate information; devoting too little time to planning and not having a document with which to evaluate the work of the architect.

The need for educational specifications and their usefulness can also be seen if we look at the benefits that can be derived from their preparation. Wilson¹³ says that these benefits fall into three categories. The first of these is benefits to the school in improving its regular activities. An occasion such as this offers a great opportunity to reappraise, review and examine the school program and the whole process of curriculum development. The use of a committee organization will improve staff morale and personal relations among the school board, the administration and the staff. There will also be benefits of direct value in planning a specific new school. The educational specifications will make accurate forecasts of personnel requirements and ensure more efficient use of the new building by involving in the planning the people who will use it. The third category of benefits includes those which will facilitate the work of the school architect. Along with bringing the work of the architect more in line with the thinking of educators, the educational specifications will provide him with a good basis on

¹³Wilson, "Planning the Content of Educational Specifications," op. cit., p. 79.

which to estimate the final cost of the building.

The educational specifications, if they are prepared with the above purposes in mind, will become a major vehicle of communication for the inter-change of ideas about school buildings among all parties concerned--school personnel, architects and citizens. They should also result in a more economical and a more usable school building.

IV. WHO IS RESPONSIBLE FOR DEVELOPING EDUCATIONAL SPECIFICATIONS?

Any school board that accepts the need for and recognizes the value of educational specifications as previously discussed will find itself faced with three important questions: Who will do the necessary work? How will the information be collected? How can the information be presented to the best advantage? The remainder of this chapter is devoted to these questions.

As with any process in the field of education, the development of educational specifications involves a variety of individuals and groups each functioning in accordance with specific capabilities and fields of responsibility. Waite¹⁴ sees the local school board's responsibility in this respect as one of policy making, such policy eventually determining the quality level of construction. This body is also responsible for providing an adequate budget to back up their quality

¹⁴Waite, op. cit., pp. 32-33.

control policy. A set of educational specifications written without regard to the above budgetary considerations may be of very little value to the architect. In determining their policy with respect to construction the school board should be aware of requirements set down by local fire departments and provincial departments of health and education. Wilson¹⁵ adds that the school board is also responsible for approving final educational specifications before they are presented to an architect.

After the school board has set the policy for a building project, the superintendent, as its professional advisor, should set up the organization to have the necessary work done. While the superintendent is the dominant factor in the preparation of educational specification,¹⁶ he may delegate this responsibility to a staff member.¹⁷

Wiley and Hanson¹⁸ point out that the actual preparation of educational specifications "is in essence a fact finding process--a co-operative task of educators, students and lay people to analyse, describe and interpret the program so that it can become the base for the architect's decisions."

¹⁵ Russell E. Wislon, "Procedures for Preparing Educational Specifications," The Nations Schools, LVI (December, 1955), pp. 66-68.

¹⁶ Ibid.

¹⁷ David A. Wiley and Nelson W. Hanson, "Is There Vision in Your Educational Specifications?", American School Board Journal, CXLVI, (June, 1963), pp. 33-36.

¹⁸ Ibid.

The architect should be selected early and should be available for advice throughout the planning process. A channel should also be provided for staff specialists and classified school employees to contribute information in relation to their specific areas. If necessary, a consultant can be brought in to advise in curriculum trends. Though all these people can effectively participate, it is the superintendent or his representative through whom all official planning with the architect is conducted.

In summary then, responsibility for the preparation of educational specifications begins with the school board and proceeds through the superintendent to his supervisors, administrators, teachers, and classified school personnel and back again through the superintendent to the school board for final approval. During the preparation of the specifications, the educator is the center of activity and the architect plays a supporting role. Later when the specifications are prepared, the architect plays the central role and the educator provides interpretative advice.

V. HOW ARE EDUCATIONAL SPECIFICATIONS DEVELOPED?

As with the teaching process itself, there is no one best way to organize for the development of educational specifications. The School Planning Guide of the North Carolina Department of Public Instruction¹⁹ suggests that the

¹⁹Educational Specifications, op. cit., p. 15.

organizational form that will eventually emerge will be dependent upon two major factors. These are the decisions of the board of education in setting guidelines or establishing limits for the study and the basic philosophy (autocratic, democratic or laissez-faire) of the superintendent of schools--what he believes about the involvement of people. Other variables that may also affect the final organizational form are the amount of information presently available concerning the school system, the amount of information presently available concerning the students, the philosophy behind the program, the curriculum being offered, the real purpose of the educational specifications (will they serve as in-service education for administrators, school board members, teachers and parents as well as a communication to the architect?), the people who will be involved and time factors peculiar to the particular project.

Practically all of the methods employed in the preparation of educational specifications use some kind of committee organization. They differ for the most part in how the committees approach the task. One such approach is for committee members to interview persons they feel can contribute the kinds of information they are seeking. These interviews can be used alone or combined with detailed questionnaires sent to all faculty members. Parker and Featherstone²⁰

²⁰Floyd G. Parker and Richard L. Featherstone, "How to Specify Educational Needs for a New School," The Nations Schools, LXXIII (January, 1964), p. 51.

provide four guidelines to ensure that the questions asked provide the kind of meaningful information required. These are that the questions should: (1) relate to both the current and possible future educational program, (2) be concise enough to obtain specific answers for items where a definition of facilities is of primary importance, (3) be open enough to encourage creative thinking on the part of good teachers, and (4) get at a definition of goals and activities that will be part of the teaching-learning situation.

Another approach, suggested by Wilson and Saavedra²¹ is that in which the committee prepares detailed checklists of items to be included in the specifications for specific areas. Teachers who work in these areas can then state their wishes with respect to all the items on the checklist.

The most comprehensive and thorough approach is that suggested by both Wilson²² and The Planning Guide of the North Carolina Department of Public Instruction.²³ Following this approach the superintendent (or his representative) along with his advisors will comprise a steering committee which will be responsible for the overall direction of the project. When policy has been set and procedures defined, this committee will establish sub-committees to study and

²¹Wilson and Saavedra, op. cit., pp. 7-10.

²²Wilson, "Procedures for Preparing Educational Specifications," op. cit., pp. 66-68.

²³Educational Specifications, op. cit., pp. 14-18.

prepare written statements on factors relating to specified areas of the new school. These committees could be provided with general content outlines or lists of questions around which to build the final educational specifications. Usually visits to schools or meetings with consultants are arranged and the architect is available for advice. In this case as well, committees are given more freedom for creativity rather than being restricted to a questionnaire or checklist.

The use of committees as outlined above has the advantage of increasing staff participation but Risetto²⁴ cautions that some committee members, specialists in particular, may tend to overdo their particular fields. In discussing the importance of effective staff participation he provides the following six contributory conditions: (1) acceptance of group problem-solving techniques, (2) voluntary participation, (3) preliminary self-evaluation, (4) purposeful participation, (5) recognition of staff contributions, (6) clear delineation of responsibilities.

Another point to consider in increasing participation by staff members in the preparation of educational specifications is the time factor involved. Engelhardt²⁵

²⁴H. G. Risetto, "Communicating Educational Needs to Architects," National Elementary Principal, XXXIX (September, 1959), p. 60.

²⁵W. L. Engelhardt, Jr., "Time Required to Plan and Construct a School Building," The American School Board Journal, XLVI (January, 1965), pp. 25-26.

points out that the more people participating in the various stages of preparing educational specifications, the more time will be required.

As stated earlier, the approach to the development of educational specifications that is most useful in a particular school district at a particular time will depend on factors existing at that time. Nelms²⁶ makes a case for preparing all educational specifications in the same way since the same questions must be asked and answered for any school plant. Only the answers, he says, are different. He, however, fails to consider the many purposes and benefits, other than that of assisting an architect, for which educational specifications are prepared. He fails to consider as well many circumstances, such as time, which may affect a school board at a particular time. It seems more appropriate that the procedure to be followed in developing each new set of educational specifications be decided at the beginning of the project and on the basis of variables dominant at that time.

VI. WHAT IS THE NATURE OF THE EDUCATIONAL SPECIFICATIONS DOCUMENT?

The third question that the administrators responsible for the educational specifications must consider is how the information can be most effectively presented to the

²⁶Nelms, op. cit., pp. 44-45.

architect. It has already been stated that educational specifications are a written description of how a building will be used and the characteristics of the users. The major part of the information in the educational specifications can be presented then in straightforward written composition. This will apply to such information as statements of philosophy and descriptions of teaching situations and methods--the variety of classroom activities and procedures, their kinds and frequency; groups, their size and time schedules; materials such as books, supplies, equipment and furniture, their kinds and amounts. Wilson²⁷ also suggests that enrolment statistics can be presented in tabular form or in charts and graphs and that spatial relationships between instructional units can be shown diagrammatically. The descriptive part of the document should be written in such a way that it can be read and comprehended by non-educational and non-professional groups such as may be found in various community organizations and by architects and their staff members.

With respect to the style and organization of the document, Wiley and Hanson²⁸ say that it should be logical, with a table of contents. Details should be expressed in "clear, concise statements devoid of excess verbiage and

²⁷Wilson, "Planning the Contents for Educational Specifications," op. cit., p. 76.

²⁸Wiley and Hanson, op. cit., pp. 33-36.

unfamiliar pedagogical terms." They continue to say that the specifications should be restricted to statements of need, practice and procedure and should not prescribe rigid requirements as to size, layout or style. Such statements tend to stifle an architect's creativity.

It is in this area of determining the form of the educational specifications document that Nelms'²⁹ case for standardization may have some merit. Using the same basic outline but providing the appropriate information for different schools may very well make the document more usable by architects. Having the same form does not mean that educational specifications will all be the same. A standard form might, however, facilitate the work of some of the persons for whom educational specifications are written.

SUMMARY

In Part I of this chapter, educational specifications were defined as a communicative device used by educators to provide an architect with the kind of information necessary to enable him to design a functional school building. It was made evident that these should deal with educational matters only and not trespass on the architect's field of authority.

Part II examined the required contents of an educational specifications document pointing out the major areas

²⁹Nelms, op. cit., p. 45.

about which educators should provide information for the architect. Some of these areas are the philosophy and purposes of education, the people who will use the building, the programs to be carried out in the building, the resources needed to carry out the desired programs and background information about the community in which the school will be built.

In Part III, the necessity for the educational specifications stage in the total planning is emphasized. It was shown that this process acts to increase community involvement in education, to facilitate educational decision-making and to prevent many planning errors. The benefits to both educators and architects were also stressed.

Part IV explored the question of who was responsible for the preparation of educational specifications. It was concluded that ultimately the superintendent of schools was responsible but that he could delegate his duties in this respect to one or a group of staff members so long as he supervised and approved the procedures being followed.

The various approaches that could be taken in the development of educational specifications were outlined in Part V. It was seen that a committee approach was preferred but that this could take many forms depending on variables existing in a specific school district at any given time.

In Part VI, the nature of the final document was discussed, showing that probably the most important

consideration in this respect was that it be readily comprehended by persons outside the educational profession.

CHAPTER III

THE PRODUCTION PROCESS

This chapter presents a narrative description of the procedure followed in developing the educational specifications with which this report is concerned. This is presented in a case study format and is designed to describe the activities of the various groups and individuals involved during the succeeding stages of the entire process. More specifically, the activities described are those which occurred during:

1. Preliminary design of the planning process
2. Steering Committee Activity (September 1970 to January 1971)
3. Sub-committee Activity (January 1971 to April 1971)
4. Steering Committee Activity (January 1971 to April 1971)
5. Composition and Presentation of Educational Specifications (April 1971)

I. PRELIMINARY DESIGN OF THE PLANNING PROCESS

The writer's interest in the type of educational planning described in this report was aroused in January 1970 while a student of educational administration at Memorial University of Newfoundland. It was at this time

that the Department of Educational Administration at this university launched a study to determine the adequacy of educational facilities in the province of Newfoundland and Labrador. The writer was assigned the task of compiling information to be used as the basis of a questionnaire for this purpose, and this preliminary exposure to school facilities literature provided the impetus for further study and led to a desire to work with the teachers of a school district in developing a set of educational specifications for a new school.

The opportunity to fulfill the above desire and to put the information that had been gleaned from the literature to practical use was provided early in the spring of 1970 when Mr. Walter Cull, Superintendent of Education for the Exploits Valley Integrated School District (the district in which the writer had been employed the previous year), expressed his willingness to have such a procedure implemented in his district. The writer renewed his employment contract with this school board and was subsequently appointed chairman of a District School Plant Planning Committee with a special assignment to develop a set of educational specifications for a primary school which the board had already decided to build in Grand Falls.

Preparatory work of a more specific nature was begun in mid-April coincident with a visit to the university of Dr. Marion J. Conrad, Head of the Educational Administration

and Facilities Unit, College of Education, Ohio State University. During discussions at this time on such topics as the curriculum, the needs survey, the function of the architect, personnel involvement, finance, innovations and time factors, much insight was gained into the nature of the project to be undertaken.

During the months of May and June, 1970, the writer undertook the task of making a comprehensive survey of the available literature related to this aspect of school planning. This survey resulted in the writing and the presentation to the Department of Educational Administration of a paper entitled "Educational Specifications--Their Significance in the Planning Process and a Suggested Method of Development." The information gained from the survey also provided the basis for refining the procedure to be instituted in the Exploits Valley Integrated School District.

The above procedure was discussed with Mr. Cull at a meeting held in June 1970 and tentative agreement was reached. Following this the procedure was written in detail and presented to the Department of Educational Administration as a formal proposal to have the project accepted as the final requirement of the Degree of Master of Education. This acceptance was received during the summer of 1970.

The writer's final task before leaving the university was to prepare a bibliography of print materials which would be required by teachers who were to be involved in the

project. This was forwarded to the school board office in July with the request that the materials be purchased for use at the beginning of the school year.

II. STEERING COMMITTEE ACTIVITY (SEPTEMBER 1970 TO JANUARY 1971)

Early in September 1970, the writer met with Mr. Cull in his office at Grand Falls and outlined the steps of the procedure which had been approved by the university for implementation in his school district. The procedure was approved and the writer proceeded to gather the specific information needed about the district organization and the plans for the proposed school.

It was learned that the proposed school was to be built in Grand Falls, one of the six zones into which the district had been divided. All grade nine, ten and eleven students of the zone were housed in a single high school. Primary (K - 3) students from the east end of the zone attended an old building in that area. Primary (K - 3) students in the west end of the zone and all students in grades four to eight attended a third and larger building. The proposed school, to replace the older primary school, would allow a reorganization of the zone to permit all primary (K - 3) students to attend one building and leave the present elementary school for pupils in grades four to eight inclusive. The new school had been envisaged as containing approximately twenty instructional spaces.

Prior to this time the writer had been led to believe that a building needs survey had been completed, that a site had been chosen and that more specific information regarding enrolment and program were available. This was not so and it became obvious that the implementation of the project would be delayed.

The September meeting did, however, result in the appointment by the superintendent of the Steering Committee that had been requested in the project proposal. This committee consisted of the supervising principal of the Grand Falls zone, two school supervisors attached to the district office, an elementary school principal from Windsor, the adjoining zone of the district, and the writer as chairman. One extra supervisor had been added at the request of the superintendent and he himself was an ex-officio member.

At this initial meeting with the superintendent it was also learned that the school board had planned to finance this school building through funds which it had been advised were available from the federal Department of Regional Economic Expansion. This necessitated the writer's becoming familiar with the functioning of this Department and any special requirements they had for school buildings. Some information in this regard was provided by the superintendent.

Basically then, two new dimensions had been added to

the project--the lack of a clearly defined picture of what exactly was required and the involvement of the Department of Regional Economic Expansion. It was agreed to discuss these matters with the Steering Committee at its first meeting.

The Steering Committee was called together for the first time on the evening of September 21, 1970. The first task of this group was to familiarize themselves with the planning procedure that had been developed. To this end the chairman outlined the contents of the project proposal and provided information concerning the DREE requirements for building projects, the nature of educational specifications, and the part that can be played by teachers in developing educational specifications in the total planning process.

The original design of the procedure to be followed had clearly stated the function of this committee as being that of making policy for and generally administering the project. It was also to set up sub-committees to prepare reports on requirements of designated areas of the new school. The committee then studied the tasks that were before it and began a series of discussions to develop appropriate procedures to carry out these tasks. These discussions were to center around the following topics: communication with the school board, school building needs of the area, preparation of a workshop to launch the project,

preparation of materials for use by teachers and defining the functions of sub-committees.

Early in the Steering Committee deliberations it became obvious that a strong communicative link between it, the school board, and the public was necessary. After discussing this with the superintendent, it was agreed that the Grand Falls representative on the school board could serve this function and since this man also served as treasurer of the school board, he made a welcome addition to the planning team.

The Steering Committee next turned its attention to the question of determining what kind of school building was required and where it could best be located. At this point, the results of a previously completed building needs survey would have been extremely helpful and would have saved much time and effort. This information, however, was not available. The committee therefore examined the existing structures in the Grand Falls zone, made rough projections and agreed that a primary school was needed. This decision was influenced very much by the functional obsolescence of the present primary school, its physical inadequacy and its location in the heart of the town's business district.

At the same time, the committee felt that the school facility needs of the Grand Falls zone could not be realistically considered separate from those of the Windsor zone since the two zones were so close physically. The committee

felt further that if huge sums of money were to be spent for a primary school in Grand Falls, the advantages of a modern facility, with the improved program that could be provided in it, could be extended to the primary children of Windsor for a minimum of additional cost. Consequently, the committee determined to obtain representation from the Windsor zone and to investigate the possibility outlined above.

The above considerations were brought to the attention of the superintendent and with his approval two additional members were added to the Steering Committee-- the supervising principal of the Windsor zone and the Windsor representative who was also chairman of the school board. The idea previously discussed was favorably received by these members. It received a good reaction as well in a meeting with Mr. Allan Guy, Educational Planner with the provincial Department of Education on November 13, 1970. It was therefore decided to have sub-groups of the committee study this while other discussions were proceeding.

The question of a site for the proposed school had not been given a great deal of consideration up to this time because the school board had been informed that land was available in an area of town that was to be developed the following year. Upon the advice of the Steering Committee, the school board did, however, appoint at this time a sub-committee to investigate the appropriateness and

availability of this and other possible school sites.

Though neither the size nor the site of the school had been specifically determined, it was felt that teachers could begin their work early in the new year and the Steering Committee began preparation for this. First, all the print materials which had been ordered the previous summer had now arrived. This was surveyed and catalogued so that it could be easily used by teachers.

The committee now turned its attention to making plans for a one-half day workshop to be held early in January and which was to publicly launch the project and mark the beginning of teacher participation in it. It was felt that this should be a short information filled workshop and that this would be more effective than a longer, less exciting session. Early in the fall appropriate audio-visual materials were obtained on loan from Memorial University of Newfoundland and previewed so that some could be chosen for presentation at the workshop.

The objective of the proposed workshop was to provide the motivation and interest necessary so that teachers would volunteer their services as members of committees studying the various areas of the new school. For this purpose, it was felt that the following four kinds of information needed to be provided: (1) about the school board's intentions with respect to a building program and their sincerity in seeking teachers' advice, (2) about

educational planning generally, (3) about the particular process to be undertaken in their area, and (4) about the latest curriculum trends in primary education. A workshop was subsequently planned with these points in mind for the first week in January.

Discussions were held throughout the fall to determine what sub-committees should be set up and how they could be most effectively organized to provide the required information in the allotted time. It was agreed that although the school would be built in the Grand Falls-Windsor area, participation would also be open to primary teachers in both the Bishop's Falls and Botwood zones. In this way, the in-service education value of the project could be extended to a greater number of teachers and perhaps the work of committees could be speeded up. It was felt that sub-committees would operate best if chairmen were chosen by the Steering Committee and provided with specific directions and then left to choose their own members and to complete the tasks assigned them as they saw fit. Committees were, however, asked to meet as much as possible at the same time and in the same place to avoid duplication of travel and to complete their work in a specified time period.

Throughout the period described here and later, the writer was in constant communication with and received valuable advice from advisors in the Department of Educational Administration at Memorial University of Newfoundland.

III. SUB-COMMITTEE ACTIVITY (JANUARY TO APRIL, 1971)

By the time schools reopened following the Christmas recess on January 4, 1971, the School Plant Committee had made the necessary preparation for the workshop discussed earlier. This workshop, entitled "Primary Curriculum Trends--Implications for School Planning," was held on Thursday, January 7. The proceedings were opened by the superintendent, Mr. Cull, who outlined to the teachers present the school board's building program for the following five years. He expressed the school board's desire to have all future schools built in such a way that they could accommodate the latest teaching methods and make use of modern educational technology. For this reason he requested the co-operation of teachers in this project and assured them that the ideas and advice they provided would be carefully considered.

The teachers were next addressed by Dr. Robert D. Fisher, Assistant Professor of Educational Administration at Memorial University of Newfoundland, who discussed educational planning. In particular, he commented on the school building as an important educational tool, outlined some principles to follow in planning a building, discussed the contents and organization of educational specifications and pointed to the uses that can be made of them.

This address was followed by an audio-visual presentation which dealt with planning as it relates to curriculum

and organizational methods for teaching and by a talk in which the writer outlined the steps to be followed in the plan about to be implemented. A further plea for teacher co-operation was made at this time and teachers were again assured of the need for and the value of their advice.

The workshop concluded with a presentation entitled "Modern Curriculum Trends in Primary Education," by Mrs. R. Ruelokke, Assistant Professor in Primary Education at Memorial University of Newfoundland. This speaker, in alluding to trends she had encountered in her recent travel and research, skillfully provided the final item of information needed by teachers at this time. It was hoped that the teachers who had attended the workshop would, after being reminded by the final speaker of their everyday tasks, rethink the previous information they had been given and see in it a reasonably safe method of assuring that their next classrooms would more adequately facilitate the accomplishment of these tasks.

It was generally agreed that the workshop had successfully served the function for which it had been designed. Further evidence of this could be seen in the fact that many teachers expressed their willingness and, in fact, eagerness to assist in the proposed project and in the ease with which teachers were chosen as chairmen of sub-committees to study and prepare recommendations on each of the following areas of the proposed school:

1. General Learning Spaces
2. Kindergarten Spaces
3. Special Education
4. Library Resource Area
5. Music Area
6. Art Area
7. Multi-purpose Area
8. Administrative Area
9. Service Areas
10. Site

The chairmen of the above sub-committees met with the writer and the superintendent in the education office on January 20, 1971. At this time the procedure to be followed was outlined more specifically and chairmen were given a suggested outline to follow in reporting to the Steering Committee. Each chairman was permitted to select the members of his committee but was asked to try to get representation from the four zones involved. Bibliographies of available materials were also provided. Committees were asked to begin their work during the week of January 25 and to complete their reports by March 31. This meeting closed with the superintendent reiterating his support for the project.

During the following week, as agreed, all committees met for the first time, decided on a method of approaching the task assigned them and collected the appropriate print materials to begin their study. Most committees found it

convenient to meet on Monday afternoons at Bishop's Falls. This not only avoided duplication of travel but also greatly facilitated the exchange of materials and their continuous circulation among committees.

Throughout the period during which these sub-committees worked, no opportunities to have committees meet with consultants, to attend seminars or to visit other schools were lost. The Library Resource Area Sub-committee, for example, was quick to take advantage of a visit to the area of the Assistant Director of Instruction (Instructional Materials) of the Department of Education by having him meet with them at one of their regular meetings. The Music Sub-committee took similar advantage of consultants brought to the area for a workshop sponsored by the Music Council of the Newfoundland Teachers Association. The chairman and members of the sub-committee studying General Learning Spaces also spent a day observing teaching being done at the Baie Verte Elementary School, Baie Verte, where a large open space was being used on an experimental basis for a number of classes. In this same school they also had an opportunity to see a program of educational drama and spoken English in action.

On January 23, the members of the Steering Committee and the chairmen of sub-committees concerned attended a seminar on the open area concept in school planning. This seminar was held at St. John's and consisted of an address

and audio-visual presentation by Mr. Dave Cooney, Director of the Educational Facilities Division of the Edmonton Public School Board.

It was hoped that experiences such as these would guide the decisions of all participants in making their recommendations for the new primary school.

On February 22, about half-way through the time allotted for sub-committees to complete their work, a meeting of all participants was called. The purpose of this meeting was to provide an opportunity for Steering Committee members to assess the progress being made and for sub-committee members to clear up any difficulties they were having. The meeting consisted of a brief talk by the writer, a question period and audio-visual presentations focusing on the planning of a particular school and on the application of the open-area concept in elementary schools. Following this, individual committees were given time to hold their regular meetings, each of which was attended by a Steering Committee member. This meeting served the function of reviving interest where it was waning and of providing encouragement for those who were progressing well.

All sub-committees continued to meet for the required time and all reports were presented to the Steering Committee within one week after the time allocated for their completion.

IV. STEERING COMMITTEE ACTIVITY (JANUARY TO APRIL, 1971)

By the time the Steering Committee resumed its meetings after the Christmas recess, the workshop described earlier had already been held, and it was faced with the task of selecting sub-committee chairmen. This was done at the first meeting in the new year and with these committees provided for, the Steering Committee now began discussions of some of the major issues facing the school board in the area of educational planning. Some of these issues had no direct relevance for the particular project being undertaken but it was felt that it was an opportune time to provide advice in these areas. The issues discussed and commented on by the Steering Committee at this time included the following: consideration of site, both for this school and generally, selection of architects, consideration of combining the educational services in the Grand Falls and Windsor zones, enrolment projections, the function of DREE and the collection of background information about the town.

As pointed out earlier, the school board had appointed a sub-committee to investigate the various sites that were available. This group did some preliminary work and involved the writer early in March at a meeting with the Town Council officials and their town planners. At this time the committee was informed that the site originally considered, in an undeveloped part of town, would not be

available for use within five years. An alternate site was proposed at the eastern boundary of the town but this was considered inappropriate because of the extra bus routes it would make necessary. A more central location was preferred, and the committee finally concluded that if sufficient land were available on the site of the present elementary and high schools, it would be used. The town planners (Project Planners Associates), under contract to the Grand Falls Town Council, agreed to survey this area and report on its appropriateness.

In a second meeting called during the following week, the town planners presented a favourable report on the proposed site, and it was approved with an agreement that it would be developed to serve the needs not only of the "primary school" to be built but of the other two schools as well.

Previous to these meetings the Steering Committee had surveyed the literature and held discussions for the purpose of preparing some guidelines to assist the school board members in the selection of a site. These guidelines were presented in written form but informally to the school board and included the following suggestions:

1. Allow for expansion. An inadequate site might render a building obsolescent before its time.
2. Keep in mind not only educational needs of students but also recreational needs of people

in the area. Advice of civic authorities might be useful in this respect.

3. Enrolment will determine actual size of site.

A minimum site could be provided by allowing one to three acres for the first one hundred pupils and one acre for each one hundred pupils thereafter.

4. Give careful consideration to:

- a) nature of site in terms of terrain--to avoid extra cost in preparing the site for the building
- b) availability of public services and utilities
- c) location in relation to transportation routes, factories, and safety hazards.

A similar survey of the literature was made and discussions held with a view to providing guidelines to assist the school board in the selection and use of an architect. Though this is an aspect of school planning seldom given prominence in Newfoundland, it was felt by the Steering Committee that it was sufficiently important to warrant attention. Consequently, a short paper on this topic was prepared and presented to the school board. This paper is included as Appendix B of this report.

The question of combining the educational services of the Grand Falls and Windsor zone had little direct bearing

on the writing of educational specifications for a school in Grand Falls, unless, of course, that school were to be enlarged to include primary pupils from Windsor as well. In that case the same basic principles would apply, but spaces would have to be added and others enlarged. Since the Steering Committee had raised this question initially, it was asked to pursue it further and make recommendations.

Some considerable discussion had already taken place with respect to this question and the Steering Committee had broken into sub-groups to prepare presentations to support both sides. Discussions which were still proceeding at the regular Steering Committee meetings led to the conclusion that on the basis of educational program, there would be a distinct advantage to housing the primary students of both Grand Falls and Windsor in one building. A recommendation to this effect was presented to the school board on March 8, with the caution that it was made on the basis of educational considerations only. It was recognized that factors such as transportation of young children and, in this particular case, inter-town biases were important, but it was also felt necessary for discussion to take place and for public opinion to be aroused in the communities.

This move was apparently effective for within a few days after the presentation of this recommendation to the school board, the superintendent requested a meeting with

the Steering Committee to discuss it and to hear the presentations of the sub-groups. The groups which had prepared arguments to support one school for both towns concentrated on program consideration pointing to greater curriculum diversifications, ability to attract more highly qualified teachers and to provide specialists, avoidance of duplication of materials and equipment and greater individualization of instruction as advantages to be gained. The second group looked closely at the practical aspects of such a plan and saw increased transportation costs, the removal of children from their familiar home environment, the largeness of the school (it would house between seven and eight hundred children), and the very strong inter-town biases that existed as some of the reasons for not accepting it. In the final analysis, the superintendent, as was his prerogative, considered the arguments on both sides and decided against the original plan. The Steering Committee, by drawing attention to this question did, however, spread its influence beyond Grand Falls, for the superintendent in his final recommendation to the school board asked that a similar school be approved for Windsor as that requested for Grand Falls.

Another issue still being considered by the Steering Committee was that of determining the enrolment of the proposed school. As stated earlier, sub-committees had been permitted to begin their work with the knowledge and

provision that adjustments in size would be made later. The confusion arose from the fact that no adequate enrolment projections were available and as a result of the question of including students from Windsor in the proposed school. It is restated here and is strongly emphasized that both these questions could have been previously settled had a school building needs survey been completed!

The Steering Committee felt that a truly adequate enrolment projection would have to include the whole district as part of the study referred to above and that this would take more time than was available. It was therefore decided that a simpler method would be devised to give a general idea of the number of students to be provided for in the primary grades and that every attempt would be made to make this as accurate as possible. The methods devised for kindergarten and for grade I to grade III are outlined below with the resulting projections. These can be best explained in reference to the tables containing the actual projections. The projected enrolment for kindergarten is contained in Table I.

To make this projection, the number of children who would attend the schools under the jurisdiction of the Exploits Valley Integrated School Board in Grand Falls, born in each of the years from 1956 to 1970, was recorded. These numbers were projected each year until figures were

available for each pre-school year. This process is based on the important assumption that in- and out-migration at this age approximately balance so that the number of three-year old pre-schoolers in any year is approximately equal to the number of births three years earlier. Of course, the method would be much more accurate if actual census data were available.

Using the figures for births by year and the enrolment record from past school registers, Table I was set up. The record of births by year, indicating the number of children for ages minus 1 through 4 were listed to the left of the double vertical line. The rows of figures, for years in which a full set was available and in which actual enrolment figures were known, were totaled in Column A. Column B indicates the enrolment for the year five years after the year in which a full set of figures is available. With these two known figures, a ratio was developed (Column B divided by Column A). This was done for the six years for which full sets of figures were available. An average ratio was then determined and applied to the age group totals in succeeding years (Column A) to determine a projected kindergarten enrolment for future years. In Table I, the kindergarten enrolments below the heavy line on the right-hand side are projected (e.g. $528 \times .21 = 111$). Births beyond 1970 (i.e. below the heavy line on the left-hand side) are projected as an average of the previous five years, and the

projections based on these are not considered as accurate as for the previous five years. The projections would, however, be updated each year with the result that a fairly accurate five-year projection would always be available.

In making projections by grade for grades I, II, and III, the grade enrolments for a period of eight years were recorded, and from these a survival ratio for each grade from year to year was determined. (Actually any number of years above four or five would have served the same purpose.) For example, in Table II, 121 kindergarten enrolment in 1963 had grown to 127 first-graders in 1964--a ratio of 1.05. These 127 first-graders dropped to 126 second-graders in 1965--a ratio of .99. After all ratios have been developed, an average ratio can be determined and applied to the latest year's enrolment. The average ratio for pupils moving from kindergarten to grade I is 1.07 and from grade I to grade II is 1.00.

The kindergarten projections contained in Table I combined with those for grades I, II and III in Table II comprise the full primary school projection for a ten-year period. The method used here, though simple, by use of the ratio, takes account of past history, in- and out-migration, movement to other school systems, repeaters, and general growth or loss of population. It does not, however, account for major changes in school attendance patterns or organization or for major influx or loss of

TABLE 1

PROJECTION OF KINDERGARTEN ENROLMENT, 1970 - 1980

Births and age group totals by year						Column A Total -1 thru 4	Column B Actual Kdgn.	Year	Ratio $\frac{B}{A}$	Average Ratio
Year	Minus 1	1	2	3	4					
1956	111									
1957	109	111								
1958	111	109	111							
1959	106	111	109	111						
1960	80	106	111	109	111	517	96	1965	.19	
1961	85	80	106	111	109	491	113	1966	.23	
1962	100	85	80	106	111	482	121	1967	.25	
1963	107	100	85	80	106	478	112	1968	.23	
1964	112	107	100	85	80	484	98	1969	.20	
1965	107	112	107	100	85	511	93	1970	.18	
1966	102	107	112	107	100	528	111	1971	T = 1.28	
1967	91	102	107	112	107	519	109	1972	$\frac{1.28}{6} = .21$	
1968	90	91	102	107	112	502	105	1973		
1969	79	90	91	102	107	469	98	1974		
1970	77	79	90	91	102	439	92	1975		
1971	88	77	79	90	91	425	89	1976		
1972	88	88	77	79	90	422	88	1977		
1973	88	88	88	77	79	420	88	1978		
1974	88	88	88	88	77	429	90	1979		
1975	88	88	88	88	88	440	92	1980		

TABLE 2
 PROJECTION OF ENROLMENT, 1970 - 1980
 GRADES ONE, TWO AND THREE

Year	Kdgn	R.	Grade I	R.	Grade II	R.	Grade III	Total
1963	121		124		119		107	471
1964	121	1.05	127	1.00	124	1.07	127	499
1965	96	1.04	126	.99	126	1.01	125	473
1966	113	1.09	105	.94	118	.97	122	458
1967	121	1.05	119	1.04	109	1.05	124	473
1968	112	1.07	130	1.03	122	.91	99	463
1969	98	.98	110	.96	126	1.01	123	457
1970	93	1.20	118	1.06	117	1.02	129	457
Average Ratio		1.07		1.00		1.01		
1971	111		100		118		118	447
1972	109		119		100		119	447
1973	105		117		119		101	442
1974	98		112		117		120	447
1975	92		105		112		118	428
1976	89		98		105		113	405
1977	88		95		98		106	387
1978	88		94		95		99	376
1979	90		94		94		96	374
1980	92		96		94		95	377

population in the community.

Following the rudimentary attention to enrolment projection outlined above, the Steering Committee turned its attention to the collection of basic facts and information relevant to a successful completion of the project. These were in two main categories; namely, about the Department of Regional Economic Expansion from which it was hoped funds would be available for the project and about the community in which the school was to be built.

The Committee's concern with the Department of Regional Economic Expansion was simply to determine how it functioned in relation to education and if there were any special requirements to be met before a project would be funded. The information available was obtained by the writer from two basic sources--a meeting held with Mr. Allan Guy, an educational planner with the Department of Education, on February 11, and a seminar on the operation of the Department of Regional Economic Expansion in this province, sponsored by the Grand Falls Chamber of Commerce on April 2, 1971, and was passed on to other committee members.

The Department of Regional Economic Expansion's main function in Newfoundland, as in other provinces, is to provide incentives for growth to areas which show promise but are still slow in growing. Assistance for school buildings has been usually in the form of a 75 percent outright grant and a 25 percent loan. All projects approved are

carried out by provincial agencies as if they were being funded with provincial monies with the exception that the Department participates in the management of the project through the provincial Department of Community and Social Development.

Though the Federal Government possesses and publishes a School Accommodations Standards Manual, officials of the Department of Regional Economic Expansion denied that it was used to determine whether or not projects were approved. Projects funded by the Department are applied for in the same way as are other provincial projects and once approved, all furnishings and equipment are included in the cost with the exception of software such as films and tapes.

The second category of information required by the Steering Committee at this time was about the town of Grand Falls in which the school would be built. This was obtained by the writer from Town Council officials and from a recently completed town plan. This information is included in the educational specifications attached to this report as Appendix C.

This work by the Steering Committee was completed during the first week of April, the same time that reports were being received from sub-committees.

V. COMPOSITION AND PRESENTATION OF
EDUCATIONAL SPECIFICATIONS
(APRIL, 1971)

As noted in the previous sections, both the Steering Committee and the various sub-committees had, by early April, completed all work preparatory to the actual compilation of the educational specifications. It was at precisely this time that the superintendent was advised by provincial Department of Education officials that educational specifications and conceptual drawings for the new school were required earlier than had been previously anticipated. This required a slight change in procedure in that it had been intended that each sub-committee report would be analyzed by the complete Steering Committee. It was now decided that a sub-group of three persons--the elementary and secondary supervisors and the writer--would do this. The writer was released from his teaching duties and the work of writing the educational specifications was begun immediately.

It was at this stage that the value of the standard reporting form which had been given to sub-committees became evident. This form was an outline for presenting the information about each of the areas that was studied by sub-committees. The work of compiling the final document was made considerably less difficult since all sub-committee reports adhered to a set pattern.

All sub-committee reports were first of all studied and their contents evaluated by both the supervisor of

primary education and the writer. All recommendations that were doubtful and that referred to the educational program were discussed with the primary supervisor. Matters that seemed to be in conflict with established district philosophy were checked with the superintendent. These reports were then revised where necessary and placed in their proper form as part of the final document. The educational specifications were again reread and edited by the secondary supervisor before being typewritten in their present form.

By the end of the second week in April the educational specifications had taken shape to the extent that they could be presented to the school board by the superintendent. The supervisor of primary education and the writer were present for this event and after some brief questioning, the document was accepted. By their acceptance, the school board granted authority to have the educational specifications presented to an architect for the purpose of preparing conceptual drawings and also for the final details of the application to the Department of Regional Economic Expansion to be completed. The results of these latter endeavours are contained in the following chapter.

CHAPTER IV

POST EDUCATIONAL SPECIFICATIONS ACTIVITY

The Exploits Valley Integrated School Board, by acceptance of the educational specifications document, indicated its readiness to approach provincial education authorities to have the proposed building project funded. This approach, by established procedure, was to be made to the Denominational Educational Committee for integrated schools. This body would then be responsible for all further negotiation on behalf of the school Board.

The educational specifications, which constituted the final item of information to complete the application for a new school, were presented to the secretary of the Denominational Educational Committee in mid-April. The writer met at this time with the secretary of this body and the architect, who had been retained to make conceptual drawings. This meeting was to ensure that the purpose of the document was clear and to stress the importance of having a school design that would meet the requirements set down in the educational specifications. At this meeting the architect was provided a copy of the document and he agreed to study it thoroughly before beginning the actual drawings.

During the time in which the architect studied the

educational specifications and worked on the drawings, he consulted the writer on several occasions when interpretation and clarification of particular points were necessary. The writer also had a brief opportunity to view rough pencil sketches before the conceptual drawings were completed. At this time several changes were suggested and subsequently made in the drawings. The completed conceptual drawings were presented to the Denominational Educational Committee and through it to the Department of Regional Economic Expansion. Copies were provided for the school board.

Soon after receiving copies of the conceptual drawings, the Steering Committee met to study them in relation to the educational specifications document. It was obvious from this very brief study that there were a number of areas in which the two did not agree. It was therefore decided that the drawings should be studied by each of the sub-committees that had made recommendations for specific areas. A meeting of all participants was arranged for this purpose on the evening of May 4. The various sub-committee members viewed the drawings of the area with which they were concerned and provided the Steering Committee with a list of their comments and suggestions for change. The reports of all the groups were later placed together and presented to the superintendent to be used in finalizing the design of the new school. The comments of the participants, most of

which reflected a general disapproval of the conceptual drawings, are listed below:

1. The conceptual drawings show no indication of the provision of sinks for:
 - a) the Art Room
 - b) the workroom of the Music Area
 - c) the work project area of the Library Resource Centre
 - d) the Teachers' Workrooms
 - e) the Play Therapy Room
2. Sinks located in learning areas should not be located against walls but rather in islands accessible to students from at least three sides. This will permit greater use of the sinks and at the same time save wall space. Cupboards should be provided below the sinks.
3. A bathtub should be located in or near the Nurses' Room.
4. There are too few staff washrooms. Those provided are too remote from many learning areas.
5. The staff lounge should be more centrally located--at present it is too remote from many learning areas.
6. The principal's office should be more easily accessible from the main entrance.
7. Equipment storage space should be provided

- for the play-therapy room.
8. The gymnasium equipment storage area should be accessible from the outside play area.
 9. The boys' and girls' dressing rooms should have outside entrances.
 10. The instrument storage space in the music area can be combined with the teacher's workroom to increase the size of the latter area.
 11. Moveable walls are required at both the front and back of the stage to permit its use in either the music area or the gymnasium.
 12. Provision should be made in the workroom of the music area for a projector to beam through to the music room. This would eliminate noise from projector fans when pupils are listening to music accompanying films or filmstrips.
 13. Either a wider corridor or a small lobby should be provided for the main public entrance.
 14. The U-shaped room that would result if all moveable walls in a large learning area were removed is very undesirable.
 15. The designated classroom spaces do not appear to be large enough for the number of pupils who will use them (about 35).

16. Outdoor playground spaces should be provided directly adjacent to the kindergarten area and the gymnasium.
17. An attempt should be made to design the kindergarten area in the shape suggested by the educational specifications rather than the present rectangular shape.
18. No indication of the provision of display space is shown in the conceptual drawings. As much as possible of this should be provided in all learning areas.
19. Doors should be provided from each learning area to the outdoors.
20. Teacher preparation rooms are generally too small.
21. A projection booth should be provided in the gymnasium.
22. The kitchen and canteen should be located off the gymnasium rather than off the staff lounge. A small kitchen in the staff lounge would also be highly desirable.
23. The circulation desk of the library resource area should be located in the centre of this area as suggested in the educational specifications rather than in its present position.
24. The shape of the library resource area as

indicated in the educational specifications is preferable to that in the conceptual drawings.

25. The art, music and library resource areas should be located such as to permit windows.
26. The designated cloakroom spaces do not appear large enough for numbers of pupils who will use them.
27. Generally, the building appears to be too spread out and "boxy." An attempt should be made to reduce the amount of outside wall space. The school board should also consider the fact that in its present form the building might be costly to maintain.

After presenting these comments and suggestions to the school board, the work of the Steering Committee members and of the other participants in this project was completed. They agreed, however, to be available for further discussions at any time in the future if these were necessary to assist the architect in the final design of the school.

As noted earlier, the educational specifications, the conceptual drawings and other necessary information were presented to the Department of Regional Economic Expansion by the Denominational Educational Committee in the hope that monies would be made available for this project. The outcome of the application that was made did not become known until mid-summer when a general agreement for the province

was signed between the federal and provincial governments. The provision of finances for the project described in this report was not included in this agreement and since funds were not available at either the local or provincial level, the conceptual drawings and educational specifications were shelved for later use. The need for the kind of facility described by the educational specifications still exists.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this concluding chapter is to present a summary of the problem which inspired this project and of the procedures used in implementing it. Some general conclusions are presented and the limitations under which the study was completed. Recommendations arising from the project and implications for further research are also provided.

I. RESTATEMENT OF STUDY PROCEDURES

The Problem

The Report of The Royal Commission on Education and Youth, completed in Newfoundland in 1968, pointed to the need for more careful and long-range planning of educational facilities in this province. It suggested the use of a team approach involving school boards, principals, superintendents and architects.¹ This project attempted to develop such a team-planning process and to implement it by developing a set of educational specifications for a school in the town of Grand Falls, Newfoundland, located in the Exploits Valley Integrated School District. The project also attempted to

¹Report of The Royal Commission on Education and Youth, Vol. II, 1968, p. 74.

place major emphasis in planning on the school program and to provide for the teachers involved a valuable in-service education experience.

Methodology

The planning method used in this project was developed by the writer in the spring of 1970 after a comprehensive review of the literature relating to school facility planning. In the fall of that year, the superintendent of the Exploits Valley Integrated School Board appointed a Steering Committee, with the writer as chairman, to oversee the implementation of this project. This committee completed the organizational work necessary to initiate the project and appointed sub-committees to study and prepare reports on specific areas of the school being planned. All participants were involved initially in a workshop designed to generate interest in and to provide the necessary background information about the project. Teachers were also provided with an ample supply of print and audio-visual materials to assist them in making recommendations and as many opportunities as possible to hold discussions with consultants in specialized curricular areas or to visit schools where new methods were being attempted. These sub-committees met for a period of approximately two months and presented their recommendations to the Steering Committee in a standard form provided for that purpose. The Steering Committee subsequently reviewed these recommendations and

from them prepared the educational specifications for a primary school.

II. CONCLUSIONS

The final outcome of the planning process described in this report was a set of educational specifications which to date have manifested themselves only in the form of conceptual architectural drawings. There is every reason for the writer and the other participants in this project to believe, however, that these educational specifications will, in the near future, become the key to both the design and operation of a physical structure that will truly be called "school."

The educational specifications referred to above are the product of much work on the part of many people, but much more important than that product is the process by which they were developed. The planning process used in this project found school board members, administrators, teachers, parents, secretaries, nurses, custodians and others all more than willing to contribute ideas which they had long held but had never been asked for. The fact that they were now asked for their ideas provided the impetus for many of them to crystallize their thinking about matters of great importance to education and made them more aware of their real value in the total educational enterprise. For many of the participants, the materials and discussions to which they were exposed in this process provided a further insight into

and a deeper understanding of their roles in the educative process. For all, the process was an enlightening experience.

Besides being successful in terms of the experiences it provided for the many participants, the process was successful also in terms of its end result--the educational specifications. This success was due in no small measure to the eagerness and willingness of the various persons involved.

The ease with which this planning process was implemented, the speed with which it accomplished its purpose and the obvious enthusiasm of its many participants suggest that it could form the basis of a viable procedure to be used in planning similar facilities in the future.

III. LIMITATIONS OF THE PROJECT

As stated in the opening chapter, this project was limited to the development and implementation of a planning process in the Exploits Valley Integrated School District and to the school personnel employed in that district. Inferences from the project must therefore be limited to this area. This is not to suggest, however, that the basic structure and organization of the process could not be adapted and revised to suit the needs of different geographic areas or for use in planning different kinds of educational facilities. The personnel in the Grand Falls area may differ in training and experience from those in another area, and

specific procedures used in planning a primary school may not be appropriate for a high school but it is hoped that the basic principles of educational facility planning evident in this project could be useful to other planners.

A further limitation experienced in the implementation of this project was the fact, pointed out in the text of this report, that a needs survey had not been completed prior to the initiation of the project. Such a survey would have supplied the answers to many questions, which, though they did not prevent the completion of the project, would have added considerably to its effectiveness, had they been known. Without the answers to these questions, the project was carried out in an atmosphere of some doubt--a situation which would not have existed had the needs survey been completed.

IV. RECOMMENDATIONS

As a result of the experiences gained through the various aspects of this project, the following recommendations are offered. These have been divided into two sections. Those in Section A should be of benefit to persons interested in carrying out a planning process similar to the one described in this report. Those in Section B are directed to persons concerned with educational planning generally in this province.

- A. 1. A major contributing factor to the success of this project and to the quality of recommendations

made by sub-committees was the provision for their use of print and other audio-visual materials which were both appropriate and up to date. Such materials should be available in school districts for the use of persons involved in projects such as the present one and these materials should be up-dated at least annually.

2. The process of writing the educational specifications in this report was made considerably easier by providing each sub-committee with a general outline to be following in making its report to the Steering Committee. This outline corresponded generally to the predetermined style and form to be used in the final report. This measure is recommended not only because it reduced to a minimum the amount of editing and rewriting to be done but also because it helped channel the thinking of participants who were unfamiliar with the nature of educational specifications.
3. The members of all committees working in a project such as this one should, as far as possible, subdue any inclinations to be unduly influenced by their own particular fields of specialization. Members should

seek not only to represent their own interests but to see their needs in relationship to those of others. Only by making all decisions in the context of the purpose of the total project can the final outcome be successful. This recommendation applies particularly to the members of the Steering Committee.

4. The preparation of educational specifications is most logically done in the context of a comprehensive district needs survey. This survey would determine precisely what the needs of any particular district are and the exact nature of any facility to be planned. The process described in this report should always be preceded by a district needs survey.
5. While the general nature of a process such as this one can be firmly established, the details of implementing the process should always be left to the Steering Committee. In this way, the organization of the project can be flexible enough to meet the needs of different areas, different personnel and different types of buildings.
6. In carrying out the detailed planning of a school building, a high degree of involvement of both educators and lay citizens is desirable. This

involvement would add to the success of a school building project not only because of the wealth of fresh ideas it would bring but also because it would tend to eliminate the atmosphere of secrecy that has often enveloped such projects in Newfoundland in the past. Advantage should be taken of the public relations work that can be done by providing meaningful involvement for community members in a project such as this one.

- B. 1. As intimated previously in this report, educational districts should adopt some form of master planning so that exact needs can be clearly seen and data is available to help determine the nature of these needs.
2. To facilitate the development of master plans and to assist in conducting district needs surveys, educational districts should have specialized personnel available to them. This would necessitate additional salary units being made available from the Department of Education. Until this is done, each school district should assign responsibility for this area of work to its most highly qualified professional employee.
3. Along with the personnel which should be

available at the district level, each regional education office should have personnel responsible for collecting and distributing information for use by educational planners. These regional offices should act as data banks from which information relating to such things as population and the economy of a particular region can be drawn.

4. In order for planning of the type described in this report to be fully successful, it must be backed up by long-range planning and commitment on the part of the provincial Department of Education. The Department of Education should require that school districts forecast their needs for at least five years. With this information, capital grants for two or three years can be approved at least in principle. In this way educational specifications can be prepared not in an atmosphere of hope and doubt but in the certain knowledge that monies will be available to ensure their use.

Though it may be wise, it is nevertheless very frustrating for school districts to make plans and specifications for schools knowing that they will only be built if money becomes

available. This is how school boards must operate now with respect to the provincial Department of Education and also the federal Department of Regional Economic Expansion.

5. With regard to educational facility planning, confusion has been known to arise over the functions of the Denominational Education Committee and of the Department of Education. The lines of communication between school boards and these bodies and the responsibilities of each should be clearly delineated. When responsibilities are being delineated as recommended above, school boards should attempt to gain more control over such matters as the selection of an architect and the supervision of the building program to see that the educational requirements are being met.

School boards and their advisory personnel know better than anyone else what their school buildings should be like. They are in the best position to interpret the educational specifications to the architect and he will be more responsive to their wishes if they hire him. By the same reasoning, local school officials who can visit a school building project daily are in the best position to supervise the work of the building contractor.

6. Though there has been much talk in Newfoundland in recent years about aims of education and the objectives of specific programs of education, it is difficult to convince people of the great importance of relating facility needs to the school curriculum. This problem makes it imperative that persons responsible for approving the educational facility plans of school districts work closely with and be familiar with the philosophy of the Department of Education's curriculum division.
7. In a province such as this, where capital expenditures for educational facilities are at a premium, a high degree of co-operation should be sought between all institutions offering educational services in any community. If careful consideration were given to the amount of time high schools are being used, such a facility could be planned to double as a community college, to meet the educational needs of adults at night, for example. A vocational school in a particular community may have space available that would make it unnecessary for a school board to provide similar facilities in a high school in the same community. This kind of co-operation would certainly

result in a wiser use of already scarce resources.

V. IMPLICATIONS FOR FURTHER RESEARCH

It is conceivable that in a project such as this one, many questions are left in doubt, some to be answered by the persons who occupy the school building immediately upon its completion and others to be decided by future generations of teachers and students. A number of areas in which further study would be useful and in which additional work should be done can readily be identified.

1. Although conceptual drawings have been prepared by an architect, much additional work is required before final working drawings are completed. It is necessary, for example, that the importance of the changes incorporated in Chapter IV of this report be made clear to the architect. Care should also be exercised in seeing that building materials, where necessary, are chosen to comply with particular educational needs and that furniture and equipment are selected in accordance with specific program requirements.
2. Follow-up research into the following areas of the project could be initiated almost immediately:
 - a) to determine the extent to which teachers felt they benefited from involvement in

this project both in terms of satisfaction with their involvement and of professional growth.

- b) to determine the extent to which the educational specifications were of value to the architect in designing the building.
3. Useful research could be carried out a few years after this school has been in operation to determine:
- a) the degree to which the building can be adapted to varying program requirements,
 - b) teacher satisfaction in the use of the building, and
 - c) whether this building met the criteria in (a) and (b) to a greater or lesser degree than did a selected school planned without teacher involvement.
4. The procedures used in this project should be attempted in other areas of the province and for different kinds of schools. This would serve the purpose of refining the planning procedures and also furnish additional insights into implementing similar planning processes in the school districts of the province.

APPENDICES

Appendix A

Standard Form of Sub-Committee Reports

STANDARD FORM OF SUB-COMMITTEE REPORTS

- I. Philosophy, Objectives, and Trends of the Area
- II. Students and Activities
 - A. Students
 - 1. Class size and trends
 - 2. Ages
 - 3. Other
 - B. Activities
 - 1. Student activities
 - 2. Teacher activities
 - 3. Methods of teaching
- III. Educational Materials and Furnishings
 - A. Materials
 - 1. Reading
 - 2. Audio-Visual
 - 3. Other
 - B. Furniture
 - 1. Regular
 - 2. Special

(Specify whether built-in or moveable)
- IV. Equipment, Utilities and Storage
 - A. Equipment
 - 1. Audio-Visual
 - 2. Other

(Specify whether built-in or moveable)
 - B. Utilities
 - 1. Electrical
 - 2. Fuel
 - 3. Communications
 - 4. Water
 - 5. Other
 - C. Storage
 - 1. Room storage
 - 2. Central storage
- V. Environment
 - A. Visual
 - B. Acoustical
 - C. Thermal
 - D. Other
- VI. Safety
 - A. Warning systems
 - B. Exits
 - C. Fire prevention
 - D. Traffic
 - E. Other

VII. Space

- A. Space estimate for each area**
- B. Special spaces**
- C. Flexibility**
- D. Number of spaces needed**
- E. Relationship to other areas**
- F. Suggested construction materials**
- G. Other structural considerations**

Appendix B

Selecting an Architect

SELECTING AN ARCHITECT

"In exactly the same way that the selection of teachers determines the efficiency of the instructional program, the selection of the architect determines the efficiency of the school planning and construction program."¹

Too often in the past architects for major school board building projects have been selected merely on the basis of residence in the community, or indeed the province, where a building is to be erected. Little attention has been paid to the architect's engineering knowledge, his aesthetic sensitivity, his understanding of educational programs, his cost consciousness, his originality and creativeness, his executive ability in administering a construction project or to the number and quality of the staff resources he has available to him. Since architect's fees are for the most part standard, and bidding for work is considered unethical, school boards are in a position to select on the basis of quality of workmanship.

Selection Criteria

Any school board requiring the services of an architect should first of all establish adequate selection criteria and a definite selection procedure.

The two most common methods of² selection are direct appointment and comparative selection.

1. DIRECT APPOINTMENT: By this method an architect is chosen on the basis of the client's knowledge of his reputation, experience and ability. This method receives limited use in the field of education.
2. COMPARATIVE SELECTION: This is by far the most typical method used in education, especially where a school board wishes to consider a number of architects or where a number have expressed interest in a particular project. Some or all available architectural firms are supplied with as much information as possible about the nature of the project and are asked to submit information

¹W. D. McClurkin, School Building Planning, (New York: The MacMillan Company, 1964), p. 81.

²Guide for Planning Educational Facilities, (Columbus: Ohio: Council of Educational Facility Planners, 1969), pp. 40-41.

about their firms to the school board. A questionnaire could be used to acquire as much as possible of the following information from each firm:

- a) Type of organization.
- b) Brief history of the firm, including date established, record of growth, types of work and any specialties.
- c) List of key staff members with their professional background, registration and affiliations of each.
- d) List of projects completed in recent years, giving type, size, cost, location and dates.
- e) List of references, including clients, contractors and financial institutions.
- f) Statement of philosophy and approach to the design and construction process.
- g) Statement of policy in the handling of a project showing how the services of principal staff members, engineers and other specialists are integrated into the project.
- h) Copy of the firm's brochure including plans and photographs of completed buildings.

When information has been received from the architectural firms, it should be carefully studied, references checked and attempts made to visit schools already constructed by each firm. In those visits discussions should be held with other boards to determine each firm's familiarity with schools and education, their willingness to consider the advice of educators and the adequacy of their supervision of construction.

Having gone through the above process, the school board should be in a position to limit their choices to a smaller number, either three, four or five. Each of these latter firms should be interviewed by the entire school board and given an opportunity to make a verbal and/or visual presentation of their qualifications. These interviews should be fairly lengthy and time should be allowed for an adequate presentation and for questions from school board members. They should be held in a pleasant atmosphere with each side showing genuine interest in and respect for the feelings of the other.

At this stage as well, the board should guard against mistaking showmanship for architectural skill and competence. In their evaluation of each firm, the board should consider the following questions:

1. Does the firm have sufficient experience in architectural work to handle all phases of the project competently?
2. Has the firm sufficient staff with suitable skills to carry out the work with care and without delays?
3. Has the firm other commitments which might interfere with proper attention to this project?
4. Has this firm demonstrated skill in developing schools or other plants that satisfy the needs of complex and specialized occupancy?
5. Has the firm worked harmoniously with the previous clients, consultants and contractors?
6. Is the firm of unquestioned professional integrity?
7. Does the firm properly administer the construction phase of the work and give adequate supervision?
8. Does the firm consistently produce buildings within the client's budgeting limits?
9. Does the firm provide economy of space and materials appropriate to each project? (Economy should not be confused with initial cost. Maintenance and durability are also important.)
10. Does the work of this firm provide a pleasant environment and a satisfying appearance?
11. Are bids on the projects of this firm consistently close and change orders and extras few, indicating simplicity in drawings and specifications?
12. Does the firm show a willingness to consider suggestions from other professions and a skill in following adopted suggestions?
13. Does the firm have the qualities of leadership and personality required for getting things done satisfactorily and on time?

³Adapted from School Building Project Procedures: A Guide for the School Building Committee, The School Building Economy Series, (State Department of Education, Hartford, Connecticut, 1968), pp. 33-34 and from School Building Projects: A Guide to Administrative Procedures, (Division of Educational Facility Planning, The University of the State of New York, 1966), pp. 8-9.

Architectural Services

Some indication of the services the school board can expect the architect to provide follows.

The architect should not be asked to make any sketches, proposals or estimates before he has been formally hired by the school board. When he is hired, however, the board can expect to receive three types of drawings. The first of these will consist of freehand drawings of ideas contained in the educational specifications. These will help determine whether the wishes and needs of educational planners have been correctly interpreted. These will not be drawn to scale but will be mere graphic expressions of ideas.

The second type will be preliminary drawings designed to pull the sketches together into a coherent layout. Here scale is required and any conflicts and interests of teacher groups can be settled. At this stage conferences will be required with school groups to iron out conflicts in the translation of teaching activities into building space. Educational specifications must be satisfactorily interpreted at this stage and any necessary changes must be made now.

The third type of drawings are the final or working drawings or blueprints. These will be used by the contractor in the erection of the structure and should include the plot plan, floor plan, elevations, sections, electrical layouts, plumbing layouts, heating, ventilation and air-conditioning, expanded drawings of selected areas of the building, door schedule and window schedule. These drawings are not usable without a document of architectural specifications. This latter document is in narrative form and complements the graphic presentation. This, as well as the drawings, should be analyzed by educational planners.

The architect should also be asked to provide a set of drawings at the end of the contract which shows all on-the-job changes.

The architect should advise the board in bidding procedures and the letting of contracts and at all times should act as intermediary between the school board and the contractor. The contractor is directly responsible to the architect and should receive orders and instructions only from him. The architect will indicate to the board when work has been done to warrant payment to the contractor. (The contract should include provisions to pay the contractor only when materials are incorporated into the structure--not when they are placed on the site for they can easily be removed to another site.)

Along with the above, the board's contract with the architect should stipulate what is considered to be adequate supervision of construction. If the architect does not provide continuous supervision, and the board feels that this is necessary, it may, at its own expense, hire a clerk of the works. This person should answer directly to the architect, however, rather than to the board. The contract should stipulate, as well, that the architect indicate at least one, but preferably two ways, in which the building could be expanded or extended in the future. The board should also discuss with the architect the site survey and test borings (which are the board's responsibility), the time schedule for fee payment and the ownership of drawings and their reuse. Normally, the drawings are owned by the architect and the board is not entitled to reuse them for another school.

In its final acceptance of the building, the school board is wholly dependent on the advice of the architect that the building is ready for occupancy. The contractor, however, should retain some financial responsibility for one or two years following completion of a project.

The above information is provided in the full knowledge that it cannot be used exactly as stated, but also in the hope it will be used where provincial government regulations permit.

Newfoundland Government Regulations

With regard to the engaging of architects and general supervision of school building projects under the Department of Regional Economic Expansion Program in Newfoundland, the Federal-Provincial Liaison Committee has adopted the following procedures:

1. The school board will recommend the names of three consulting firms to the Liaison Committee for the preliminary design of the project, stating in its recommendations its preference for one of the firms.
2. After approval has been given by the Liaison Committee to the school board to engage a consulting firm, the school board should enter into a contract with the architectural firm. The contract would be divided, in terms of responsibility, in relation to the stage of development of the project as follows:
 - a) During the period of preliminary design, the architect would be responsible to the school

board but should consult with the provincial Department of Public Works during this stage at such times as may be considered necessary by the provincial Department of Public Works, the consulting firm and the school board.

- b) After the preliminary design stages have been approved, the contract with the consulting firm would be assigned directly to the provincial Department of Public Works for the remainder of the period required to complete the school project.⁴

Previously the contract between the school board and the consulting firm covered the entire period of the project, but this resulted in confusion since the provincial Department of Public Works, as the constructing agent, was responsible for the project after the preliminary design stage but had no authority, the contract having been made with the school board.

The suggestions contained herein can then be used only to the extent that they comply with the above regulations.

⁴Memo to School Board Chairmen, Business Managers, and District Superintendents from Mr. J. Acreman, Assistant Deputy Minister of Education, Province of Newfoundland and Labrador, December 11, 1970.

Appendix C

**Educational Specifications for a Proposed
Primary School for Grand Falls**

Educational Specifications

for

A Proposed Primary School

for

Grand Falls, Newfoundland

by

The Primary Teachers

of

The Exploits Valley Integrated School Board

April, 1971

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FOREWORD

With the rapid changes in education today, it is most imperative that educators incorporate their ideas pertaining to different aspects of the curriculum and educational facilities into written form. New teaching techniques and methods combined with increased curriculum development and research have made it mandatory that new schools and extensions and renovations to existing schools should be planned to parallel the individual needs of our youth. This trend towards the individual concept of education calls for a physical plant with increased flexibility.

According to research and experimentation, school design and facilities should conform to the educational specifications as outlined by educators for particular curricula. This is the objective of all educators (teachers, administrators and board members) of the Exploits Valley Integrated School District engaged in formulating educational specifications to meet the needs of our students. Consequently, we are strongly recommending that the educational specifications in this report be reflected in a modern school for the designated area.

We acknowledge with special thanks the members of the Steering Committee and special committees who worked so arduously and diligently on this project. Special recognition is hereby given to Mr. Frank Lee for his outstanding services to our district as chairman of the Steering Committee. Through his interest and efforts, these educational specifications have been realized.

W. A. Cull, B.A.(Ed.), M.Ed.
Superintendent of Education
Exploits Valley Integrated School Board

PARTICIPATING COMMITTEES

Steering Committee

Superintendent (ex-officio member) W. A. Cull

Chairman	Frank S. Lee
Members	Clifford Ball
	Leonard Butt
	Jasper Lake
	Norman Paddock
	Roy Stoodley
	Milton Warren
	Leonard Williams

General Learning Spaces: Sub-Committee

Chairman	Mrs. Jean Elliott
Members	Miss Maisie Harvey
	Miss Beverley Huddy
	Mrs. Florence Jerrett
	Miss Bridgett Knee
	Mrs. Marilyn Noel
	Mrs. Joan Penney

Kindergarten Spaces: Sub-Committee

Chairman	Miss Dianne Powell
Members	Miss Barbara Dwyer
	Mrs. Cavell Earle
	Mrs. Dianne McCormick
	Mrs. Jean Menchenton
	Mrs. Dorothy Reid
	Miss Sandra Thompson

Special Education: Sub-Committee

Chairman	Fred Forsey
Members	Mrs. Una Cox
	Miss Elsie Crewe
	Miss Anne LeDrew
	Mrs. Lorraine O'Neil
	Miss Wendy Sullivan
	Mrs. Daphne Watton

Library Resource Area: Sub-Committee

Co-chairmen	Mrs. Beverly Lee
	Mrs. Dorothy Rockwood
Members	Miss Bonnell Gill
	Mrs. Gwen Miles

Library Resource Area: Sub-Committee (cont'd)

Members	Roy Oldford Miss Vera Sheppard Mrs. Sheila Taylor
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Music Area: Sub-Committee

Co-chairmen	Mrs. Edith Budgell Miss Janet Roberts
Members	Miss Jackie Bartlett Mrs. Joan Clarke Mrs. Marguerite Saunders

Art Area: Sub-Committee

Chairman	Donald Bennett
Members	Mrs. Una Cox Miss Barbara Dwyer Miss Linda King Mrs. Olive Reeves Mrs. Sylvia Roop

Multi-Purpose Area: Sub-Committee

Co-chairmen	Melvin Bessey Hedley Hart
Members	Miss Donna Hiscock Miss Sandra Ivany Miss Elizabeth Jacobs Paul MacKenzie Miss Jeannette Williams

Administrative Area: Sub-Committee

Chairman	Mrs. Sybil Butt
Members	Miss Joan Blagdon Miss Irene Butler Allan Decker Mrs. Joyce Hart Mrs. Sylvia Roop Roy Trowbridge

Service Area: Sub-Committee

Chairman	Danny Courtney
Members	Miss Linda Boone Victor Brett Miss Donna Hillier Gerald Rose

Site: Sub-Committee

Chairman
Members

Mrs. Gertrude Thorne
Mrs. Louise Baldwin
George Decker
Mrs. Sandra Knight
Mark Leyte
Robert Morrow
Maxwell Squires

INTRODUCTION

The contents of this document constitute a preliminary set of educational specifications submitted to the Exploits Valley Integrated School Board for a proposed primary school in the town of Grand Falls. They are preliminary in the sense that they were placed in their present form in a relatively short time and represent a general conceptual scheme of the school envisaged. They are specifically designed to provide the kind of information required by an architect to develop a preliminary physical layout, to estimate gross square footage and to determine costs and basic contract tender information.

The above should not be taken to suggest that these specifications were developed in an atmosphere of crisis. In fact, quite the opposite was the case. Committees of teachers, administrators, supervisors and school board members have been working on these plans at various stages and with various degrees of intensity since September, 1970. Indeed, the initial stages of thinking for this project extended back at least three years to the existence of the Grand Falls Amalgamated School Board.

This document could not have been presented in its present form without the willing and capable assistance of the persons whose names appear in the preceding pages. Those who gave so freely of their time to serve as members of the Steering Committee merit a special word of thanks as does Dr. R. D. Fisher, Department of Educational Administration, Memorial University of Newfoundland, who served as project advisor and proved a sobering influence in the writer's many moments of frustration.

April 8, 1971

Frank S. Lee

BASIC FACTS AND INFORMATION

The Planning Process

The idea for a primary school for Grand Falls was conceived by the former Grand Falls Amalgamated School Board in the latter years of its existence. The idea grew out of a desire on the part of the townspeople to replace what is generally considered to be an inadequate building presently located on High Street and a request by the Town Council to have this building removed from the main street where pupils were exposed to many traffic hazards. The Exploits Valley Integrated School Board, at its inception in 1969, accepted this idea and expanded it to include the primary children in the Lincoln Road School. This, it was felt, would relieve some of the overcrowding that existed there and would make space available for program improvement.

The present writer, having been vice-principal of the Lincoln Road School for three years and being familiar with the educational system in the town, was approached, while a graduate student in educational administration at Memorial University of Newfoundland in the spring of 1970 and asked to assist in the preparation of educational plans for this school. A plan was subsequently devised that would take advantage of the knowledge and experience of the primary teachers in the district and at the same time provide for them a valuable in-service education experience.

In September, 1970, the writer was appointed chairman of a steering committee of educators and school board members to implement the above plan. This committee spent some time in the fall studying the school building needs of Grand Falls and the surrounding area. Throughout these deliberations the committee worked in very close co-operation with the Department of Educational Administration at Memorial University of Newfoundland and received much valuable advice from Dr. P. J. Warren and Dr. R. D. Fisher of that Department and from Mrs. R. Ruelokke of the Department of Curriculum and Instruction.

On January 7, 1971, all primary teachers in the area were invited to participate in a seminar in which tentative plans for this new facility were outlined by the Superintendent. Teachers were informed generally of the nature of educational planning by Dr. R. D. Fisher and of the latest trends in primary education by Mrs. R. Ruelokke. The process of educational planning to be implemented in this district was outlined by the writer and teacher participation in the project was requested.

Following this, separate committees of teachers were

set up to study and prepare reports on every aspect of the new school. Specifically, committees were set up to study:

1. The Site
2. Kindergarten Areas
3. General Learning Areas
4. Special Education Areas
5. Library Resource Area
6. Music Area
7. Multi-Purpose Area
8. Administrative Area
9. Art Area
10. Service Areas

To assist them in their work, committees were provided with a sample outline of the educational specifications document, an outline of the report they were asked to submit, tape, filmstrip and film presentations and a wide variety of print materials. On February 22, about midway through this study, all committee members saw an elaborate display including slides, a film, charts, plans and a plastic model of an open area school in Edmonton, Alberta, again made available through the Department of Educational Administration at Memorial University of Newfoundland. Representatives of some committees also had an opportunity to visit schools in Baie Verte and to attend a Saturday seminar on open area at Memorial University. Some committees also took advantage of opportunities to meet with representatives of the Department of Education and of Memorial University when they were in this area. All committees met at least eight times and from their detailed reports, submitted to the steering committee, the following educational specifications were developed.

Description of the School Community

A. Physical Background

The town of Grand Falls in which the proposed school will be located is in the north-central region of the island of Newfoundland approximately 285 miles from St. John's.

It is located on the northwest bank of the Exploits River and except for an area of bog in the northwest corner, all land has sufficient capacity to support virtually any type of structure because bedrock is always relatively close to the surface. The topography is gently rolling with few very steep slopes which could present barriers to development.

The island of Newfoundland is in the same climatic region as southern Ontario but the presence of cold,

salt water encircling the island moderates the climate both during the summer and winter. Although the town is located inland, it does not experience the extremes of temperatures common in such areas, the high and low daily means being 62.8° F. and 14.8° F. in July and February respectively. The mean annual temperature is 35.8° F.

The annual precipitation of the area is 40 inches, 29 of which is rainfall and 11 of which is snowfall, increasing from a low of 2 inches in April to a high of 5 inches in October.

B. History

The town of Grand Falls had its beginning in 1905 when the Anglo-Newfoundland Development Company established a pulp and paper mill on the north bank of the Exploits River. The town has grown since then as the need arose but always under the supervision of the paper company officials until 1961, when it became incorporated as a town. The town still, however, receives many forms of company assistance, including the option to purchase company-owned land for future development at a nominal price. The town then received a very fine beginning and has grown to be an attractive, viable community, well equipped to meet the needs of its citizens.

C. Economy

The principal factor in the economy of any community is the industries which produce goods which are paid for by agencies outside the community. These industries form the economic base of a community since they cause money to flow into the community.

The most important of such industries in Grand Falls is, of course, the pulp and paper mill, now owned by Price Brothers and which exports 100 per cent of its products. Other industries which contribute to the economic base include hotels, construction firms, wholesale firms, major retail firms and government agencies which cater in part to people outside the town. These industries are commonly referred to as "basic" industries.

Other businesses and agencies produce goods and services to customers within the town. These help to circulate and redistribute money in the community but do not cause new money to come in. These are called service industries and do not contribute to the economic base.

In looking at actual employment figures, both the

towns of Windsor and Grand Falls must be considered since many people live in one town and are employed in another. In 1961, about 2750 people were employed in both towns. This number had increased to about 3200 in 1966. Beyond this no figures are available. The largest single employer obviously was the Price Brothers mill, with about 1200 workers. Other employment is created by small industries, business establishments, institutions and government agencies.

Principal sources of increased employment in the past ten years include the new hospital, new industries and businesses established in a new industrial area between Grand Falls and Windsor, the establishment of the Newfoundland and Labrador Power Commission headquarters on the Trans Canada Highway east of Grand Falls and the services generated by the population increase.

D. Population

In 1966 the population of Grand Falls was 7,351. This was an increase of approximately 800 since 1961 and represented a net increase of about 2.4 per cent per year. This rate was higher than previously because it was not until 1961 that the town became incorporated and people were permitted to settle without the control of the paper company.

It should be noted as well that the average size of families in the town is quite high (5.1 per family).

An estimate of future population for Grand Falls based on (1) a projection of the town's past population trends, and (2) the town's population as a percentage of future provincial population indicates that by 1976 the population will have increased to 9,100 and by 1986 to 11,300.

Assuming that school population will continue to represent approximately 35 per cent of the total population as it did in 1966, the increase in school population could easily justify the additional educational facilities envisaged in this report.

Information and statistics for the above were adapted from Municipal Plan: Grand Falls Municipal Planning Area, (1968 revision), Project Planning Associates Limited, 40 Irwin Avenue, Toronto 5, Ontario.

General Statement of Educational Philosophy and Objectives of the School

The children who will receive their formal education in the last quarter of the twentieth century will grow up and

will inherit a world far different from the one in which they were born. We can reasonably assume that what we now refer to as a complex society will become even more complex and this knowledge places on us the grave responsibility of providing for today's student the kind of education that will best prepare him to cope successfully with his changing environment.

The individuality of each child must be fully recognized and every effort made to provide for each child the kind of experiences which will enable him to develop his personality to the maximum. This can best be done in an atmosphere of love, patience and understanding, created by teachers who know and appreciate each child's background and environment.

The school and the accompanying program must be so organized that each child is given an opportunity to develop a deep appreciation of his cultural, religious and geographical heritage, to appreciate the past as a means of preparation for the future, to learn to make wise decisions in a world of increasing leisure time, to develop a sense of moral value and civic responsibility and at the same time preserve and foster the imagination, creativity, and sensitivity that is characteristic of every child.

The operation of the school should more specifically comply with the following principles:

1. The program offered must provide a stable foundation of fundamental knowledge which will enable students to proceed through elementary and secondary school with relative ease, security and confidence.
2. The program offered must be diversified enough so that students may develop their entire "being" to the fullest extent possible, thus activities and facilities for physical, spiritual, social and intellectual enhancement must be provided.
3. Every effort must be made for the student to pursue knowledge and skills at a rate consistent with his own ability, aptitude, and maturity level. This means that the program must be organized on a continuous progress plan with individualized instruction provided to the fullest extent possible.
4. Facilities and instruction must be provided for students with special learning abilities.
5. Facilities and instruction must be provided for

students with special learning disabilities.

6. The atmosphere of the school generally must be such that students will experience and enjoy the "freedom to learn."

Program and School Organization

The proposed school should have provisions for pupils in Kindergarten to Grade III, with special provisions for both slow and gifted students.

The educational program will be organized on a continuous progress plan in Grades I, II, and III, roughly corresponding to pupils' second, third and fourth year of school. For administrative purposes each of these groups--that is, the kindergarteners, the Special Education pupils, the Grade I's, the Grade II's and the Grade III's--will be treated separately. For this reason, a design to facilitate these divisions would be beneficial. Total learning areas for each of these groups should be self-contained but have sound-proof movable walls between individual spaces in the total area. Within each area classes will be grouped in different ways for different subject matter areas and movable walls should be designed to facilitate this movement. Provision should also be made for some movement between larger areas and from each area to the library resource centre, the music area, the art area and the multi-purpose area.

GENERAL LEARNING AREAS

Today's educators realize that each child is a unique individual and needs an education that is appropriate to his stage of development and which will help him build a good foundation for the years ahead. In such an education, a child will develop all his powers--physical, emotional, mental, spiritual and social. Obviously, we do not seek to give him all the information he may need, either now or in the future, but we do hope to help him to develop the power to meet new situations by showing him how to use the information he possesses and how to gain the information he may need. We try through practice to help him develop skill in thinking. We are interested in discovering the traits and abilities of each child and in helping each child to make the most of his potentialities.

Recently the graded school system has come under criticism. Some specific charges are:

1. that the "sit-and-listen-and-do-what-you're-told" approach denies naturalness or the participatory characteristic of learning
2. that the grade structure denies the continuity of learning
3. that the conventional "subject" approach denies the unity of learning
4. that rigid timetabling denies the selective aspect of learning
5. that the standard size class denies the individuality of learning.

We are reaching a point where changes in our traditional system of education are taking place such as:

1. Continuous Progress--the curriculum must be adjusted to the unique learning pattern of each pupil, thus making possible the continuous and independent movement of each pupil through a school system.
2. Individualized Instruction--because we know that learning is individual and personal-subjective, it follows that nothing in the educational system should deny the fact that each child is an individual and must learn as an individual.

3. Integrated Curriculum--the curriculum should be integrated both horizontally and vertically so that there will be continuity in the experiences of the child as he moves through school.
4. Abundant and varied materials--the school should expose the child to as great a variety of educationally relevant stimuli as is possible within the limitations of time and money.
5. Competent, committed teaching staff.

Whereas the traditional enclosed classroom accommodates one teacher and 30 - 35 pupils, the trend is to open zones of learning spaces with relocatable partitions or casework units providing the aural and visual separation among learning centres. We are somewhat loath to recommend moving into total open area due to the fact that some research still points out that primary children progress best under their own teacher and in their own classroom and because many teachers would have difficulty in functioning at their best in an open area situation. We do feel that folding partitions should be available for use when needed and that the predominant feature of the interior should be flexibility. Within it, any area could be enlarged or contracted readily and at small cost since the size and composition of pupil groupings would vary according to such factors as age range, achievement level, aptitudes, teacher ability, technological equipment, and special needs of pupils and staff.

Students

In the primary grades, the student-teacher ratio is 35:1 and while the trend is to smaller classes due to all the varied activities that take place, classroom space should be as large as possible. It is felt that fifty square feet per child is very necessary.

Since some children will take five years to complete the primary program, the ages of the children in the classrooms will range from five years old to nine years old.

Activities

The activities of the students will range from large group to small group to individual.

Classroom-size Group Activities

1. Recitation and discussion at desks ... frequently
2. Recitation and discussion on floor ... sometimes
3. Talks and relating experiences frequently
4. Panel discussions sometimes
5. Spelling bees frequently
6. Developing experience charts sometimes
7. Puppetry and/or dramatization frequently
8. Demonstrations frequently
9. Arithmetic drill work extensively
10. Use of charts, maps and globes frequently
11. Writing on chalkboard by pupils extensively
12. Writing on chalkboard by teacher extensively
13. Drawing and colouring with crayons ... extensively
14. Painting with brushes and tempera ... sometimes
15. Finger painting sometimes
16. Modeling of clay frequently
17. Using scissors and paste frequently
18. Singing as a class frequently
19. Listening to phonograph or radio frequently
20. Displaying papers and resource
materials extensively
21. Displaying multi-dimensional objects . extensively

Small Group Activities

1. Story telling, pupils at desks extensively
2. Story telling, pupils on floor extensively
3. Committee discussion, research,
and study extensively

4. Small group and individual speech work and recording extensively
5. Specialized individual instruction extensively
6. Use of learning aids such as flash cards extensively
7. Writing on chalkboard extensively
8. Displaying materials on tackboard extensively
9. Displaying multi-dimensional objects .. extensively
10. Painting and drawing on portable easels frequently
11. Painting and drawing on horizontal surfaces frequently
12. Using scissors, paste and clay frequently
13. Playing with blocks, puzzles and games frequently

Science Activities

1. Science demonstrations by teacher frequently
2. Experiments performed by pupils frequently
3. Collecting and displaying of science specimens extensively
4. Growing plants indoors extensively
5. Caring for small animals and pets frequently
6. Using water facilities extensively

Teacher Activities

1. Supervising large group activities, small group activities and giving individual instruction
2. Preparing lesson plans and correcting papers
3. Holding conferences with parents
4. Studying and working during out-of-school hours
5. Keeping supplementary books and materials available

6. Filing pupils' cumulative records
7. Filing curriculum resource materials
8. Storing personal belongings
9. Preparing displays and masters

Methods of Teaching

Pupils will be taught in both large and small groups and individually.

Furnishings and Equipment - Educational

1. Materials

a. Reading

Apart from the reading series being used in the classroom, each room needs its own "corner library" with books that are at the reading level of the children. The books should be of such a variety that will appeal to the different interests of the children.

In addition to books, the reading program needs a vast number of teaching aids. These will include a puppet theatre and puppets, chart stands, pocket charts, movable chalkboards, experience charts, poster paper in various sizes, all types of construction paper, magazines, paint, glue, scissors, brushes, crayons and modeling clay.

b. Audio-Visual

Films, film loops, film strips, slides, records and tapes.

- ##### c.
- The social studies, health and science programs should consist mainly of projects. Thus the project will be introduced and some preliminary work done with the class as a whole. Then the class will be divided into small groups, and each group will be given a particular angle of the project to explore. Thus, easy access to the resource centre is a must. Since many projects involve displays, all wall space must be suitable for this purpose. Furniture must be easily movable to facilitate grouping.

Provision must be made for making displays, for modeling, and for demonstrations and experiments by both pupils and teacher.

2. Furniture

Since flexibility of grouping is essential, trapezoidal tables and stacking chairs are necessary. However, it must be kept in mind that individual storage space for each pupil's belongings must be provided because there will be no storage space in the tables. A round table several feet in diameter is needed in the reading corner because it facilitates seating a number of children. Several long tables are needed for working on projects and for displaying finished projects.

Movable room dividers are very valuable for setting up special corners and for setting up special groups. Planters that can be moved to different locations allow for experiments with plants.

Guideline for Classroom Equipment

1. Audio-Visual

<u>Type of Equipment</u>	<u>Number Required</u>
a. 16 mm. sound projector and 42" mobile stand complete with extension cord	1 per 7 classrooms
b. 8 mm. projector	1 per school but changes are occurring in this medium which prevent good guidelines. As this becomes more stabilized and expanded, the school should increase this quantity.
c. Filmstrip or combination filmstrip/slide projector	1 per 3 classrooms

<u>Type of Equipment</u>	<u>Number Required</u>
d. 2" x 2" slide projector (remote control and tray loading)	1 per school
e. Filmstrip viewer with read projection screen	1 per classroom
f. Overhead projector and 16" or 26" mobile stand complete with extension cord	1 per classroom
g. Opaque projector and 34" or 42" mobile stand with extension cord	1 per building
h. Television receiver with stand or ceiling mount	1 per classroom (More information given later in this report.)
i. Record players	1 per classroom plus earphones for each. Also there should be listening stations which are interchangeable with other audio equipment and in this case a junction box should be provided with 6 - 10 earphones.
j. Tape recorders	
(i) Reel type	1 per 5 classrooms with earphones, with listening station provision and headsets.
(ii) Cassette type	1 per classroom
k. Projection carts complete with extension cords	2 per school. These additional carts will be required for the support and movement of equipment.

<u>Type of Equipment</u>	<u>Number Required</u>
1. Video tape recorders	No specific recommendations can be made at this time because the field is so changeable.
m. Radio receivers (AM/FM)	1 per classroom
n. Projection screens	One permanently mounted screen per classroom, 60" x 60" or larger, with provision for eliminating keystoneing. Also there should be additional portable screens.
o. Closed circuit television	All new construction should include provision for cable termination at each classroom. All leads should terminate in one distribution room.

2. General

- a. Pencil sharpener
- b. Staplers
- c. Built-in bookcases plus movable shelves
- d. Chalkboard (built-in and movable)
- e. Pegboard (built-in and movable)
- f. Magnetic board
- g. Teacher's desk and chair
- h. Flannel boards
- i. Easels for painting
- j. Wastebaskets
- l. Tote trays with portable storage cabinet
- m. Sand tables
- n. Filing drawers for teachers
- o. Curtains and blinds to darken windows
- p. Step ladder to reach high shelves and high display boards

Utilities

Electrical

Lighting should be provided as if no other light source were available. Illumination should be without glare

or shadow. Separate light switching devices should be installed for the various sections of the general learning area. Since this area may frequently be rearranged or expanded, the lighting system should be sufficiently adjustable to allow change with minimum expense.

Because use of technological devices is likely to increase, the area should provide carefully planned service outlets. There should be a safe, simple method of using headsets with tape recorders and record players.

Each area should be provided with a readily visible electric clock and an inter-communication system.

Heating

The heating and ventilation system should supply adequate amounts of tempered fresh air to the learning area. Account must be taken that part of the time, the children will be working on the floor. Each area should have an individual thermostat but thermostats should be time-clock controlled to lower the temperature when the building is unoccupied and to raise the temperature in time for the children's return. Special provision should be made for teachers' setting thermostats should they wish to return to work.

Water

Toilet facilities should be adjacent to the teaching area. A sink and bubble fountain should be included in each classroom.

Storage

Apart from adequate space, one of the greatest needs in the primary classroom is for storage teaching space. Space must be provided for the belongings of the individual pupils and for the storage of pupils' wraps.

Ceiling to floor closets should be provided for storing paper (12" x 18", 9" x 12"), cans of paint, records, modeling clay, construction paper, poster paper, chalk, crayons, brushes, records, films and filmstrips.

Cabinets or shelving (fixed or movable) for storing books, magazines, etc. The movable shelves can be used as room dividers.

Shelves and cupboards are needed for storing workbooks. Storage space is needed for storing partially finished projects.

A filing cabinet is needed for storing teachers' personal belongings, stencils and cumulative records.

A large walk-in cupboard is needed for storing large objects and large amounts of supplies.

Environment

Visual

Covered under Utilities - Electrical.

Acoustical

Because of the active and sometimes noisy nature of the primary program, careful acoustic planning is necessary. Carpeted floors, acoustically designed ceilings and sound-proof walls can be used to control sound.

Windows

Too many windows may create excessive glare, extreme variations in lighting level and uncomfortable temperatures. Other disadvantages of windows are loss of wall space, the cost of drapes, blinds and glass replacement. Window design should permit darkening for audio-visual purposes.

Safety

Warning System

The fire alarm should be connected directly to the fire department. There should be an alarm in every room or situated in such a way that it can be easily reached from every room.

Exits

There should be an emergency exit from every room. This exit could also be used to take the class outside when weather permits. All exits should be of sufficient width to allow for the rapid exit of children in the case of emergency. All exit doors should open out and be fitted with panic bars. Doors should have controlled closing to prevent accidents to fingers and hands.

Fire Prevention

All material used in construction should be highly fire resistible.

Traffic

Doorways to corridors must be spaced in such a way so as not to concentrate too many people in too confined an area. Corridors, stairs, ramps and aisles must be free of obstructions. There should be a minimum of stairs and none outside. The areas of the floor that could become slippery, such as around sinks, should be covered with non-slip material.

Glass

Glass should be used only where absolutely necessary and should either be wired or of tempered-plate glass.

Space

Relationship to Other Areas

Noise level and easy accessibility are the two principal factors to consider in locating a general learning area.

A general learning area is best located in a quiet section of the school. It should be removed or insulated from the noises of the general purpose rooms, music room, playgrounds and outside traffic. Locations close to the library materials centre, administration, counselling and health centres are generally preferable.

Pupils assigned to a general learning area should have easy access to other related areas of the school. Internal space arrangements and the location of the general learning areas in relation to other school facilities should allow convenient circulation throughout the building.

Aesthetics

The general learning area should provide attractive surroundings. Everything that contributes to the general effect--casework, furniture, display centres, lighting and window systems, floor covering and colour--should create a pleasant atmosphere.

KINDERGARTEN AREA

Philosophy, Objectives and Trends

Kindergarten children are ready and eager to learn, but not the same things at the same time and rate. Therefore, each child must be met where he is and taken from there. He must be given every opportunity to develop socially, emotionally, mentally, physically and spiritually.

Objectives

The general objectives of the Kindergarten program are:

1. To aid in the child's adjustment to the school and classroom situation.
2. To develop each child's potential in all areas.
3. To prepare the child for the next instructional level, i. e. teach him the necessary skills.

The specific objectives are:

1. To develop the large muscles involved in such activities as skipping, jumping and hopping.
2. To develop the small muscles and co-ordination needed for printing and drawing, and to train the eyes to "read" from left to right, and to pick out small details and observe likenesses and differences in pictures, letters and words.
3. To develop oral expression and to familiarize children with correct speech patterns and pronunciation and to acquaint them with beginning and ending sounds in words.
4. To develop auditory perception.
5. To develop enjoyment and appreciation of music and singing.
6. To develop the child's social skills so that he may get along well with others.

Trends

The trend is toward one class of 20 - 25 pupils per teacher with a teacher aide in each classroom. This would allow small groups to come on different mornings with the entire class coming in the afternoons, and one morning free for the teacher to plan and work on her own.

Students and Activities

Students

Kindergarten children have much energy and imagination and should be given freedom to utilize both.

1. The size of a class could be from 40 - 60 pupils per teacher, divided into two groups, one in the morning and one in the afternoon. This is not a desirable situation and the trend is toward 20 - 25 pupils per teacher with a teacher aide.
2. The age of Kindergarten children could range from 4 1/2 to 6 years.
3. Provision in the form of slanting runways, non-slip floors, and wide doorways should be made for children who may be physically handicapped.

Activities

1. Student Activities
 - a. Playing games (circle formation, running), resting and listening quietly
 - b. Playing rhythm band instruments and marching
 - c. Painting and doing other messy art work
 - d. Playing with sand
 - e. Reading library books and/or playing quiet games
 - f. Playing with water
 - g. Playing with large toys and building blocks
 - h. Engaging in dramatic play
 - i. Doing seat work and listening to instruction
 - j. Taking off and putting on outdoor clothes
 - k. Observing the outdoors from inside
 - l. Playing outside
 - m. Using indoor and outdoor facilities at the same time

2. Teacher Activities

The teacher takes some part in all of the children's activities, but she needs a special area (apart from her desk) where she can prepare her own work. She makes large posters, stage props, costumes and tries out art ideas.

Other activities include using the chalkboard, flannel board, bulletin board, piano and sink. All of these things must be easily accessible to both teacher and pupils.

Educational Materials and Furnishings

Materials

1. Reading

- a. Flannel board--a special place is needed in the instructional area, where the board can be used for display purposes and then left for use by pupils. Also needed is storage space for felt cut-outs which keeps them well sorted and yet within reach from the flannel board.
- b. Puppets and puppet theatre--theatre should be movable but have a special place where it is usually left; a storage space for puppets is also needed.
- c. Pocket chart and chart stand
- d. Flash cards for phonics and reading readiness
- e. Resource materials for teacher
- f. Cassette tapes
- g. Magnetic board and materials
- h. Reading charts and pictures and easel or chart stand
- i. Library books
- j. Puzzles and word games

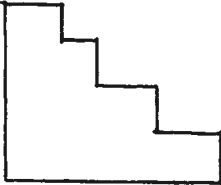
2. Audio-Visual

- a. Films and projector

- b. Filmstrips--handviewers and projector
 - c. Large and small coloured pictures
 - d. Overhead projector
 - e. Record player and records
 - f. Cassette recorder and tapes
 - g. Television
 - h. Viewmaster and slides
3. Other
- a. Beads and bead frames
 - b. Textbooks and exercise books
 - c. Objects for counting and other math games
 - d. Paper for printing (short and long), for painting (glossy), for drawing (manila), and for making charts and posters
 - e. Poster paint
 - f. Paint brushes, large and fine
 - g. Scissors
 - h. Crayons
 - i. Glue (glue pots and brushes)
 - j. Pipe cleaners
 - k. Plasticene and plasticene boards
 - l. Wooden and/or sandpaper alphabet
 - m. Pegs and peg boards
 - n. Large clock
 - o. Yardstick and pointer
 - p. Felt tip markers
 - q. Stars, gummed shapes, stamps and stamp pad

- r. Masking tape, scotch tape, thumb tacks
- s. Stapler, colourfix
- t. Waste receptacles
- u. Pencil sharpener
- v. Abacus--floor model
- w. Plastic containers

Furniture (regular and special)

1. Teacher's desk, chair and cabinet
 2. Pupils' tables (trapezoidal, height 22", surface 60" x 30" x 30")
 3. Pupils' chairs (seat height 12")
 4. Movable steps for sitting (i.e. stall), steps to be 8" high and 32" deep
- 
5. Movable blackboard (6' x 3 1/2')
 6. Library table (36" x 20" and 22" high) and movable book shelves, i.e. display shelves with visible covers.
 7. Sandbox (3' x 5') and low enough for children to use while standing on floor.
 8. Movable bulletin board (approximately 4' x 8')

Equipment, Utilities and Storage

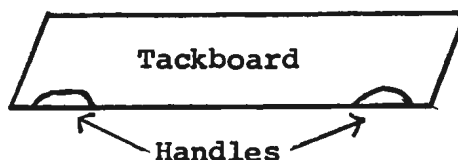
Equipment

1. Audio-Visual--listed above
2. Other
 - a. Tray or boxes for growing seed
 - b. Dressing-up chest or box plus clothes for dramatic play (box size 3' x 3' x 2')

- c. Painting easels with tray for holding paints. These can be regular type with two sides

or (better idea) tackboard space which converts to one long easel without disrupting what is on tackboard side.

Easel on
opposite
side



- d. Piano--near stall for singing
- e. Rhythm band instruments
- f. Aquarium and/or terrarium
- g. Paper cutter
- h. Duplicator
- i. Drapes (to darken room for films and filmstrips)
- j. Tackboard on walls, especially at children's eye level
- k. Toys (many)--large and small blocks, other types construction toys, trucks, cars, washable stuffed animals, balls, jump ropes, hoola hoops, dolls and dolls clothes wardrobe, doll's crib, carriage, toy dishes, table and chairs, cupboard, ironing board, broom and mop

Utilities

1. Electrical--Low radiators or air ducts, so that wall space can be used. Room should be well lighted in all areas. There should be at least 4 - 6 wall outlets in room.
2. Fuel--Vapourizer should be installed if dry heat is used.
3. Communication--Some type of inter-communication system should be employed.

4. Water--Three or four low sinks with hot and cold water, a bubbling fountain, and a large sink for washing painting utensils are necessary. If these facilities were arranged in a circular pattern, it would expedite traffic.

Storage

Room storage and central storage

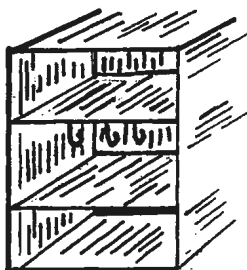
1. Individual (doorless) lockers with overhead shelf for caps (low enough for five-year olds to reach), hook, and lower shelf with place to sit while putting on and removing boots. These lockers should either be outside room or behind a screen.

Shelf (caps)

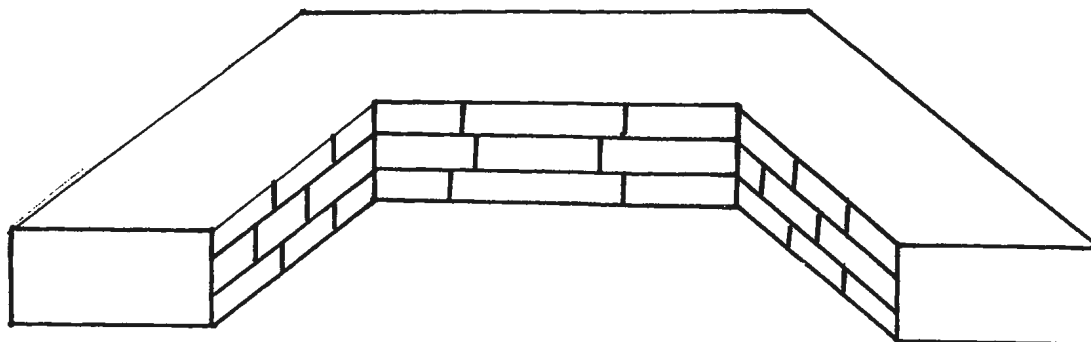
Coat hook

Shelf

Boots



2. Small room off classroom to contain teacher's work table, teacher's locker, large sink, filing cabinet, shelves to contain all needed paper for work, art and handicrafts, plus extra supplies of pencils, closely spaced shelves to hold large poster-size bristol, oak and tag board and large pictures.
3. As kindergarten tables are usually without storage space, a small box or drawer is needed in which each child may put his own possessions and unfinished work. These could possibly be in the form of a cabinet which would enclose a classroom area and also provide a counter top for display. There should be extra boxes or drawers for "odds and ends" used in art projects.



4. Place for rhythm band instruments, movable or near piano. This should be constructed so that the children can easily see and choose instruments.
5. Toy shelf or cupboard near play area. This should be convenient for children to choose toys from and also to keep tidy on their own. Shallow shelves and especially designed places for bigs toys and small toys are a must.
6. Cupboards from which children may get project materials, e.g. books, pencils, crayons, glue, scissors, paper.
7. Place for record player and records.

Environment

1. Visual

Room colour should be light and cheerful. Windows should be low enough for children, and drapes should be colourful with nursery rhymes or other patterns.

2. Acoustical

As kindergarten hours and activities do not generally correspond to those of other grades, the room should be soundproof as nearly as possible. Carpets reduce noise and should be provided in certain areas.

3. Thermal

There should be a thermostat in the room and radiators and air ducts should be low, as children sit and lie on the floor.

4. Other

A patterned floor with a large circle shape, square shape and straight line for marching is desirable. Some should be numbered from 1 to 10. Another area should contain "alphabet" tiles. These things would be both attractive and educational.

Safety

1. Warning System

This should make a sound entirely different from any other bells or buzzers in the school and should be

loud enough to be heard in every part of the school as well as on the playground.

2. Exits

Doors should be equipped with panic fixtures (easily opened by five-year olds) and be secure against intruders. Doorways should be of sufficient width to care for children in emergencies and for wheelchairs or crutches. Emergency lighting should be provided on doors. Doors should be free of chains, locks and other obstructions when children are present. Doors should be such that they cannot accidentally slam in pupils' faces or lock by themselves. All fixtures, locks and handles should be placed in such a way that no injury will result to fingers and hands.

3. Fire Prevention

Basic materials of construction should be fire resistant and of sufficient strength to ensure structural soundness. Fire extinguishers should be simple and in places easily accessible to all. There should be a special area on school grounds (directly accessible from room) where children can go in case of fire and be out of the path of fire-fighting equipment and personnel.

4. Traffic

Stairs should be designed to minimize slipping or tripping. Ramps should be provided for wheelchairs. Steps within student circulation area are dangerous. Lavatories and classrooms should be easily accessible from the playground.

5. Other considerations

Sharp corners on tables, desks and bookcases should be avoided. Avoid electrical floor stubs in teaching area. Kindergarten lavatory and toilet facilities should be located in the kindergarten learning area.

Warm cloakroom and provision for drying damp clothing should be considered.

Size and position of windows are important factors.

There should be sufficient light (daylight) to avoid eyestrain and tiredness.

The medical room should be nearby.

Playground surface should be such that no water gathers after rain.

There should be railings on raised areas, indoors and outdoors.

There should be secure enclosures in outdoor play and work areas.

Space (See Figures 1 and 2)

1. Space estimate--35' x 45'
2. Special spaces
 - a. Stage--low platform
 - b. Art space should include easels, place for unfinished work and display area
 - c. Stalls (movable)
 - d. Instructional area--carpeted, with chalkboard and flannel board
 - e. Free play area--sandbox, toy shelves, doll furniture, open space with suitable floor
 - f. Library--table, comfortable chairs, movable book shelves
 - g. Teacher planning, work and storage area
 - h. Clean-up area--sinks, toilets, fountain
 - i. Pupil work area--close to instructional area
 - j. Music and games area--piano, rhythm-band instruments, large open space with floor design mentioned above
 - k. Cloakroom area
3. Flexibility

As much storage equipment as possible should be movable. The art area, especially, should be designed to include other activities.

4. Relationship to other areas

Kindergarten area should be near the gym, the playground, the library resource center and the telephone. Playground area should be located away from other classrooms.

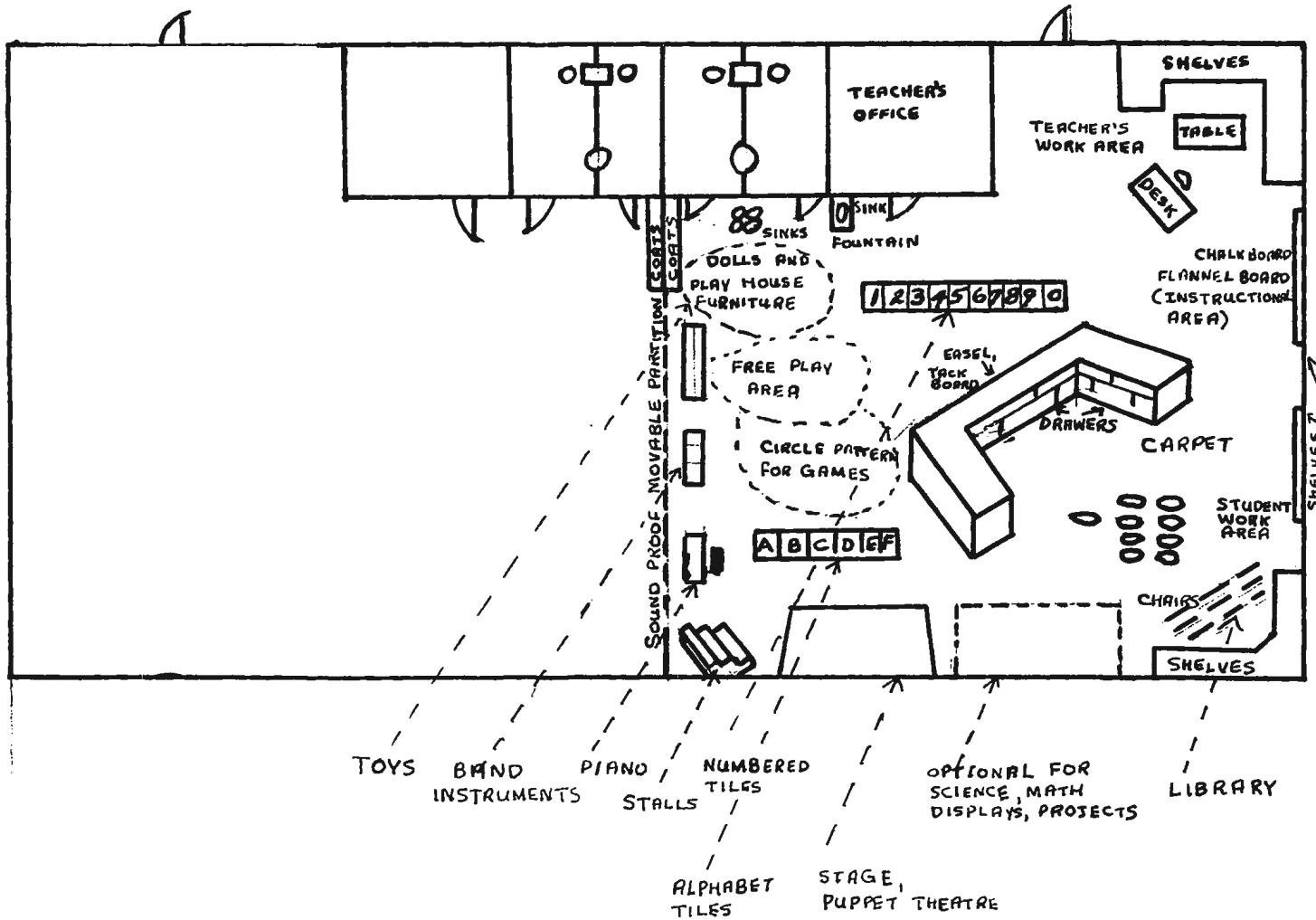
5. Suggested construction materials

Tackboard walls, floor--partly carpet, partly cushion floor and tiles.

6. Other structural considerations

Low windows, chalkboards, cupboards, shelves, fountains, sinks, toilets.

Figure 1 - Kindergarten Area: Space Relationships



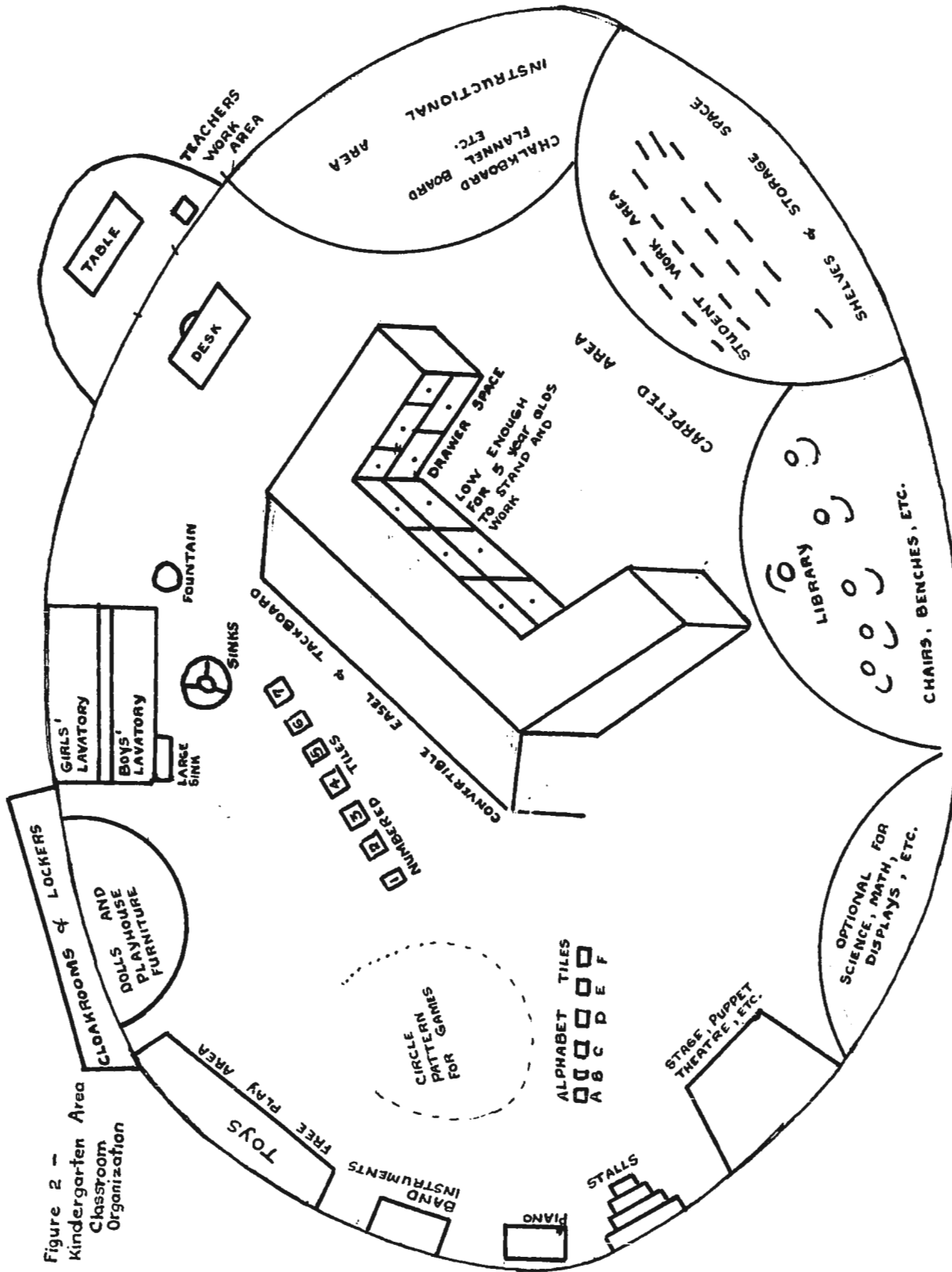


Figure 2 - Kindergarten Area Classroom Organization

SPECIAL EDUCATION AREA

Philosophy of Special EducationWhy Special Education should be Included
within the School Program

Mentally handicapped children have in our school system already met with a large degree of rejection and failure. Within our classrooms they have been the children who have failed the simple classroom tests, the children who have stayed behind after school, the children who have experienced tremendous pressure at home to perform better and who are often kept behind year after year, repeating grades.

With all these things working against them, what kind of self-image do they possess? It certainly cannot be one of self-approval, nor in many instances is it approved by their own peer groups. In this dilemma, they often cry out for recognition and attention. They cannot find this through performance academically, so it is frequently manifested by attention-seeking behaviour in the classroom. It is very difficult for the regular classroom teacher to adequately cope with such behaviour when she has to provide learning experiences for thirty or more other students. Indeed, these children quickly discover that they are not progressing as are the other children. They become totally frustrated. These children need a decelerated program more suited to their own particular needs.

Since it is the duty of the school board to provide an adequate education for all children, it follows that the general objectives for the mentally handicapped children should be the same as these for all other students in the school. These have generally been accepted as:

1. A healthy self-concept and sense of personal worth
2. A satisfying inter-personal relationship with other children and adults
3. School competence--communication, solving problems, and doing independent and creative work
4. Responsible social behaviour
5. Fullest possible development of his capacities and promotion of self-realization

Educators generally agree that these aims cannot be

translated into reality in the regular classroom environment. Therefore, it is necessary to make provision for these students to attend small classes; namely, Special Education classes.

Who Belongs in this Special Class?

1. The Teacher

In a study on Special Education in British Columbia, it was agreed that the teacher needed certain personal qualities. The teacher should like these children, respect them, and enjoy being with them, but at the same time, she should not be unduly emotional or overly sentimental. A sense of humor is a great asset and a sense of awareness is necessary. Patience, willingness to try new methods, acceptance of slow progress, and training for this area are essential.

In addition to the teacher, there are other key personnel. There is a need for special counsellors, social workers, a school nurse and clinical personnel.

In any school program, the principal is a key figure in achieving the success of the program. Quite often, he is the greatest resource person available within our present system. It is necessary for him to understand the program so that his expectations will not be unreasonably demanding.

2. The Student

Selection for placement of students in a Special Education class is a very important process. It should be abundantly clear that the prospective Special Education students cannot be adequately provided for in the regular class. The following procedure for selection is recommended:

- a. Teacher observation of the student must be considered. Documented evidence of his behaviour and adjustment problems should be reviewed. The nature of his academic difficulties must also be examined.
- b. Adequate IQ testing should be carried out. Most studies have indicated that educable mentally retarded children are those who fall within the IQ range between 50 and 85.
- c. A case history of the student should be prepared by the school nurse.

- d. The child should be examined by a pediatrician.
- e. The Special Education program should be explained to the parents. They will have many questions which school officials will be able to answer.

Class Size and Trends

Special Education Classes must be kept small. A minimum of six students is required, but not more than twelve students should be permitted.

The trend in these classes is towards completely individualized instruction. A curriculum must be designed for each child according to his needs.

Students in these classes will range in ages from six years to twelve years.

Educational Materials and Furnishings

Materials

The texts such as readers, math books, spellers, and English books are usually left up to the individual teacher to choose. Some series which have been found useful to date are:

- Check & Double Check Phonics
- Check & Double Check Math
- Functional Basic Reading (Dent & Sons)
- English Practice (Continental Press)
- Trouble Shooter (A Program of Basic English Skills)

A very important part of the program given to special education students is that of activities and handicrafts. This has usually been the area in which most teachers have not had very much experience and which has produced the most problems. Following is a list of activities and materials necessary for carrying out these activities. Consideration must be given in the design of the Special Education room for proper storage and display areas for these materials. Suitable areas for doing the activities must also be provided.

Displays and Projects

Paper Mâché Work

1. Halloween Mask

Materials: Large grocery bag
Newspapers
Paste
Paint
Shellac

Procedure: The paper bag is covered with strips of newspaper dipped in the paste. Two or three layers would be desirable. This is left to dry and afterwards the bag is painted. Eyes, nose, and mouth are cut out. Various designs may be painted on the mask, as the pupil desires. The mask is then given two or three coats of shellac for permanence.

2. Flower Vases

Materials: Empty jam bottle
Newspaper
Paste
Paint
Shellac

Procedure: The bottle is covered with two or three layers of newspaper strips dipped in paste. This is left to dry. Then the bottle is painted over. Various designs may be painted on. The bottle is then given two or three coats of shellac and left to dry.

3. Arithmetic Game

Materials: Egg carton
Construction paper
Paint
Shellac
Marbles

Procedure: The egg box is painted inside and out and left to dry. Then, the child cuts out 12 circles from the construction paper. The numbers, 1 to 12, are printed on the circles. The child sticks the circles, at random, in the bottom part of the egg box. It is then given two or three coats of shellac.

To play the arithmetic game, two or three children have marbles, and standing a certain distance from the box, they throw the marbles into the box and add up their score. After the game is over, the child with the highest score wins.

4. Wall Plaque

Materials: 8" x 10" piece of plywood
Black shoe lace
Glue
Chips of paper, rice or beans
Paint
Shellac

Procedure: First of all, the sides of the plywood are sanded to attain smoothness. With the shoe lace, the child makes a shape, such as a duck or boat. The shoe lace is stuck to the plywood with wood glue. Part of the picture may be filled in with chips of paper, rice, or beans. Glue is put on the desired place on the board, and then the paper is stuck on. If the child wishes, he may paint some of the picture. The picture is then given a coat of shellac.

5. Building from Plywood

The child may use plywood to construct things like birdhouses.

6. Finger Painting

The child uses a special type of paper for finger-painting. He wets the paper all over and then, using finger paint, proceeds to make various designs on the paper.

7. Constructing from Popsicle Sticks

The child uses popsicle sticks and glue to construct things such as candy boxes or jewellery boxes. The box is given two or three coats of shellac.

8. Candle Making

Materials: Beeswax
String for wick
Glue
Glitter

Procedure: The child places the wick at the end of the sheet of beeswax and commences to roll the sheet. When completed, the candle is brushed with colorless glue and rolled in sparkles.

9. Pin Cushions

Using a "mammy" pattern or whatever pattern is desired, the child cuts out the felt so that he has two circles. The circles are partly sewn together. Then it is stuffed with cotton wool and sewn. Hair, eyes, nose, and mouth are then glued or sewed on.

10. Baskets

Materials: Construction paper
Wool

Procedure: A pattern is cut from construction paper. The child weaves the yarn in and out around the pattern until the basket is completed.

11. Paper Tearing

Materials: Construction paper

Procedure: The child uses one sheet of construction paper as a base and uses the other sheet to tear out various shapes, which he sticks to the first sheet. The teacher may read a nursery rhyme to the class. The pupils may then tear out shapes to represent the particular nursery rhyme.

12. Paper Cutting

Same materials, but cutting instead of tearing.

13. Chalk Drawings

On a sheet of plain paper the child draws using white chalk. Then he paints the entire picture over with water paint (thin). The white chalk marks should stand out quite well.

14. Crayon and India Ink Picture

Materials: Cardboard
Crayons
Body Powder
India Ink
Plastic Knives (ordinary knives may be used)

Procedure: The child takes a sheet of cardboard and completely colours it with the crayons. The picture is then powdered and afterwards painted with india

ink. This is left to dry. The child then takes a knife and scratches off some of the crayon, such that there is a certain amount of the picture left black. The child may draw designs with his knife and then scrape off the parts of the picture he desires.

15. Cloth Painting

Materials: Cloth on which there are designs.
(These may be obtained by using transfer patterns. Cloths may be bought on which there is already a pattern, e.g. quilt blocks).
Paints.

Procedure: The child paints the designs, using tubes of paint that are especially made for painting on cloth. After quilt blocks have been painted, they may be sewn together and then flannelette backing may be sewn to the blocks. The quilt is bound with silk or satin binding. Rick-rack may be sewn on the seams of the quilt blocks.

16. Knitting

The children may knit such things as squares for a cushion cover, headbands, and slippers.

17. Sewing

Puppets
Hemming handkerchiefs
Aprons
Dolls' clothes

Dolls may be partly sewn, stuffed and then completely sewn. The patterns for the dolls may be bought at a fabric shop.

HANDICRAFT MATERIALS

Raffia
Glitter
Beeswax
Water paint
Popsicle sticks

Felt
Styrofoam
Plywood
Wood glue
Paper glue and brushes

Paint brushes
Shellac
Varnish
Finger paint
Rabbit wire

Nails
Toy tools
Construction paper
Cardboard
Yarn and knitting needles

Material for sewing
Sewing machine
Newspapers
Egg cartons
Paper bags

Sewing cotton spools
String
Shoe laces
Paste powder
Brush cleaner
Wood and tools

Classroom and Furniture

A self-contained classroom would be preferable to one of the open type.

A minimum of 1500 square feet should be provided for each of the two rooms for this school. Approximately 70 per cent of this space should be tiled for a work area while the remaining 30 per cent should be carpeted for instructional purposes.

The amount of furniture needed for each Special Education room on the basis of twelve students per room is as follows:

1. 4 trapezoidal tables
2. 1 round table (large)
3. 12 chairs (apart from desks)
4. Sink and plenty of cupboards
5. Chalkboard
6. Around-the-classroom bulletin board
7. Display cases
8. Small fireplace (environment for reading period)
9. Storage room connected to classroom

The audio-visual equipment recommended for each room is as follows:

Filmstrip projector
 Tape recorder
 Overhead projector
 Television
 Radio
 Record player
 Globes and maps
 16 mm. movie projector

An area in the room should be provided so that audio-visual equipment can be permanently set up for continuous use.

Utilities, Storage, Safety and Environment

The Special Education rooms will each need an adequate

number of electrical outlets for extensive use of two or three electrical appliances at the same time and in different areas of the room. Because of the nature of the children who will be using those rooms, every safety precaution must be taken.

Much activity will take place on the floor; therefore, adequate heating is important.

Students in these classes will be doing a considerable number of handicraft and art activities. Therefore, it is necessary to have a sink with hot and cold water and with a temperature control device. This sink should be placed in a counter top in such a way that it can be used from at least three sides. It should be low enough for children of this age group to use with comfort.

Special effort must be made to make these rooms attractive. The interior must be done with bright and pleasing colours.

Special acoustic treatment should be considered.

LIBRARY RESOURCE AREA

Philosophy, Objectives and Trends of a Library Resource Centre

A Library Resource Centre might be defined as a collection of print and non-print materials and equipment so selected, arranged and located as to serve the needs of the teachers and students and to further the purposes of the school. Such a centre should enhance the educational opportunities available to pupils and the ability of teachers to instruct pupils. It should gather and co-ordinate the use of all materials and equipment required by students and teachers.

Why a Library Resource Centre?

Research in effective and efficient learning supports the idea of instructional materials appealing to more than one of our senses at any one time. In our verbally dominated schools most instruction is based on the premise that words represent common meaning. This is true only if words are rooted in common first-hand perceptual experiences, and we are aware that all students do not have these experiences. The great majority of students recall most vividly those school experiences that are concrete, realistic, life-like, tangible, and those that do not involve exclusive experiences with words. Research indicates that 85 per cent of what we learn is through seeing, 11 per cent through hearing, and 4 per cent through tasting, touching, and smelling.

A Library Resource Centre takes into account the individual differences of students and therefore stimulates and guides each child in the selection and use of materials at his appropriate level, whether the slow learner, the average pupil, or the gifted child. A Library Resource Centre must help students and teachers discover new materials of interest and determine their value; it must be the hub of the school program--a lab for curious minds; it must motivate children to read and it must allow children to explore and satisfy their curiosities beyond the classroom requirements.

What is a Library Resource Centre?

A Library Resource Centre, containing a wide variety of books, as well as other learning aids, is an essential part of the modern school. It is an area that is easily accessible to all other areas of the school and where all learning materials may be stored and borrowed.

A wide selection of books is essential if the school library is to meet class, small group, and individual requirements. Pictures, pamphlets, magazines, discs and

tapes, film strips and loops, models, exhibits and other non-textual materials are learning resources that are a valuable part of the modern school library. Children need to have access to a wide variety of learning materials enabling them to choose what best suits their needs at a particular time.

Students should be able to use the resources individually, in small groups or class groups. They need to be given a reason to use the learning materials and time to do so within the school day.

Objectives of a Library Resource Centre

1. To create an atmosphere for learning.
2. To stimulate and guide pupils in all phases of their reading, viewing and listening so that they may grow in critical judgement and appreciation.
3. To enable students to acquire good listening skills.
4. To supply books and materials to meet individual needs, interests and abilities.
5. To enable children to understand and maintain observable social behaviour and attitudes.
6. To help the slow and the gifted child.
7. To provide professional assistance needed for effective utilization of instructional material by providing qualified personnel to assist with the production, organization and application of the different media.

Quality education today requires the use of a great wealth and variety of informational materials to meet the varying needs, interests and abilities of individual students. Independent study is the educational keynote of the future--this means that quantities of books and other materials must be easily accessible to the students. Therefore, a good Library Resource Centre has an abundant collection of organized materials which are used in all phases of the school's educational program.

Students and Activities

Students

1. Class size and trends

As will be pointed out in a later section, there

will be three basic groups using the Library Resource Centre--large groups (approximately 30), small groups (from 3 to 10) and individuals. This is in keeping with the latest trend in more individualized instruction.

2. Age

Since all students using the centre will be primary children, the ages will range from five to nine years.

Activities

1. Student activities

These may be individual, small group or large group activities and would include the use of:

- a. tape recordings
- b. books
- c. slides
- d. loops
- e. educational games
- f. television
- g. records
- h. films

An area should be set aside for story-telling, drama, puppet theatre and creative movement.

A workroom would provide the opportunity for creative projects such as:

- a. model making
- b. sculpture
- c. making puppets
- d. mobiles

and would house an aquarium, terrarium and a herbarium.

2. Teacher activities

Even though the emphasis will be placed largely upon independent work on the part of the child, many of the student activities will, of necessity, have to be directed by the Library Resource teacher. It will be largely that teacher's responsibility to see that each child is not only given the opportunity to use and develop his interests and talents, but also encouraged to experiment with new ideas and techniques. The Library Resource teacher would be expected to organize and supervise such things as story hour,

reference work and to teach the proper use of the centre.

Teachers other than the Library Resource teacher will use the centre to supervise student activities already mentioned in the previous section.

3. Methods of Teaching

The librarian and assistants would provide much of the teaching; however, more exact methods of teaching would have to be worked out later by teachers and administrators.

Educational Materials and Furnishings

Materials

A Library Resource Centre, containing a wide variety of books as well as other learning aids, is an essential part of the modern school. It is the central area in the school where learning materials may be organized, housed and borrowed.

Books are the backbone of the modern school library. A wide selection of titles is essential if the school library is to meet class, small group and individual requirements. Five thousand volumes is a suggested minimum book collection for schools with 500 students or less. Schools with over 500 students should have a minimum collection of 10 books per pupil. Annually there should be one new book per pupil after the first year.

Pictures, pamphlets, tape recordings, film strips and films are learning resources that are a valuable part of the modern school library. Children ought to have access to a wide variety of learning materials enabling them to choose what best suits their needs at a particular time.

The school library is much more than a centre for organizing and housing learning resources. If possible, space should be provided in the library so that students may use its resources individually in small groups, or even in class groups. Books, periodicals, pictures, filmstrips, recordings and all other library materials should be freely available for home or classroom use.

All materials chosen for the school library should be of the highest quality. Materials must be selected jointly by librarian and teachers so that a well-balanced collection, geared to the needs, interests and abilities of the students within the school, may be acquired.

Periodically the total library collection should be

examined as to its use. All materials should be checked for wear and tear.

Library material list:

1. Books - reference
 - a. encyclopedias
 - b. atlases
 - c. biographical dictionaries
 - d. maps
 - e. globes
 - f. periodicals
2. Magazines

Ten copies per title of five or more, e.g.

 - a. Children's Digest
 - b. Humpty Dumpty
 - c. Jack and Jill
 - d. Wee Wisdom
 - e. Highlight
 - f. Child Life
 - g. Children's Playmate Magazine
3. Newspapers

Three copies per title of four.
4. Pamphlets

Those appropriate to curriculum.
75 duplicate copies.
5. Filmstrips

Three prints per pupil.
6. 8 mm films

Two per pupil.
7. Record discs

One per pupil.
8. Tape recordings
9. Slides - 1000
10. Globes

One per class plus two in media centre.

11. Microfish
12. Transparencies
Approximately 1500
13. Science equipment
Scale model of solar system suspended from ceiling
Microscopes
Slides
Batteries
14. Other materials
Programmed instructional materials
Realia: models, dioramas, replicas
Art objects
Video tape recordings
15. Professional library
Books: approximately 10 per teacher
Magazines: at least 30 professional titles, also
with Education Index
16. Pictures
1000 minimum
17. Live animals and plants
Fish
Mice
Flowers

Furniture

To assure students ready access to needed instructional materials, the Library Resource Centre should be equipped with appropriate furniture.

Furniture for the Use of Pupils

1. Tables

An arrangement of rectangular, round or trapezoidal tables which are movable is recommended. Suitable table heights of 26 inches to 28 inches to 30 inches are also recommended. Tables should not seat more than six students.

2. Chairs

There should be a sufficient number of comfortable chairs for students to work at library tables. Where students come to the library with textbooks, a storage shelf or basket may be provided under the chair seat or table.

3. Bulletin Boards and Book Stacks

Bulletin boards and book stacks on wheels make excellent partitions.

4. Wet Carrels

Carrels designed for independent study should have vision screens large enough on both sides and at the front to allow privacy. It is advisable to have outlets for the use of audio visual equipment in some or all of the carrels.

Furniture for the Use of Staff and Teachers

1. Card Catalogue Cabinet

The card catalogue cabinet should be a free standing model placed where it is readily accessible.

Since additional catalogue space may be necessary as the library collection grows, it is wise to purchase a unit to which drawer sections may be added as required. A 20 - 25 drawer unit may be adequate at first. The drawers should be fitted with pull-out rods to hold catalogue cards in position.

2. Filing Cabinets

Filing cabinets will be required for pictures, pamphlets and clippings. These cabinets should be standard legal-sized cabinets and should be in the main reading room or in any other area accessible to its users.

3. Book trucks

There should be a minimum of two book trucks.

4. Charging desk

The charging desk should be a free-standing model placed near the main entrance. 26 to 30 inches sitting height is preferable.

The charging desk should have space for four or five card trays, storage drawers and returned books.

5. Reference Units

A free standing, double-faced reference unit is convenient for large reference books such as atlases and encyclopedias. Reference units should be within reach of all library areas and may serve as room dividers.

6. Librarian's desk and chair

A desk and chair should be provided for the librarian in the workroom.

7. Typewriter, typing desk and chair

There should be a typewriter, typing desk and chair in the workroom for the use of library staff.

8. Shelving

Maximum flexibility can be achieved only if a standard shelving length, usually three feet, is used uniformly throughout the library.

a. Books

Shelving for a minimum collection of ten books per pupil and not fewer than 5000 volumes should be provided. All shelves should be adjustable with sections not over three feet in length. For most collections, shelving should be 8 inches deep; however, for oversize books shelving should be ten to twelve inches deep.

A maximum shelf height of five feet is recommended.

b. Picture books

Specially designed picture book shelving should be provided. This shelving may be placed beneath a glass partition dividing a workroom from the main reading room, or two rows of picture book shelving may be extended along one wall of the library below the regular shelves. Shelves should be fourteen to fifteen inches deep.

c. Periodicals

Sufficient shelving should be provided to display current issues of all periodicals received by the library. A minimum of 20 to 25 current titles is suggested.

Recent back issues may be stored in space under display shelf. Display shelving should be 36 inches wide and 16 inches deep and slanted at about a 45-degree angle.

Back issues may be stored in storage area.

d. Audio-visual materials

Audio-visual materials should be placed so that they are as readily available to students as are books.

Recordings may be kept preferably in a vertical position in record storage cabinets.

Listening stations should be equipped with portable record players, each with one built-in output jack. Students may then listen to recordings by means of headsets.

e. Filmstrips

Filmstrips may be stored in drawers with wire dividers or in horizontal or vertical racks.

Individual or group filmstrip previewers should be stored adjacent to the filmstrip library.

f. Tapes

Tapes should be stored vertically in specially designed shelves. Portable tape recorders with output jacks should be located in the listening areas so that students can listen to pre-recorded tapes through individual headsets.

Equipment, Utilities and Storage of
Instructional Materials Centre

The emphasis on individual studies, the discovery method and student research in today's changing education patterns is giving the school Library Resource Centre an increasingly prominent role. There is the need therefore to accommodate more students, to house larger collections and to

provide media or technology for these purposes. The instructional materials centre, however, is much more than a centre for organizing and housing learning resources. Space should be provided so that students can use it for individual, small group, or class group instruction.

It should also be pointed out here that the instructional materials centre is determined by student enrolment, the educational program of the school, and the materials that are in the school. This being done, it is then necessary to determine the kinds and quantity of materials (hardware and software) likely to be housed in the centre.

Basic Equipment for a Library Resource Centre
(Based on an enrolment of 500 students)

1. Non-Print Equipment

- a. 1 16 mm. sound motion picture projector
- b. 1 screen, 60" x 60" or larger
- c. 1 filmstrip projector
- d. 10 filmstrip viewers, for use in library
- e. 20 individual filmstrip viewers
- f. 5 tape recorders
- g. 3 slide projectors
- h. 5 record players with earphone and jack boxes
- i. 1 portable listening station
- j. 2 television receivers
- k. 4 super 8 mm. cassette film projectors
- l. 1 overhead projector
- m. 3 carts for A/V equipment

2. Local Production Equipment

- a. Dry mount press and tacking iron
- b. Paper cutter, 30" x 30"
- c. Transparency production equipment
- d. Diazo printer
- e. Wet copy machine
- f. Dry copy machine
- g. Spirit duplicator
- h. Large font typewriter
- i. Polaroid camera for special situations
- j. 35 mm. camera and accessories
- k. Tape splicer
- l. Stencil duplicator
- m. Mechanical lettering
- n. Label prints

The school should also have access to the following equipment. It should be centrally located, maybe at the District or Regional office.

- a. Super 8 mm. camera
- b. Copy camera and stand
- c. Vertical camera for enlarging or reducing overhead transparencies
- d. Darkroom
- e. Slide duplicator
- f. Microfilm reader/printer
- g. Video tape recorder
- h. Television camera
- i. Portable video tape recorder and playback

Utilities

Provision should be made for electrical outlets in all areas where audio-visual materials are likely to be used. Multiple circuits should be provided so that several pieces of equipment may be used at the same time without overloading.

Outlets are required in the reading room and also in the workroom. More and more electrical power will be required as more media comes into use. A minimum of two 15-ampere circuits per teaching area is required. If study carrels are provided, power outlets are to be not more than five feet apart. One 15-ampere circuit is required per two study carrels.

All electrical equipment must meet the Canadian Standard Association electrical code and must have received certification for commercial use within the past five years.

All equipment must meet the provincial hydro standards.

All equipment should be equipped with a three-wire cord and a three-prong ground plug.

A circuit breaker should be included on all projection equipment for high voltage lamp overload.

For specifications as to what to look for when buying the different types of equipment, see Miller, James D. (editor), Media Canada: Guidelines for Educators. Pergamon of Canada Limited, Toronto, 1970.

Safety

1. Warning System

The Library Resource Centre in the modern primary school could possibly be used by up to eighty pupils at one time. Due to the type of instruction taking place, some areas could be noisy.

A separate warning system is suggested for the library, but it should be hooked into the main fire warning system.

Also, since there will be groups using earphones, we would suggest part of the warning system should be flashing coloured lights.

It may be advisable that the power for operating audio-visual equipment would be interlocked with the main warning system so that when the warning switch is activated, power will be cut off to audio-visual equipment. This will bring both the teacher and pupil to realize something out of the ordinary is happening.

2. Exits

The Library Resource Centre should if at all possible have a double door leading directly to outdoors. This door should be located where most pupils would move out in the shortest possible time. The exit doors should not be obstructed by any instructional aids such as tables. The outdoor area should also lead directly away from school and not into any immediate vehicular traffic area. Double doors should also lead into the library and from an uncongested area in a large lobby or corridor.

If we have to rely on an inside door to a corridor or lobby, there should be a double door for admission to the Library Resource Centre and a double door for exit.

3. Fire Prevention

Because highly inflammable material and equipment will be used in the Library Resource Centre, it should be built of the best fire resistant material available taking into account acoustics. Besides the conventional fire sprinkler systems, there should be hand fire extinguishers. Powder type fire extinguishers would take care of fires from electrical equipment.

All wiring should be of the highest standard and this in itself would be only as good as it is maintained.

Inflammable material such as film should be kept in special containers.

Fire sprinkler system should be also used in storage closets.

4. Traffic

Movement of small children from any fire area is very

important. Fire drill must be maintained in order to have a good flow of traffic in time of emergency.

Students using the Library Resource Centre and away from their regular classrooms may be confused with their regular classroom drill; therefore, it is most important that the student become accustomed to the new surroundings.

5. Other

In designing the Library Resource Centre, safety in the layout and materials is important. Windows should be designed so that when open, they do not protrude either inside or outside. There may be danger of children injuring themselves upon the exposed edges.

Tables, chairs and work areas should have rounded corners and edges. Smooth finish is desirable.

The least number of electrical wires or cords in activity areas is suggested. Audio-visual equipment should be plugged in directly under the machine in use.

Any glass used in doors or partitions should be safety glass.

Environment

1. Visual

Visual environment refers to natural and artificial lighting and is affected by such factors as brightness differences, reflection coefficients, fenestration, and interior decoration. Acceptable visual environments depend upon the intensity of the illumination and upon the brightness differences existing in any given space. Brightness ratios are determined by comparing the brightness of the visual task with that of the surrounding field of vision.

Good visual environment can be achieved by proper selection of surface textures and color, through a wise choice of luminaries, and through the design of a given area. The following guidelines are suggested:

- a. Floors should be as light in color as possible.
- b. Walls should be quite reflective.
- c. Ceilings should diffuse as much light as possible.
- d. Furniture surfaces should possess a light-reflecting factor of about 40 per cent.

- e. Adjoining surfaces should be finished in colors that create a minimum brightness difference.
- f. High brightness, such as glare from the snow, sunlight and light from fluorescent tubes, should be controlled electronically, mechanically or architecturally.
- g. Huge expanses of window are not recommended. Also, brightly polished surfaces should be avoided.

2. Acoustical

A significant portion of the instructional function depends upon good hearing conditions. In order to achieve this, many factors need to be considered.

- a. Floor surfaces should be carpeted to reduce noise level or ceiling tiles, partitions and drapes should have sound controlling qualities.
- b. Climate control equipment should also be designed with the noise factor in mind.
- c. Some equipment will need to be located in such a way as to produce minimum noise in areas where reading and discussion take place. Such things as massive, non-porous partitions and heavy acoustically stripped doors with double-glazed windows or a well-designed massive air-tight partition between such areas can take care of this problem.

3. Thermal

The thermal environment in a Library Resource Centre must be suitable both for the comfort of its users and the care of its physical contents.

Outlets for heating or ventilation should be placed where they will not reduce the amount of shelving that is required.

Books and other such materials should be kept away from heating units so as to avoid rapid deterioration.

Radiators should not exceed twelve inches above floor level.

4. Other

Care should be taken to see that colors blend to give a bright, cheerful atmosphere.

Space (See Figure 3)

The space provided for a Library Resource Centre is one of the most important aspects to be considered for such a facility.

It should be attractive and centrally located. It should not be in an area that limits expansion. It should be away from areas of distracting noises.

Adequate space is needed for reading, reference and research by students and teachers, for housing of materials and equipment, for the acquisition and preparation of materials and for the management of the library. One conference room and individual study carrels suited to sizes of five to nine years old.

Other desirable features include floor and entries free of obstruction so equipment can pass through easily, a ground floor location and storage cabinets, shelves, and walls movable so as to be rearranged for the most possible multiple use of space.

Number of Spaces Needed--Space Estimates and Storage for Each Area

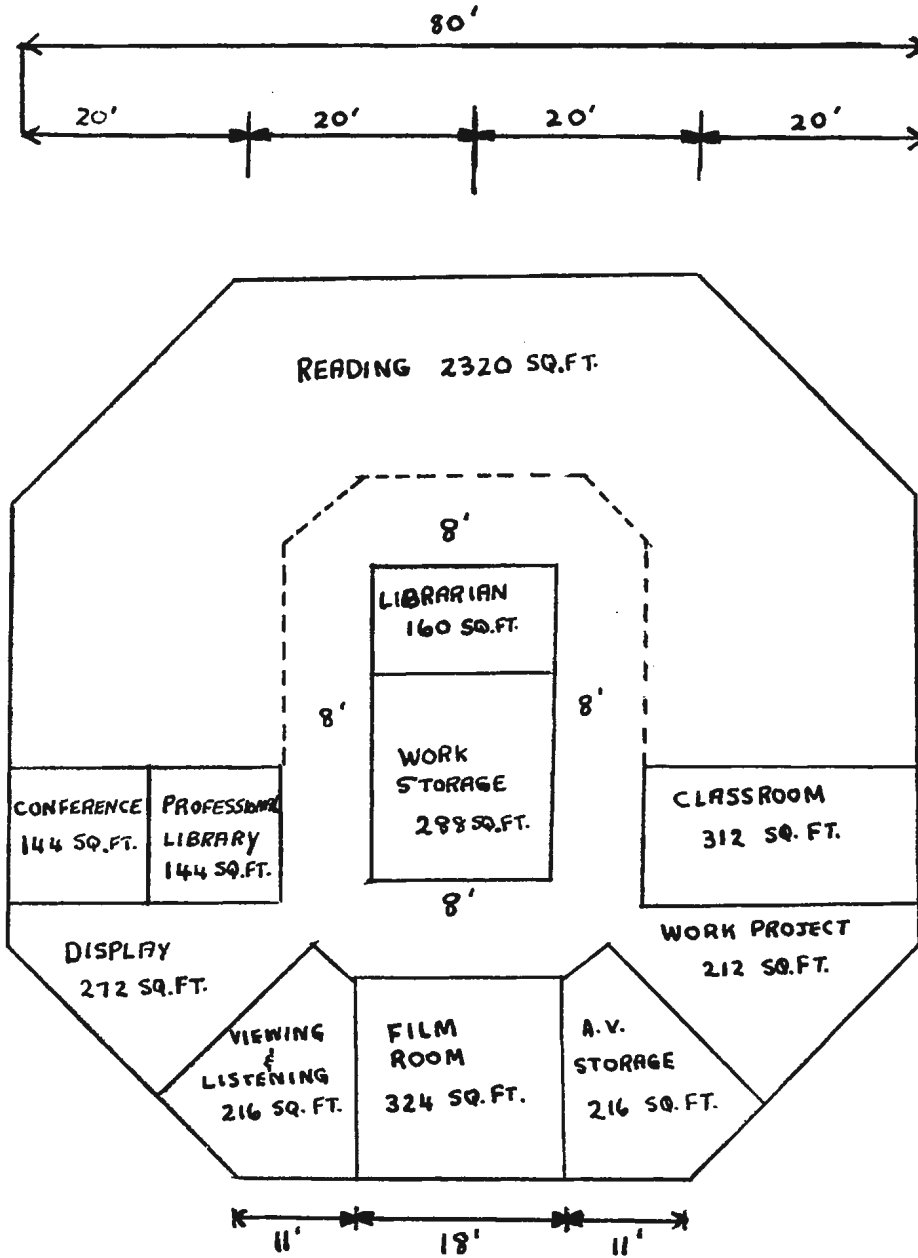
The Library Resource Centre should consist of at least eleven different areas, namely:

1. Reading Room
2. Work-storage Area
3. Conference Room
4. Viewing and Listening Area
5. Librarian's Office
6. Professional Library and Teachers' Workroom
7. Film Room
8. Audio-Visual Storage
9. Display and Browsing Area
10. Library Resource Centre Classroom
11. Project Area

1. Reading Room

This room houses the book collection, has furniture for studying, e.g. tables, chairs and study carrels. This room should not be too large. A maximum seating capacity of 80 pupils is recommended. Space needed--2400 square feet.

Figure 3 - Library Resource Area



CENTRAL LIBRARIAN AND WORK STORAGE AREA ELEVATED.

2. Work-Storage Area

This is the work and storage area for supplies, books, and back issues of magazines. New books and other materials received are processed for use here. Mending of materials is also done in this area. This space should be adjacent to the reading room.

Space needed--300 square feet.

3. Conference Room

This area is set aside for small group activity. It should be adjacent to and connected with the reading room with at least half glass wall for supervision. It should be furnished with tables and chairs, available to all classes or for extra-curricular clubs' use.

Space needed--120 square feet.

4. Viewing and Listening Room

This is a viewing area for audio-visual materials and also a listening area for small group work with audio-visual materials. It should be connected with the audio-visual storage area and the library reading room.

Space needed--200 square feet.

5. Librarian's Office

This room should be adjacent to the work-storage area and the reading room for supervision. An elevated office is recommended. A partial glass wall should be provided for supervisory purposes.

Space needed--120 square feet.

6. Professional Library and Teachers' Workroom

This area houses professional books and magazines for teachers' use and is also a teacher workroom used for organization of material and preparation of instructional materials. It should include work tables, sink and cupboard counter.

Space needed--120 square feet.

7. Film Room

This room should be adjacent to the audio-visual storage room. It should be constructed in such a way that it can be made larger or smaller depending on the size of the class using it. Movable walls are recommended. Darkening facilities are also needed.

Space needed--300 square feet.

8. Audio-Visual Storage Area

This is the storage room for all audio-visual equipment, both machines and materials. Electrical outlets should be included here.

Space needed--200 square feet.

9. Display and Borrowing Area

This area should contain glass display counters measuring approximately 4' x 4' x 18" used to publicize resources, show pupil work or serve as a school museum or zoological area. This area should be provided with casual chairs.

Space needed--200 square feet.

10. Library Resource Centre Classroom

This is a room where skills required to use such a Library Resource Centre are taught to regularly scheduled classes.

Space needed--200 square feet.

11. Work-Project Area

This room is mainly work counters where pupils can work on projects with the materials in the Library Resource Centre at their fingertips. It should include provisions for flat storage of displays.

Space needed--200 square feet.

Approximate size of Library Resource Centre--4360 square feet.

Suggested Construction Materials

The walls, ceilings, floors and furniture should be of low tone colours to avoid glare. Lighting should be

adequate. Resilient, noise-reducing materials such as carpeting for floor or acoustical tiles for ceiling are recommended.

THE MUSIC AREA

Philosophy, Objectives and Trends of the Area

Because of the expectation that tomorrow's adults will enjoy more leisure hours and because of the commitment of educators to the development of the whole person, programs in the creative arts are assuming a greater importance in the theory of elementary education.

The central purpose of the school music program is to give each child a balanced musical education. This means the development of skill both in listening and performing. The two interact and, in so doing, increase opportunities for self-expression and for development of an enjoyment of music. Each child should be encouraged to respond with bodily movement.

The elementary school music room is a place for making music and learning about music. In this room children will sing, move to music, play instruments, read music, create music (in a limited way) and learn to listen to and understand music. These experiences are closely inter-related and should be regarded as complementary approaches to music understanding.

The point of all these activities is to introduce children to music. Through them they will come to understand mood, tone, melody, rhythm, form and harmony. The objective is to educate youngsters so that they may more fully appreciate our musical heritage and, perhaps, add to it.

In addition to its primary function of elementary music education, a well-designed music room would be useful to community groups for choral or choir work, instrumental music, rehearsals, and practice for public speaking activities.

Students and Activities

The Music Room should accommodate 30 to 35 pupils and more for special occasions. It should be able to provide necessary space for choral groups of 80 pupils and for creative movement.

The children would be aged 5 to 9 years in a primary school.

The activities in a music learning centre have been outlined in the objectives of the program, but will also include:

1. large group musical activities
2. dramatization and creative movement
3. pupil marching, rhythmic and rhythm band activity
4. listening to recordings, radio programs, and viewing telecasts, projected materials (film strips) and tapes
5. small group musical activities
6. individual performance
7. staff planning in work room with storage facilities for personal belongings
8. storing musical supplies
9. pupils using rest room facilities

General Requirements

1. Location

Because programs will continue to be taken to the stage of the general purpose room, it would be convenient to locate the music room near the general purpose room. The high ceiling requirements of the music room may provide a further non-academic reason for locating it in that vicinity. Community use suggests placing the music room near the public access to the general purpose area or auditorium.

2. Size and Shape

The minimum area for a primary school music room is 1,200 square feet. It is important for the music room to have a ceiling about fourteen feet high to allow sufficient volume of air for good acoustics. Such measurements provide the necessary space both for choral groups of up to 80 pupils and for creative movement. It is most desirable that a teacher's workroom, at fifty-five square feet per music teacher, join the music room as well as a storage room for furniture required at special times.

Because of the nature of music and the special acoustics required for its production, separate enclosed facilities with permanent walls are necessary for musical instructions. A background of silence is essential for making and hearing good sound.

The ideal shape for a music room has been much debated. There is some consensus among music educators that non-parallel walls are desirable. Two criteria must be satisfied. There must be visual contact between learner and instructor, and the room as a whole must be acoustically adequate.

Environmental Criteria

1. Acoustics

The acoustical quality of the music room is of paramount importance. Sound insulation is needed to keep out extraneous sounds and to prevent musical sounds from escaping to other areas of the school.

Pipes, cables, ceilings, floors, ducts, lockers on the outside of the music room, windows, doors and connections between them should all be considered to prevent leakage.

Sound absorption within the room is equally important. Reverberation time should be short enough to facilitate clarity of sounds, yet long enough to provide "alive" acoustical conditions. The level of sound must be uniform throughout the room.

Irregular ratios and random patterns of applications of materials on surfaces are helpful in diffusing and controlling sound.

2. Climate

Because users will sing and may play wind instruments, plenty of oxygen is essential. Temperature and humidity should provide comfort for human occupants, and also contribute to consistent instrumental performance. Fluctuations of the above should be minimized as changes have marked effect upon pitch and maintenance of musical instruments.

Air conditioning provides the best year round control of temperature, ventilation and humidity. If this is not possible, installation of a humidifier should be carefully considered.

3. Lighting

Lighting should permit children to see music, boards, projection screen, and one another. Some arrangements for varying light level is required for use of Audio-Visual Aids.

4. Color

The color and finish of walls, floors, ceilings, furniture and equipment should be designed to provide a pleasing and stimulating environment.

Specific User Requirements

1. Floors

A flat resilient floor surfacing, such as vinyl-asbestos tile is satisfactory. A small area of carpeting near the chalkboards would contribute to the warmth and comfort of the children sitting on the floor in that area.

2. Walls

Walls serve an essential purpose in the reflection and absorption of sound. No windows are required assuming there is adequate ventilation and light control.

Chalkboard surfaces, one with permanent lines, are required as well as tackboard.

A wall mounted screen suitable for overhead projection should be positioned in the room.

Speakers for the sound system will also be wall mounted.

Much of the lower wall surface will be required for case work. For convenience, this should be located at the sides of the room. There should be electrical outlets about every eight feet around the room.

For achievement of desired acoustical qualities, it is recommended that the proportions and arrangements of absorptive and reflective surfaces be determined by competent specialists. Doors should prevent sound leakage in either direction.

3. Ceiling

Since the ceiling is as acoustically relevant as the walls, it should distribute sound uniformly. A fourteen foot height is required for good acoustics. Two microphones should be ceiling mounted.

4. Furnishings, Equipment and Casework (See Figure 4)

The side walls and lower wall surface of the front wall should be available for storage of materials such as sheet music, books, reference books, records, AV supplies, charts, radio, tape recorder, good stereo record player with three sets of earphones and two ceiling mounted microphones for taping.

Because music depends so much on silence it is most desirable that projectors not be in the music room. If design permits, it would be preferable to operate projectors from the work room and beam them in through a part in the wall.

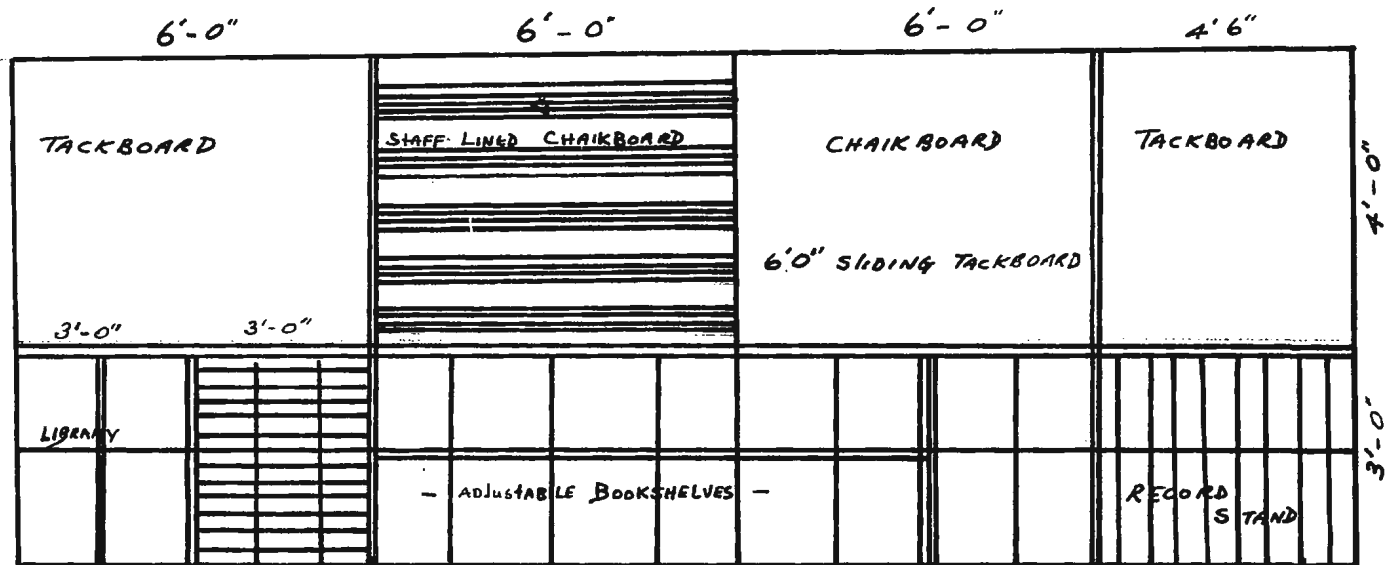
Television programs in music are being developed. The capacity for their use should be built into the music facilities. It would be desirable to have a television outlet in the room and the school should have access to a video tape recorder.

Suggested casework plan attached.

Furniture, none of which should be fixed, should include:

1. 40 child size tablet are chairs, 10% left handed
2. 40 child size stacking chairs or stools
3. 3 adult size chairs
4. 6 child size stacking flat tables, approximately 36" x 18" for instruments.
5. desk, chair and storage for personal belongings of one professional staff member, plus book shelves, table chairs and sink in planning area.
6. toilet facilities for each sex
7. 25 adjustable, heavy duty music stands
8. one piano with bench, lock and large casters
9. portable risers for pupils, each step 8" high, and 32" depth
10. one 15 chord autoharp
one set of bells and mallets
one set percussion instruments

Figure 4 - Music Area : Casework



ART AREA

Children in primary grades will find Art the best medium in the school through which to express themselves. The trend in Art is away from the trace and colour methods to something exciting. Creativity is definitely the trend of the future.

Students and Activities

Students

35 pupils in class
Age five years to eight or nine years

Activities

1. Student Activities

1. Coloring
2. Cutting
3. Soap carving
4. Finger painting
5. Straw painting
6. Clay modeling
7. Salt and flour mixing
8. Making animals and Christmas decorations
9. Construction with used materials
10. Working with collage material:
cotton, burlap, silk
11. Designing with glue and string
12. Making pictures with wool
13. Scribble drawing
14. Working with construction paper - fish, aeroplanes and boats
15. Plastics - items made from Javex bottles
16. Sewing cards
17. Ironing designs, e.g. leaves on waxed paper
18. Using plasticine and sculpturing
19. Making puppets
20. Making masks and costumes from paper bags
21. Splatter painting
22. Making mobiles
23. Making models e.g. old car, Indian Village
24. Print making, using vegetables

2. Teacher Activities

The teacher will have to be responsible for:

1. Distribution of materials
2. Collection of materials at end of Art period
3. Supervision, that is, proper tidying of room and proper cleaning of materials and storage of used items
4. Arrangement of proper disposal, and display of Art Work

3. Methods of Teaching

1. The teacher must be the leader in the Art room
 2. Explain the Art project to pupils
 3. Give personal help where needed
 4. Use easel and chalkboard when necessary to illustrate some points
 5. Use projectors to make illustrations
 6. Show films on Art
 7. Display work done by pupils and others
 8. Take pupils outdoors to observe nature
(With this in mind we recommend the Art room be placed close to an exit.)
4. Educational materials and furnishings (See Figures following.)
5. Equipment, utilities and storage

In the Art room each class should have a locker assigned to it. These lockers should contain the necessary shelving for personal items of class. They may also contain special partly completed projects. The class scrap box would also be kept in its locker. These lockers may contain all or some of the following items:

bark, twigs, leaves	buttons
salt and flour	old catalogues
wool scraps	coat hangers
Javex bottles	dixie cups
old tooth brushes	egg cartons
empty spools	cardboard rolls
stones	newspapers
bottle caps	pipe cleaners

The storage room should be adjacent to the Art room and be suitably shelved to contain the following:

glue	brushes	scissors
paint containers	crayons	cleaners
construction paper	ribbon	crepe paper
plasticine	poster paper	paper bags
wax paper	popsicle sticks	bristol board
string	finger paint	scotch tape & masking
tempera paint	paper towels	tape
felt markers		

Securable storage space should be provided for Audio-Visual equipment permanently assigned to the Art Room and for Art Work that may come to the school for display.

General Comments

1. The Art Room should be located on the first floor so that displays will be visible to all, so that materials and supplies can be easily handled and so that any outdoor art activity can be done more easily.
2. The color of the Art room should be determined by the need for illumination and aesthetic appeal. Intense color should be avoided. Neutral backgrounds should be provided for display areas.
3. Floor should be a subdued tone of durable easy to maintain material.
4. Doors of wall cabinets can be covered by tackboard or corkboard for additional display surfaces.
5. Six running feet of chalkboard should be provided.
6. Lighting should be planned to avoid shadows in all parts of the room.
7. Hot or cold water - sinks projecting into the room at right angles to the wall will permit pupils to work on two to three sides.
8. Adjoining wall area should be tiled or otherwise waterproofed.
9. Grooved racks should be provided into which masonite or aluminum trays containing wet work may slide.
10. There should be wall cabinets for storage and also some table-height cabinets which are movable.

11. A log book is recommended.
12. Order forms must be available so mislaid items or worn out items can be replaced.
13. As this room will be used by many pupils and teachers within the day, a definite set of guide lines must be drawn up to make the room functional.

Figure 5 - Art Room: Furniture

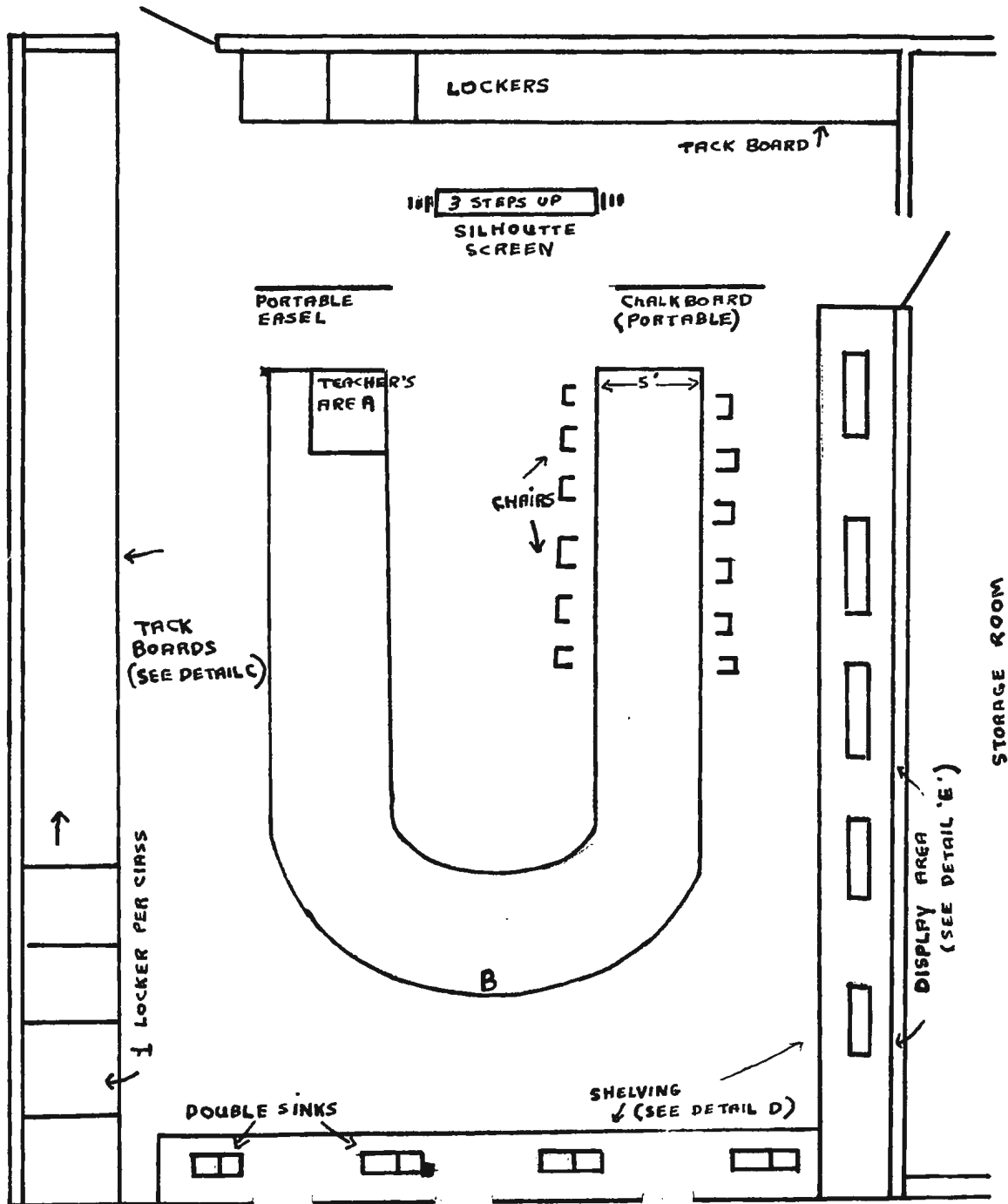


Figure 6 - Art Room : Equipment

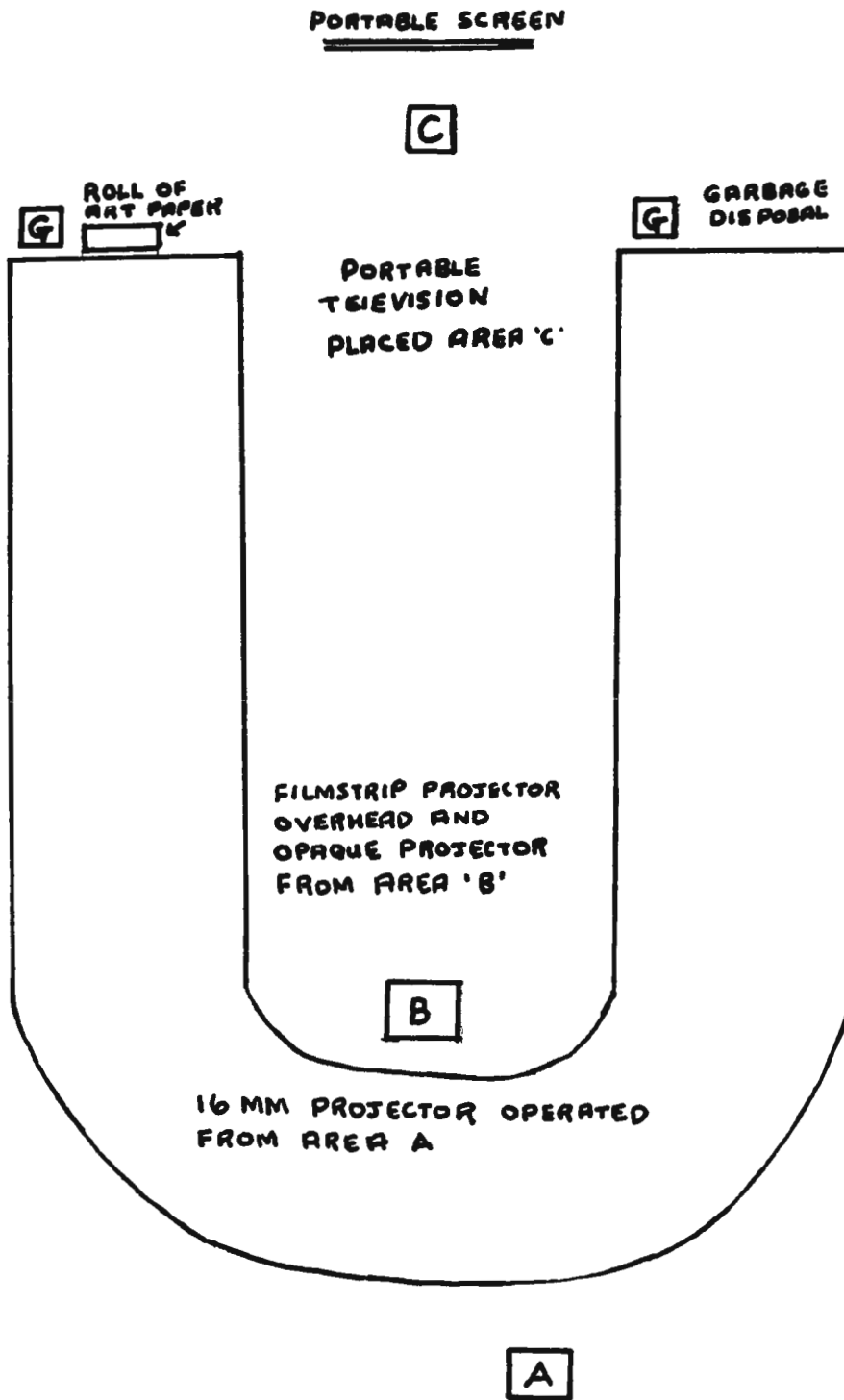


Figure 7 - ART ROOM: Tackboard

Detail C

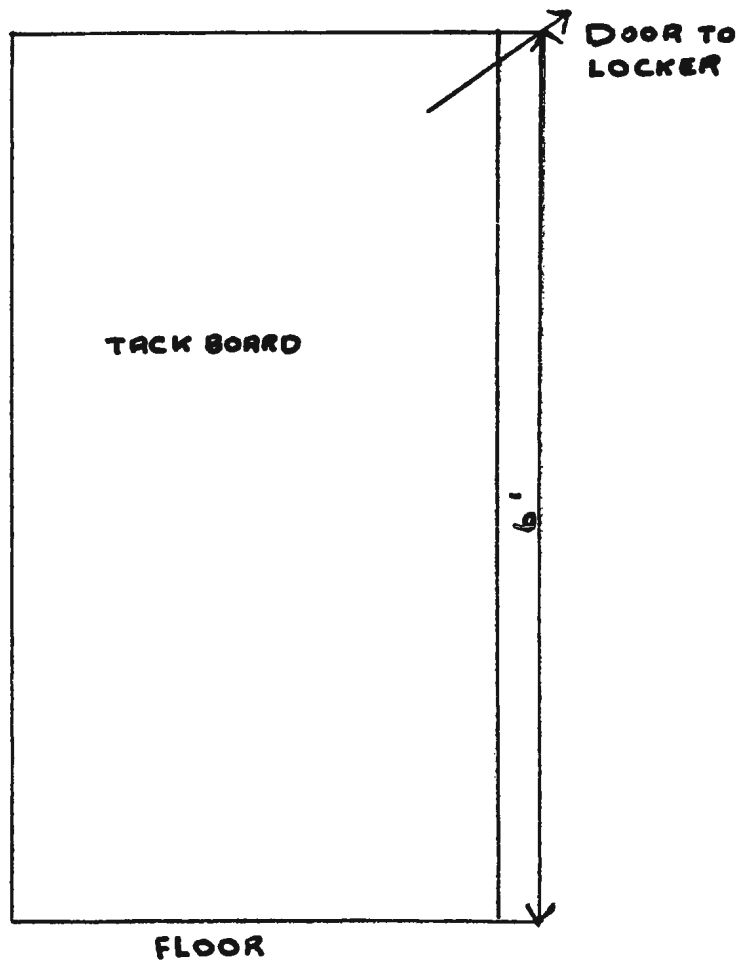


FIGURE 8 - ART ROOM : SHELVEING

DETAIL D

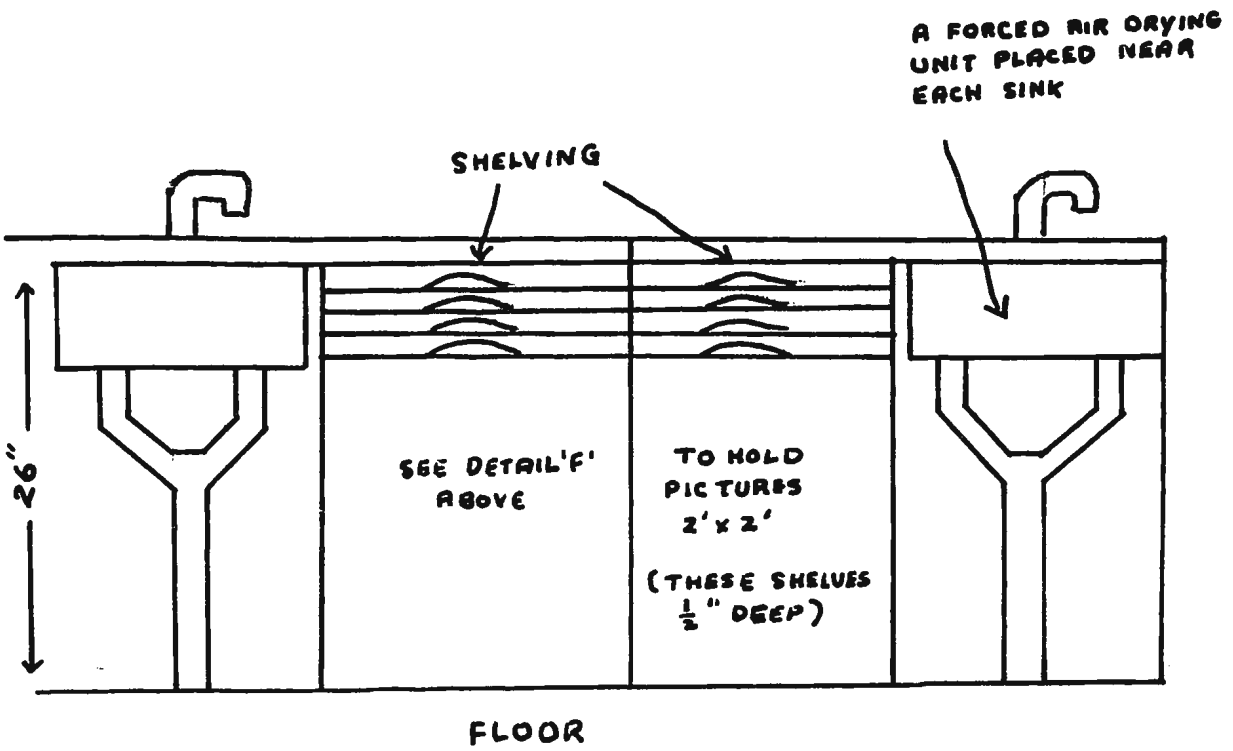
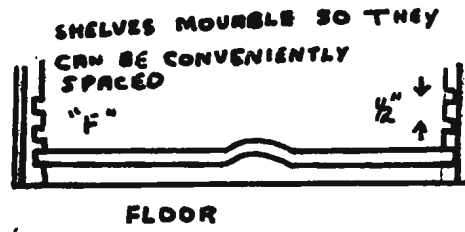
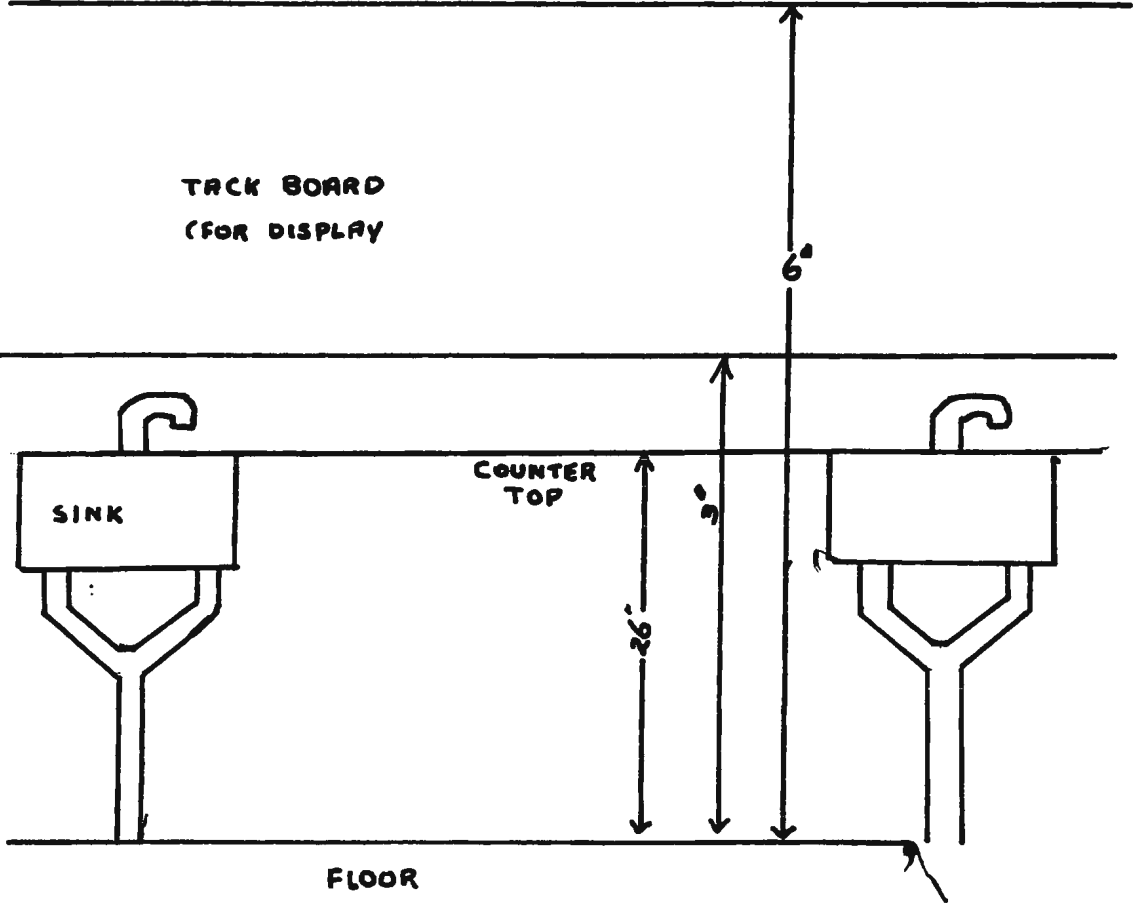


FIGURE 9 - ART ROOM: DISPLAY AREA

DETAIL E



MULTI-PURPOSE AREA

Since the 1950's the idea of combining instructional and assembly space has been quite popular. Four facilities ordinarily adapted to multi use are (i) the combined lunchroom and auditorium, (ii) the combined gymnasium and auditorium, (iii) the multi-purpose room serving all three functions and (iv) the combined auditorium and theatre. The combination of these facilities usually saves in both construction and maintenance.

Since this school will be located in fairly close proximity to the homes of its students, a full scale cafeteria will not be required but provision should be made for adequate kitchen facilities from which milk, fresh fruit and juice could be served.

While a separate gymnasium and auditorium-theatre would be desirable, it may be uneconomic in a school such as this. A combination of these facilities could be made and the facility could still be functional if very extensive storage facilities were provided for such things as chairs and dramatic equipment.

Consequently specifications are provided for both in the understanding that architects and engineers will make compromises in favor of the auditorium-theatre.

- A. GYMNASIUM - Approximately 2800 square feet for one teaching station.
1. Capacity
 - (a) Forty (40) students or eighty (80) students participating in physical education activities.
 2. Location
 - (a) First floor level
 - (b) Isolated from academic area of building
 - (c) Accessible from main part of building
 - (d) Accessible from outside
 - (e) Close to outdoor playground
 - (f) Located such that prevailing winds carry noise from gym and playground away from academic part of building

3. Activities

- (a) Marching
- (b) Climbing
- (c) Dancing
- (d) Skipping
- (e) Tumbling
- (f) To be used at least twice a week by each class for various physical education activities.

4. Furniture and Equipment

- (a) Climbing apparatus
- (b) Balls
- (c) Hoola Hoops
- (d) Short and long skipping ropes
- (e) Bean Bags
- (f) Indian clubs
- (g) Record player (type which enables teacher to speak through)
- (h) Drinking fountain (set in wall)
- (i) Cart for moving equipment
- (j) Clocks
- (k) Other apparatus suitable for primary physical education

5. Gymnasium treatment

- (a) Walls - light in color, smooth and regular with no projections or sharp corners
- (b) Exit doors should be located in corners of gym
- (c) Ceiling not less than eighteen feet (18')

- (d) Natural light not necessary, therefore, no windows are required
- (e) Floors to be of strip maple but because of age group and injury factor, it is recommended floors be carpeted. Carpeting would also reduce the cost of maintenance

6. Dressing Rooms

- (a) There should be both a boys' and girls' dressing room .
- (b) These rooms should be large enough to accommodate forty students to dress for physical education activities.
- (c) Lockers and lockerettes in dressing rooms are not recommended .
- (d) Fixed benches twelve inches wide and twelve inches above floor should be attached to all available wall space .
- (e) Shelves ten inches wide should be installed above each bench at a height of at least four feet from floor .
- (f) Hooks should be attached to wall just below shelves .
- (g) Toilet facilities should be provided in each dressing room as well as wash basins suitable for the age group .
- (h) Bulletin boards should also be provided

7. Instructor's Office

There should be enough space for a desk, files for records, cabinet space, clothes lockers and shower and toilet facilities. This office should be located near the gymnasium

8. Storage Rooms

- (a) 400 square feet for storage of outside and inside physical education equipment

- (b) Ceiling same height as that of gym - 18 feet
- (c) Directly accessible to gym and having exit to playground
- (d) Double doors to gym and playground with ramp instead of steps
- (e) Built in shelves, cabinets and bins on one side
- (f) If possible situated between auditorium and gym
- (g) Well ventilated and lighted

9. Kitchen

- (a) Located to serve auditorium, lobby and gym (two roll-up windows)
- (b) Electrical convenience outlets including 220 volts
- (c) Provision for beverage cooler and dispenser
- (d) Counter and sink
- (e) Serving counter not more than four feet from floor

10. Miscellaneous

- (a) Exits governed by fire regulations
- (b) Adequate electrical outlets - covered
- (c) Public address system
- (d) Controls should regulate temperature in gym independent of rest of school
- (e) Adequate ventilation - air conditioning

B. AUDITORIUM

1. Capacity

- (a) To accommodate total enrolment of school

2. Location

- (a) First floor level
- (b) Isolated from academic part of building
- (c) Easily accessible from academic part of building
- (d) Adjacent to gym (preferably gym and auditorium should be separated by storage room)

3. Activities

- (a) Assemblies
- (b) Films
- (c) Plays and other programs
- (d) Large group academic activities

4. Furniture and Equipment

- (a) Chairs
 - (i) 1/3 small nearest front
 - (ii) 1/3 medium
 - (iii) 1/3 large
 - (iv) 100 extra (for adults)
- (b) Piano
- (c) Public address system
- (d) Television and other audio-visual equipment
- (e) Carpet for floors
- (f) Drapes (stage)
- (g) Clock
- (h) Large screen attached above stage

5. Auditorium Treatment

- (a) Elevated floor - sloping or tiered
- (b) Carpeted floors

- (c) No windows
- (d) No center aisle (aisles on sides)
- (e) Portable partition for small group activity
- (f) Good acoustics
- (g) Independent heating and ventilation control
- (h) Bright decorative walls
- (i) Adequate lighting
- (j) Sufficient number of electrical outlets
- (k) Double doors on either side opening into auditorium from lobby

6. Stage

- (a) Stage should be low as possible
- (b) One exit from stage necessary other than through auditorium
- (c) Stage located at one end of auditorium and near one end of storage room
- (d) 20' behind travelling curtain
- (e) 5' front stage
- (f) No arches
- (g) Very adequately lighted (including stage lighting and dimmer lights)
- (h) At least one traveller
- (i) Carpeted floors
- (j) Slanted side curtains
- (k) Provision to use dressing rooms for both physical education and drama

7. Projection Booth

- (a) Located at end of auditorium opposite stage
- (b) Accessible from lobby
- (c) 4' by 8' with 7' ceiling
- (d) Good ventilation
- (e) Sufficient electrical outlets to operate necessary electrical equipment
- (f) Master switch to control house lights
- (g) Standard speaker plug, should be built in and wired to permanent speakers
- (h) Sixteen mm. projector recommended
- (i) Sufficient storage space for films
- (j) Floor of booth sufficiently high to accomplish projection without interference, even when audience is standing

8. Lobby

- (a) An oversize lobby is not necessary and should be avoided
- (b) Should be of sufficient size to hold comfortably the number of persons who may normally assemble there prior to being seated
- (c) Not more than 50% of seating capacity of auditorium
- (d) Directly accessible to outside
- (e) Toilet facilities
- (f) Fountain set in wall
- (g) Boot racks and coat racks
- (h) Rolling window opening to kitchen

- (i) Telephone in lobby
- (j) Durable and easily cleanable floor covering
- (k) Display case

ADMINISTRATIVE AREAA. Principal's OfficeActivities

1. Individual study and planning by the principal
2. General administration of the program of the total school
3. Conferring with individuals and small groups
4. Storage of outer garments and other personal belongings

Location

1. Direct access from general office area
2. Convenient access from building entrance

Furniture and Equipment

1. Principal's desk and swivel chair
2. Three adult-size chairs
3. Telephone with intercommunication with general office
4. Sixty linear feet of open book shelving
5. Four drawers of legal-size filing space
6. Utility table (about 30 x 60 inches)
7. Tackboard (4 x 4 feet)
8. Electrical outlets and ventilation
9. Carpeting
10. Dictaphone

The principal's office should be approximately 225 sq.ft.

B. Vice-Principal's office

The vice-principal's office should be close to the principal's office with similar furniture and equipment. It should be 150 - 200 sq.ft.

C. Health Clinic AreaActivities

1. Temporary isolation of pupils who are ill
2. Administering first-aid
3. Storing first-aid supplies
4. Giving hearing tests, vision tests, innoculations and checking teeth

Location

1. Convenient access from the general office

Furniture and Equipment

1. Water closet and shower cubicle
2. Six linear feet of work counter - sink unit with hot and cold water and storage above and below
3. Storage for health records and medical supplies. (Provision should be made to keep some medical supplies cool.)
4. Six linear feet of tackboard
5. Scales
6. Two cots divided by curtains or folding screen
7. Nurse's desk and chair
8. Two visitors chairs
9. Telephone with intercommunication with general office
10. Electrical eye chart
11. Electrical outlets
12. Ventilation
13. Provision for disposal of used needles
14. Clock and sound system
15. Carpeting

The Clinic should have at least 20 running feet of space to provide for vision testing and be at least 15 feet wide, and should be sound-proof.

D. Guidance Centre

Since the framework for basic ideas are formed and nurtured in the primary grades we feel that counselling is an extremely important part of the primary system. If special services and remedial measures are to have maximum impact, learning disabilities must be identified early.

The guidance centre should consist of three rooms as follows:

1. counselor's office
2. testing room
3. play therapy room

1. Counselor's office

Activities

1. Study area
2. Consultation with parents and/or pupils

Location

The counselor's office should be private and away from hallways.

Furniture and Equipment

1. Completely carpeted
2. Office swivel chair
3. Desk
4. Four easy chairs
5. Low table
6. Pole lamps for atmosphere
7. Filing cabinets for records
8. Book shelves
9. Picture on the wall
10. Electrical outlets
11. Ventilation

The counseling room should be approximately 150 sq.ft.

2. Testing Room

Activities

1. Testing individuals and small groups

Location

Adjacent to the counselor's office

Furniture and Equipment

1. Cubicles for testing
2. Six chairs
3. A long low table
4. Eight chairs for cubicles
5. Picture on the wall
6. Filing cabinet for storage of tests (securable)
7. Electrical outlets
8. Ventilation
9. Carpeting

The testing room should be approximately 150 sq.ft.

3. Play Therapy Room

Activities

1. A room in which children can be observed while playing

Location

Between the Hallway and counseling/testing rooms
(See Diagram, Page 192)

Furniture and Equipment

1. Closet
2. Sliding doors in closet
3. Coat rod and shelf
4. Storage room for play therapy equipment
5. Shelves (regular)
6. Pigeon hole shelves
7. Equipment - modeling clay, blocks, paints, and puppets.
8. Washable table suitable for eight people
9. Eight to ten chairs
10. Wash room with sink
11. Carpeting

The play therapy room should be approximately
300 sq. ft.

E. Staff Lounge

A pleasant place to relax and visit is essential for a primary school staff. Here, if they wish to do so, teachers can temporarily free themselves of the demands of the teacher role.

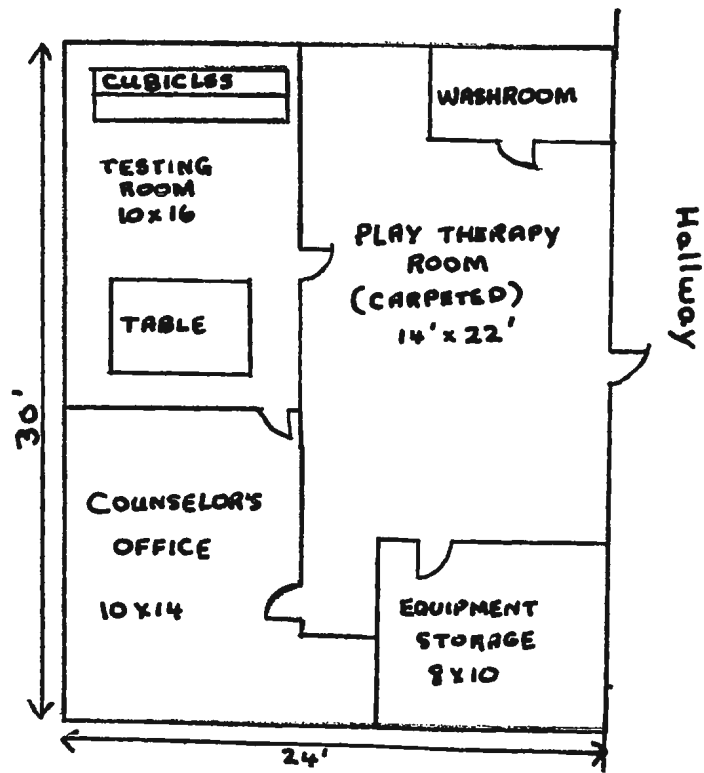
Activities

1. Eating lunch
2. Relaxing during breaks
3. Visiting before and after hours
4. Holding semi-formal staff or other meetings
5. Entertaining visitors

Location

The staff lounge should be easily accessible from all parts of the school. It should be close to staff washrooms but the washrooms should not open directly off the lounge. If possible the lounge should adjoin the kitchen in the general purpose area.

Figure 10 - Guidance Centre



Furniture and Equipment

A dining area with sufficient tables and chairs should be provided to allow staff and a few visitors to eat at one time. Lounge chairs and sofas sufficient to seat the staff and appropriate low tables constitute basic furnishings for the area. Other items might be a bulletin board, magazine rack, bookcase, radio-record player, and television.

The room should be quiet, comfortable and conducive to relaxation. Windows are desirable for visual diversion and lighting should be domestic rather than institutional. Provision should be made for electrical outlets and ventilation.

If the general kitchen area is distant from the staff lounge, there should be a small kitchenette in the lounge. Such a kitchenette should adjoin the dining area but be visually cut off from the lounge area. It should include a small stove, a refrigerator, a sink with hot and cold water, a counter and cupboards for cutlery, crockery and storage space for dry goods.

The lounge should have approximately 40 sq. ft. for each staff member.

Provision should be made for sound system connections.

F. Conference Room

Activities

1. Staff meetings
2. Conferences by school staff and adult groups

Location

1. Convenient access to other spaces in the general office area
2. Convenient access to instructional area

Furniture and Equipment

1. Chalkboard (6 feet)
2. 6 feet tackboard
3. Plush seat chairs with side panels that fold down
4. Bookshelving - 20 feet long
5. Filing cabinet
6. Provision for sound system
7. Electrical outlets

8. Ventilation

The conference room should allow for flexibility in seating arrangements and should not be less than 400 square feet.

G. General Office and Workroom

Size - 350 sq. ft.

Location - Central location

Fixed Equipment

1. Work benches with dividers to provide work space for each teacher
2. Shelving over work benches

Movable Equipment

1. Chairs
2. Table for centre of room
3. Liquid duplicator with cabinet for supplies
4. Two typewriters (regular and one with primary lettering)
5. Gestetner duplicating machine
6. Other necessary equipment (e.g. punches, staplers, paper cutter, etc.)
7. Calculating machine
8. Photo copying machine
9. Stencil cutting machine

Storage space for supplies

Size - 50 sq. ft.

Location - Direct access from work room

Shelving on all walls.

SERVICE AREAS

Corridors or hallways

The desired physical nature of the proposed school will be dealt with in a later section, but where corridors or hallways are necessary for circulation of students in the building, they should be at least ten feet in width.

Corridors and hallways are normally used for storage of children's outer garments; this, however, usually results in confusion at opening and closing of school. Maybe a more appropriate and educational use of this space could be in the form of display areas.

An area should be provided close to each learning area for storage of outer garments.

Apart from the bubble fountains specified for the learning areas, each corridor or hallway should have at least one such fountain.

B. Washrooms

Lavatory facilities should be provided in each learning space. These would include a sink (built not more than 20 inches from the floor), and with single tap, hot and cold running water, a drinking fountain to one side of the sink, single pull paper towel dispensers, liquid or powdered soap dispenser and a 24" x 16" mirror hung over the sink. Storage cupboards can be built on both sides of the mirror and under the sink.

Lavatory facilities in the form of toilet rooms for boys and girls should be located outside, but close to each major learning area. Each should have approximately 200 square feet of floor space and include the following:

1. Two sinks each with single tap hot and cold water
2. Two mirrors (located above sinks)
3. Two single pull paper towel dispensers
4. Four independent, enclosed stalls with toilets of graduated sizes for five to eight year olds. Doors of stalls should not be more than six inches from the floor and each should be equipped with a single pull toilet tissue dispenser.
5. Two waste paper disposal bins (installed in wall rather than loose on floor)
6. Positive or two-way ventilation

Lavatory and toilet facilities for Kindergarten and Special Education areas should be located within the

confines of these areas. For males and females, each should include:

1. Two low sinks with hot and cold water and temperature control device
2. Two mirrors located above sinks
3. Two single pull paper towel dispensers
4. Two independent enclosed stalls with low toilets
Doors of stalls should not be more than 6 inches from floor and each should be equipped with a single pull toilet tissue dispenser.
5. Two waste paper disposal bins (installed in wall rather than loose on floor)
6. Positive or two-way ventilation

Staff washrooms for males and females should be provided adjacent to the staff lounge. Each should be equipped with the following:

1. Two independent stalls with toilets and toilet tissue dispensers
2. Two sinks with hot and cold water
3. Two mirrors
4. One paper towel dispenser
5. One waste paper disposal bin
6. Shelf (about 6' x 8") below mirrors
7. Positive or two-way ventilation

Lavatory facilities for males and females should be provided in the general vicinity of the administrative area and should each include the following:

1. One toilet stall (and accessories)
2. One sink
3. One mirror
4. One paper towel dispenser
5. One waste disposal bin

Further lavatory facilities for males and females should be adjacent to the multi-purpose area and should each include:

1. One toilet stall (with accessories)
2. Two urinals (for males)
3. One sink
4. One mirror
5. One paper towel dispenser
6. One waste paper bin

C. Custodial Work Area

This area should be approximately 10' x 10' and be located in the vicinity of the delivery area.

Storage in this area should include the following:

1. Shelves on one side of room should be 36" x 16" with two levels and three columns. The bottom level should be 24" high.
2. Cupboard (6' x 4' x 1') with door and rack inside for storing mops and brooms.
3. Closet or locker (6' x 4' x 1') for janitors personal use. This should contain coat hooks, hangers and shelves for personal items and tools.

Equipment should include:

1. 3 wet mops
2. 3 - 27 dry mops
3. 3 - 30" push brooms
4. 2 - 18" push brooms
5. 2 standard kitchen brooms
6. 1 vacuum cleaner
7. 1 scrubber buffer
8. 2 double section buckets with wringers
9. 1 sink (2' x 2' x 2') with single tap, hot and cold water. A hook should be attached to hold bucket under tap.
10. 1 paper towel dispenser
11. 1 soap dispenser
12. 1 regular sink for custodians personal use
13. 1 mirror

D. General Storage Space

About 200 square feet of storage space (for custodial supplies, garbage, etc.) should be provided in the vicinity of the custodial work area and delivery area. This should contain some shelving and space for outdoor work tools (i.e. lawn tools, shovels, etc.) There should be an outside entrance free of steps.

SITE

In the past we have considered formal education for children as taking place indoors in a building provided for that purpose. However, in latter years, formal learning is considered to take place in all manners of situations and in all manners of places.

It is imperative that we make use of all our resources in providing learning situations for our children. The out-of-doors area around the school building should be ideal, if developed, for this purpose.

Considering what use can be made of the site as an extension of the indoor learning area, and considering the fact that the age range of the children involved will spread from 5 years to 9 years, the following activities are suggested:

1. Hiking on nature trails set out with assistance of high school students
2. Using tables in program areas that call for outdoor enrichment (academic)
3. Wading in wading pool
4. Gardening
5. Playing in tree houses
6. Picnicking
7. Playing on marble courts
8. Playing on hopscotch courts
9. Playing in circles

The latter three to be permanently marked on paved area.

10. Roller skating
11. Climbing (on specially devised structures)
12. Art (e.g. painting and drawing)
13. Outdoor drama
14. Displaying art work (in an area protected from the weather)
15. Outdoor skating
16. Sliding and/or tobogganing

Traffic Patterns:

1. Foot traffic - when foot traffic patterns have been established, consideration should be given to the construction of paved or concrete walkways. Allocation of funds should be made for this purpose and held until these patterns have become established.
2. Vehicular traffic - Busses should enter and leave from St. Catherine Street. Adequate and safe stopping space for busses should be provided.

Parking space for staff and visitors should be provided close to the school.

Through vehicular traffic should be provided from St. Catherine Street to Maple Avenue. However, some means should be provided to stop this from becoming a public thoroughfare.

Parking areas for bicycles (with racks) should be provided close to the school.

On examining the site, (Figures 11 and 12) it appears from an educational viewpoint that the building should be located on the west side of the property, extending North and South. The main entrance should be from St. Catherine Street and another entrance from Maple Avenue.

Playground areas should be kept close to classroom exits. As many trees as possible should be preserved for each purpose as identification, linear measurement, area and finding ages of trees.

Primary children need a lot of room for movement. Opportunity should be provided for them to correlate their program with the facilities of the outdoors.

Every attempt should be made to achieve full utilization of the site.

Figure 12 - Site: Terrain

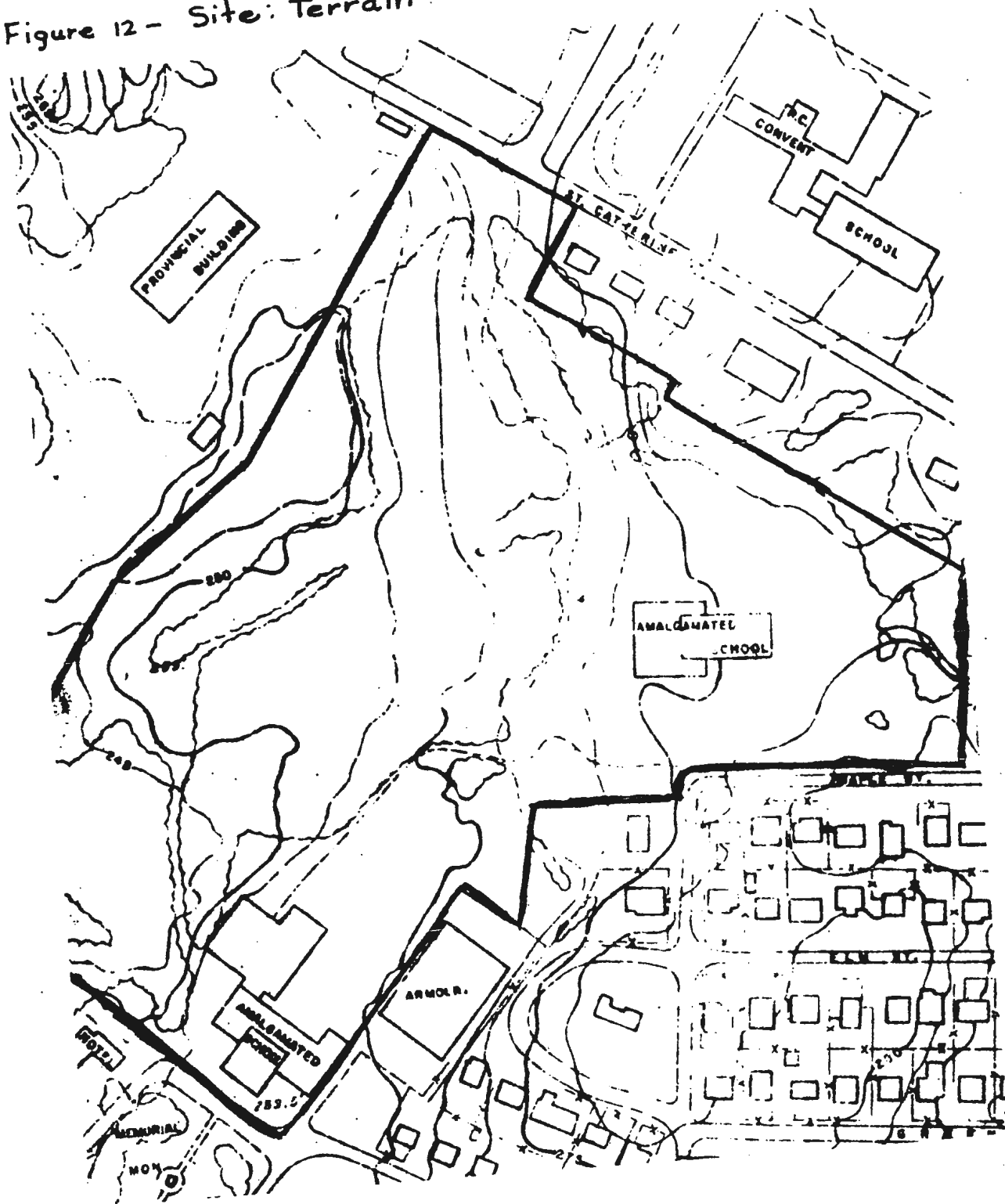


TABLE 1
SPACE SUMMARY

Facility	Number Teaching Areas	Total Pupil Capacity	Total Square Footage	Personnel
Administration: Office Guidance Centre Health Centre Staff Lounge Storage	n/a	n/a	2,775	2
Kindergarten	2	100	3,150	3
Grade I	4	125	4,800	4
Grade II	4	125	4,800	4
Grade III	4	125	4,800	4
Art	1	-	1,400	1
Music	1	-	1,200	1
Multi-purpose	1	-	2,800	1
Special Education	2	25	3,150	2
Library Resource	1	-	4,360	2
Services Areas: Washrooms General Storage	n/a	-	2,200	1

SPACE RELATIONSHIPS

The school envisaged in this report should contain three major learning areas, each divisible into four self-contained units, for pupils in their second, third and fourth year of school respectively. A similar learning area should be provided to encompass two Kindergarten and two Special Education spaces. This area should have a permanent wall dividing it into two equal parts, one for Special Education and one for Kindergarten. A sound-proof moveable wall should divide each of these areas into two equal parts.

The above areas should be located to facilitate easy access to the Library Resource Area.

The Multi-Purpose Area, the Music Area and the Art Area should be in relatively close proximity.

The Administrative Area should be located in a quiet area of the school but easily accessible to both students and the public.

GENERAL INFORMATION AND CONCLUSION

Throughout his analysis and consideration of this report, the architect should remain cognizant of the following important points:

1. The building should be basically a one-story structure.
2. Every effort should be made in architectural design to provide for the utmost in aesthetic appeal.
3. Consideration should be given to reducing congestion at entrances and exits and throughout the interior of the building.
4. Maximum provision should be made for flexibility of space within the building and for possible future expansion of the building.
5. It is recognized that storage of pupils' clothing and boots is a problem to which the architect should give special considerations in addition to those already specified in this report.
6. In the development of the site, consideration should be given to the proximity of this school to those which serve pupils beyond the primary grades. In this respect an indoor swimming pool to serve the needs of all the pupils would be desirable.
7. Due to the relatively short time in which this report was written, specifications may not be as complete as would otherwise have been the case. Members of the Steering Committee have agreed to make themselves available for discussion of any part of this report with the architect.

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