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A Survey of Unusual Features in Public School Buildings in the State of Washington

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A SURVEY OF UNUSUAL FEATURES IN PUBLIC SCHOOL BUILDINGS IN THE STATE OF WASHINGTON

by

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

I. INTRODUCTION

In the past decade the state of Washington has made rapid progress in the building of new schools. In these new buildings we find many features that are provided to fulfill a definite purpose or need. Some of these features are new and others are evolutions of those in the "Little Red School House." The innovations one finds are sometimes experiments, with a purpose; the old features are results of past experiments which in some measure proved successful.

The National Council on Schoolhouse Construction states:

> The major consideration transcending all others in planning a school building is the educational program to be housed. Decisions pertaining to exterior design, choice of building material and equipment, site selection and integration with the building, and grouping and relating instructional and service facilities within the building can be intelligently made only in terms of educational program and service needs. Unless this simple yet essential approach to school plant planning is accepted, it is highly probable that the physical plant will hinder or defeat the school and community program instead of promoting it. A school building must be designed from the inside out instead of from the outside in.[1]

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[1]National Council on Schoolhouse Construction, Guide for Planning School Plants (Nashville, Tennessee: Peabody College, 1949), pp. 5-6.

Reid, in discussing school planning achievements, says:

> Progress in the design of school buildings has been substantial during the past decade. This has been due to thoughtfulness and ingenuity of many men and women, working together; educators, public school officials; administrators, teachers, school board members, manufacturers of materials and equipment, and many others--but most of all I think the architects and designers of America.[2]

Caudill reports:

> Treatise on school building design have for years followed fairly conventional patterns; sites, styles, construction, shapes, widths of aisles, floor area, ceiling heights, location of windows, heights of stools above floors, floor treatment, furniture and equipment and so on. This approach was all very well perhaps in a world of fixed categories, but designers who have witnessed the recent social trends and their impact on modern life and living have sensed the desirability of a new method of attack. New teaching techniques, new materials and systems of construction, recent activities in city and community planning and the corresponding problems of transportation, zoning, and recreation, the changing social order--all of these call for a new approach to the problem of school design.[3]

Holy and Arnold assert:

> School buildings and their equipment should always be considered accessories to the educational process. The rule, the physical plant should be planned to fit the educational program, cannot be emphasized too greatly. Often the school building is planned and erected with so little thought given to its functions that the educational activities must be restricted and cut to fit the physical facilities provided. Hence, each school building should be especially planned for the particular program to be carried on within its walls.

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[2]Kenneth Reid, School Planning (New York: F. W. Dodge Corporation, 1951), p. 1.

[3]William Caudill, Space for Teaching (College Station, Texas: Agricultural and Mechanical College of Texas, 1941), p. 1.

> School building standards should never be considered a substitute for careful planning of each building according to the specific needs of the particular school to be housed therin. The site of the building; the number, type, location of rooms; the kinds, amount, and arrangement of equipment are among the numerous factors which should be considered in careful planning.[4]

The preceding statements and quotations from recognized authorities in the field evidence the necessity for the new approach to school design. Each school has a personality that in some measure is different from all other schools. No two communities are alike, so by the same token their schools should not be alike. The purpose which the school must serve in the community is generally accepted as the basis for its construction. The features that are incorporated in a school give convenience and purpose to the building.

In one manner of thinking a reader might believe that characteristics we now accept as being unusual in school architecture are the old conventional features. In this consideration they may be; on the other hand these features are greatly developed or evolved so that they are hardly recognizable in their modern application. An example of this is represented in the development of the potted geraniums in the old one room school of yester-year into the greenhouses of the modern school. Another demonstration of this transition is the practice of equipping each teaching or educational station

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[4]T. C. Holy and L. Arnold, Standards for the Evaluation of School Buildings (Ohio State University; Bureau of Educational Research, 1936), p. v.

with an outdoor entrance or access. The old one room school had an individual outdoor entrance. In our present day, one would hardly recognize this trait when viewing a school with twenty separate rooms, each with its own outside entrance. These features are not new; they are merely the old tried and true aspects with the addition of some requirements essential to the needs of the modern school. Sometimes these characteristics that developed to our present day for convenience and facility appear as new features, and in their new state of appearance could easily never cause recall of the old schools of yesterday.

No one school has been built in our state to the present day with all of these features incorporated in it. The facilities would either cost too much or would serve no purpose in the school program. What might be considered very good and useful in one school might be a waste of effort or a waste of space in another. The structure of the school program and the purpose of the school in the community will determine this evaluation.

Strayer in his report admits:

> The school plant is a concrete, objective expression of the educational and social philosophy of the community in which it stands. An alert, informed observer with a pass key walking around and through empty school buildings on a Saturday morning can get a more complete and reliable picture of the educational philosophy of the professional staff, the board of education, and the community in a few hours than he could by days of searching through

records, reports, bulletins, and publications.[5]

Giaudrone writes:

> If classrooms are to be learning laboratories they should be designed for children rather than to impress adults or to make it easier to handle large groups of pupils. Schools can be made homelike...[6]

II. THE PROBLEM

Statement of the problem. It is the purpose of this paper to present the result of a composite survey of unusual features in new school buildings throughout the state of Washington. The writer does not desire to present the common characteristics of size, shape or description of the conventionally planned schools, but rather his aim will be to present the results of a survey revealing many unusual and accommodating features as they are being incorporated in modern plants.

Limitations of the study. Limited time, travel, expense and the writer's consideration of unusual features placed limitations on the survey. The architectural presentations of seven representative firms were included in this study. A wide variety of solutions of specific problems are offered by several designers not included in the study.

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[5]George D. Strayer, Washington (State) Survey of Educational Institutions (Olympia: State Printer, 1946), p. 134.

[6]Angelo Giaudrone, "A Survey of the School Housing Needs in Sunnyside," (unpublished Master's thesis, Washington State College, Pullman, 1948), p. 2.

The study does not attempt to evaluate the features, since the basis for evaluation is so varied by social transition and geographical location. It is the intent of this paper to present the features as they appear or as they are used and have the readers or users of the features provide justification for their use. This paper is limited by five considerations:

1. Discussion and description without evaluation.

2. New school buildings.

3. Limited to a select list of schools in the state of Washington furnished by the State Department of Education.

4. Limited to elementary, junior high and high school areas.

5. Limited to unusual features.

Definition of Terms: The following terms as used in this paper need defined limits.

1. Unusual feature is a characteristic or facility which very few have, making it in this sense uncommon in school buildings.

2. New school building can be understood to be a building built within the past five years.

3. Elementary schools are schools which occupy the lower six grades in the conventional 6-3-3 plan.

4. Junior high schools are schools which occupy the middle three grades of the conventional 6-3-3 plan, grades seven through nine.

5. High schools are schools which occupy the upper three grades of the conventional 6-3-3 plan, grades ten through twelve.

CHAPTER II

APPROACH TO THE PROBLEM

Individuals in approaching a building program or contemplating assisting in the planning of a building should have some knowledge of specific things that would make a classroom or school more servicable to those it serves.

In our present mode of democratic living, the process of having the superintendent and the architect plan the entire school without considering the general and specific needs of all who use it is rapidly vanishing. If the superintendent is responsible for building errors he could only justify his errors by resigning, and no one superintendent would particularly care for this type of tenure. At the present time the superintendent is more thoughtful of his employees and of the children entrusted to him. Social forces in our present day demand that all persons involved in using a building have a part in its planning, especially when it is a public building, for public use.

The common practice is now to send teachers, administrators, and even parents on trips to observe schools in neighboring communities. It is the responsibility of those who go on these trips to observe facilities that are different and report their findings in

planning meetings held by the school. These observations are usually discussed and evaluated by all present and sometimes modified and accepted for their use in the new school buildings.

The writer has chosen to make this type of approach in writing this research paper without considering the school meetings or evaluating the features. In gathering material for this study field trips were made into selected communities where new schools have been built or are at the present time under construction. Statistics and facts were gathered by research reading, interviews with superintendents and observation of school plants. Schools visited were suggested by the State Department of Public Instruction with personal assistance from Harold Silverthorn, George Pasnick, and Max Berger, and appear on the map in Appendix A.

In order to better present the material, photographs of the schools and specific features considered unusual were made by the writer. An Argus C-3 camera was used.

It should be kept in mind that some of these features are in the process of evolution. Though they are now serving a special need, the next decade may find them obsolete. If we follow the philosophy of those who have planned schools, we are forced to do things in conventional patterns. Individual differences in architects cause us to approach our problems from different aspects. Educational planners and designers try to devise a plant which will provide for

present needs and by almost all conceivable measures try to anticipate needs of the future.

Things we now consider as being good and useful or helpful in our buildings have been the result of careful planning, modification, evolution, and evaluation of errors of our past school builders. A person involved in planning school buildings might quite unwittingly build a "white elephant", with serious physical handicaps to teaching; or they might build a "shrine of learning" which could be the epitome of school design.

A building could conceivably be built for a specific purpose and never serve that purpose. Actual use and end results must serve as a yardstick for its measure of worth. Some of these things are intangible and cannot be efficiently measured.

School design has evolved this far by trial and error, attention to likes and dislikes and a recognition of the changing social picture of everyday life. Bursch and Reid summarize this thought well in their text when they state:

> The pupil is the keystone of the whole planning and building program for a school plant. In designing school plants, while we have made remarkable progress in recognizing the special needs of children we have yet a long way to go.[1]

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[1] Charles W. Bursch and John L. Reid, You Want to Build a School? (New York: Reinhold Publishing Corporation, 1947), p. 6.

CHAPTER III

REVIEW OF RELATED INFORMATION

I. HISTORICAL BACKGROUND

In the decade immediately preceding World War II, school buildings were generally built in relatively conventional design. The two story construction was quite common and practical for the social and physical needs of the 1930's and early 1940's. The traditional multi-story school provided a centralized unit that was easy to heat and gave easy passage from one classroom to another.

In a high school during this period it might not have been uncommon to smell the odor of freshly baked biscuits mingled with rotten egg gas, and to hear a combination of sounds from the school band, woodworking shop and gymnasium all at the same time.

With the experiences gained during the war and a social picture changing to a higher social order and providing for new felt needs, the school designers presented new ideas of how the modern school should be planned and constructed.

Temporary housing and prefabricated buildings to take care of overflowing school enrollments in a rapidly expanding growth gave rise to our new decentralized school of today.

School people in evaluating their experiences came to realize that something was to be gained by decentralizing schools. No longer

was it necessary for the students to endure the external odors and sounds which detracted from the attention of a class.

After looking at our most modern schools of today it is difficult to take even a building that was built during the 1930's or early 1940's and use it as an example of modern, up to date, building. With limited size, facilities, and equipment, it will leave much to be desired.

With a changing social picture and new emphases in education, classroom sizes have changed and expanded, special facilities have been developed and added. The curriculum has been undergoing changes. Activities and actual working processes have been expanded. Laboratory type procedures have been emphasized and an emphasis shifting to practical arts from the traditional academic program has been recognized.

The changes being discussed have not been abrupt but are coming about gradually. These innovations were in the process of beginning in the period preceding the war, but have now evolved further and are creating new problems. These changes are recognized and buildings are being made more flexible to take care of them.

Rather than the conventional nonflexible two story structure, the modern trends more to the E, T, H, F, L, Y, finger type and other flexible designs that more easily permit expansion and changes to accommodate newly arising needs.

II. SUMMARY OF NATIONAL SCHOOL SURVEY

The American School and University conducted a survey of the buildings and building trends in the United States during 1950. A

summary of the results of this survey and its implications is submitted in evidence of new thinking that is being reflected in the school buildings of today. The following material is quoted in part.

> More educational buildings were planned and constructed during 1950 than any other year in our nation's history, and indications from all sections of the country are that the totals for 1950 will be exceeded in the immediate years ahead. The American School and University's second annual national survey of elementary, secondary and college buildings has provided indisputable evidence that America is awakened at last to the needs for new educational buildings--and something is being done about it.
>
> More significant than the amount of educational buildings during 1950 is the progress which was made in cooperative planning of new buildings and improved design which have resulted in more efficient plants. Consequently the vast sums which were spent for new educational buildings in 1950 were spent wisely. Fewer monuments were dedicated to an ancient past; more buildings were created for people's needs and the tasks to be performed in them.
>
> During 1950, 2,365 school systems constructed new elementary and secondary plants. Total number of buildings constructed was 4,520, or an increase of almost 50 percent over 1949. (Number of new buildings in 1949 was 3,316) However, 5,124 such buildings were planned for 1951. Total cost of new elementary and secondary school buildings built in 1950 was slightly over $1.25 billion. This figure is quite a contrast to slightly more than $1 billion spent in 1949, and over $2 billion estimated for 1951.
>
> Of all new elementary and secondary buildings constructed in 1950, 65 percent were elementary buildings, 29 percent secondary school buildings, and 6 percent combination elementary and secondary school buildings. New elementary buildings cost $629 million, secondary buildings $550 million and combination buildings $72.5 million.
>
> All sections of the country showed an increase in both number of buildings and expenditure made for them.
>
> The number of new buildings and the money spent on them demonstrate their far-flung importance to the total industrial

picture and present evidence of the great effort being made to provide housing for the country's educational program. Equally important is the character of the buildings. Even the most superficial examination discloses many important changes in buildings constructed in 1950 as compared with those built only a decade ago.

The typical school building of 1950 is a one-story structure. Yesterday's monumental multi-storied school buildings are fast disappearing. If the present trend continues, they will be as rare as the Model T. Ford.

Less than 15 percent of the 1950 elementary school buildings have basements. Of the new secondary school buildings, 18 percent contained basements.

The year 1950 saw further advance in the amount of space devoted to individual classrooms. Elementary school classrooms were consistently larger in floor space than the traditional ones built prior to World War II. In more and more cases these classrooms equaled or exceeded 1,000 square feet. Less than 750 square feet of space was usually found in older buildings.

Elementary classrooms were increasingly planned to be self-sustaining; that is, designed so that all pupil activities could be carried on in them.

Examination of buildings constructed during 1950 provides evidence that these new structures show steady improvement in their technical features. Good engineering is evident in daylighting and electrical lighting. Full fenestration has become usual design procedure. Single-loaded corridors are more evident in all sections of the country, and seem to have been designed so as to obtain the largest amount of controlled daylight even in rooms of greatest depth.

One of the most constructive steps in securing better school buildings during 1950 was the great increase in community planning of school plants.

Many communities no longer were satisfied to have their school boards tell them what additional school buildings were needed, employ an architect, seek approval of a bond issue, and in due time erect a building. The feeling grew that, representative participation by citizens, school board, professional staff, and architects not only secure better buildings, but equally important, provide constructive means through which the

> community was aroused to study the school's purposes and programs, additional facilities needed, and types of building facilities which would best meet their needs within their financial ability to provide them.[1]

The result of the national survey conducted by The American School and University provides conclusive evidence concerning the direction in which we are now going in school building trends.

III. BUILDINGS IN WASHINGTON STATE

For all practical purposes the state of Washington is paralleling the national trend in school construction.

With moderate restrictions, created by a lack of finance, the Washington State Department of Education is in general keeping abreast of the building situation, so far as recommendations for new buildings are concerned.

Since 1947, Washington State has completed two hundred and fifteen new schools. At this writing there are one hundred and sixty school buildings under construction and sixty units in the planning stage, with money appropriated to cover construction costs.

In the five year period from 1947 to 1952 Washington will have gained four hundred and thirty-five new school buildings.

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[1]Walter D. Cocking, The American School and University, Twenty-third Annual Edition (New York: American School Publishing Company, 1951), pp. 53-64.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE FINDINGS

In presenting the findings, the unusual features are grouped by respective schools, and the comments concerning each feature follow its photograph.

Chehalis High School

Chehalis High School is built in the shape of a "Y". The industrial arts and agriculture building is a separate unit at the rear of the school proper. All automobile, bus, and delivery traffic is restricted to one side of the building, and the other two sides are used for lawn and play area.

The "Y" design can be seen in the above picture (center), and the road and parking area can be found on the right of the school in the photograph.

In the interior of the building, display cases are built into the halls to provide space to exhibit the work of different

departments. If students maintain projects for display purposes there is the possibility of much learning not only in arranging for the actual display of the material, but also for research work in the area being studied.

Cases are provided in three general types: the store window type, the medium sized multipurpose type, and the aquarium type. The store window type is made to simulate an actual store window so that students may have an opportunity for experience in window display and dressing.

The medium sized multipurpose type has varied uses. It may display finished products of a class, act as a departmental bulletin board, serve as a place to locate the central theme of a unit that is being studied in the class, or have many other uses depending on the

ingenuity of the teacher and students in charge of the case.

The aquarium type case is usually provided to display aquarium life and is ordinarily used by the science department. A viewer would expect to find marine life, desert life or other biological specimens in this case.

Resource centers in the classroom. Each class has a large volume of materials of various assortments that are used in different areas as the work progresses. After teachers have taught for two or three years they usually accumulate enough resource material to provide the class with an ample source of reference. To facilitate the good handling of this material, a built-in file cabinet, magazine display rack, book shelves and bulletin boards are provided in one portion of the room.

Distributive Education classroom. This specially constructed classroom is designed to provide an environment close to that actually found in retail trades and industries.

A large display window, a small office, counters, display cases, display drawers, a three way mirror and many other features are

built into this classroom to provide for the trade and industry needs of students that seek this type of training.

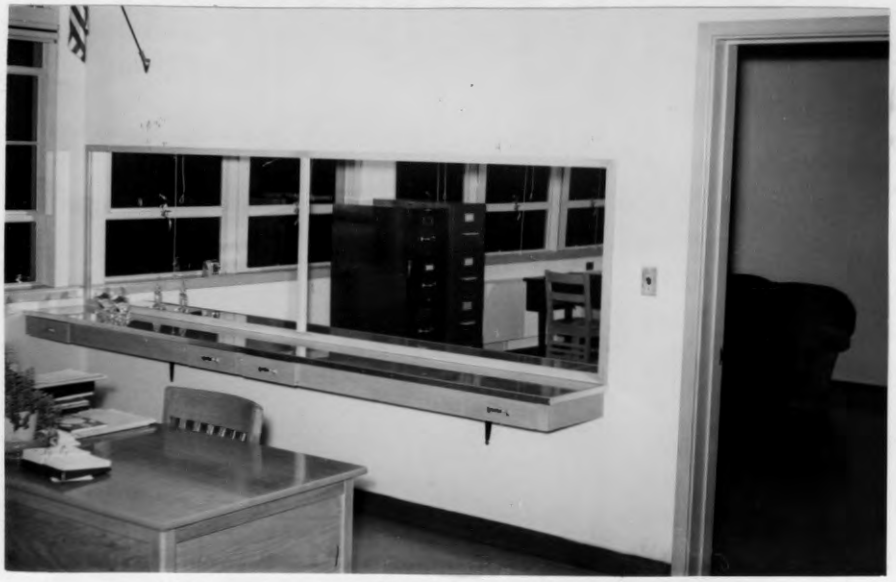
The above photograph is of a show window type display case used in connection with the Distributive Education classroom.

Home economics unit. This entire unit is designed to simulate home conditions. Each small home unit is separate, composed of an electric stove, built in cabinets, sink, table and other facilities usually found in a kitchen. In the cabinets there is one section of complete revolving shelves for storage of pots, pans, dishes and cookery equipment.

In addition to the kitchen unit, this room is also equipped with a refrigerator, deep freeze and home laundry, and a living room-dining room combination is built on as a separate room.

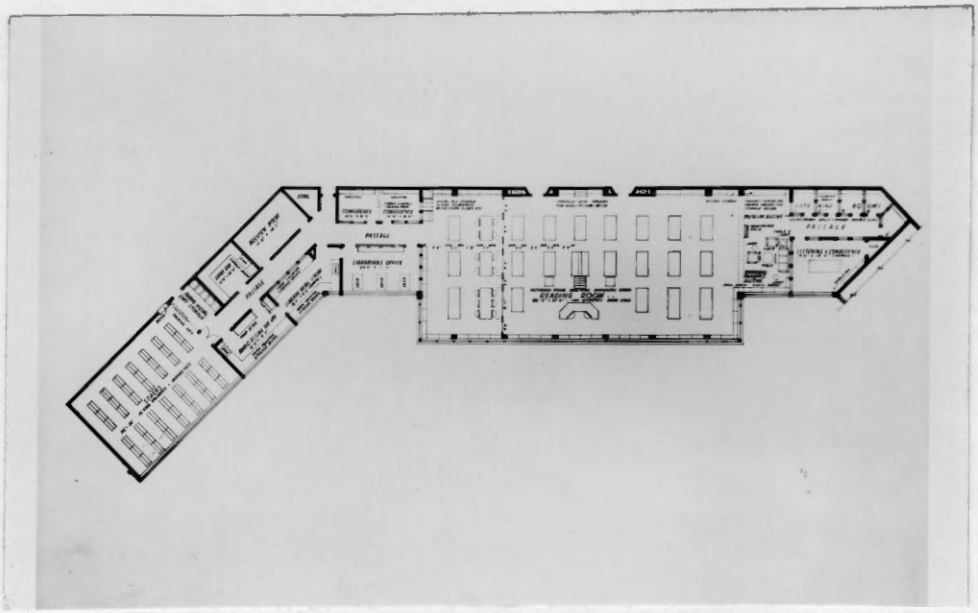
One kitchen unit is built near the front of the room for

demonstration purposes; the other units are built along the sides of the room for its entire length. Adequate space is provided in the front of the room for demonstrations, class projects, discussions, and conferences.



Cosmetics counter. The cosmetics counter is a built-in mirror with a counter type front located near the teacher's desk in the home economics room. The purpose of the counter is to properly teach the girls how to apply cosmetics and the desired practices of good grooming. It is built near the teacher's desk for easy supervision before school, between classes, at noon, and after school.

Multipurpose refrigerator-freezer combination. The walk-in refrigerator-freezer is located in the central cooking kitchen. The front may be opened by the use of three small doors for moderate storage, as will be noted in the picture above. Entrance to the inside is gained by the large door in the left. The front portion of the unit is kept at the normal refrigerator temperature. In the back portion of this unit is a walk-in deep freeze with temperatures varying from zero to ten degrees above Fahrenheit. All shelves are metal, which helps in keeping the unit clean and makes it termite resistant for food storage.



Library multipurpose unit. Above is the photograph of the blueprint for the library multipurpose unit. The Chehalis Senior High School is designed in the shape of a "Y", as has been previously mentioned. In the center of the "Y" is the Library multipurpose unit. It is designed in this position of the building to be centrally located and serve a number of purposes. It is used as a study hall, library and visual aid center.

The unit is arranged so that the librarian may have an adequate view of the library while working in the adjoining private office. Conference rooms are provided in the vicinity of this office so that students might work together and discuss material in small groups and still be near supervision of the librarian. The conference room for students also serves as a magazine reference room. This is a long room easily divided by folding doors to form two separate rooms for smaller student groups, and for conferences.

The library unit has built in shelves in the walls surrounding the room, shown in the photograph above. The teacher's counter occupies the center of the room, and all furniture in this room is movable which provides flexibility in arrangement.

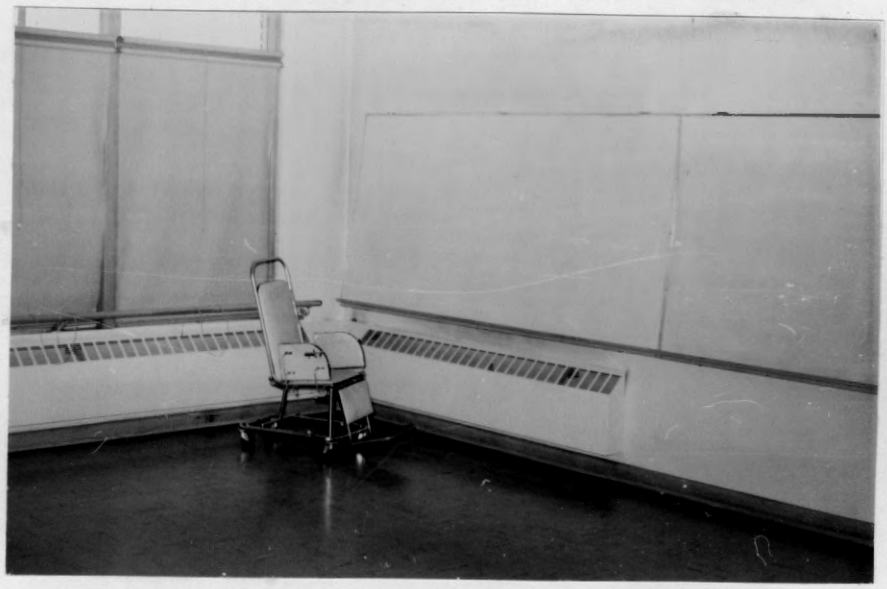
One portion of the room is a reading alcove. In this section

of the room all newspapers, magazines and other periodicals are stored. File cabinets are built into the walls for storage of periodical literature.

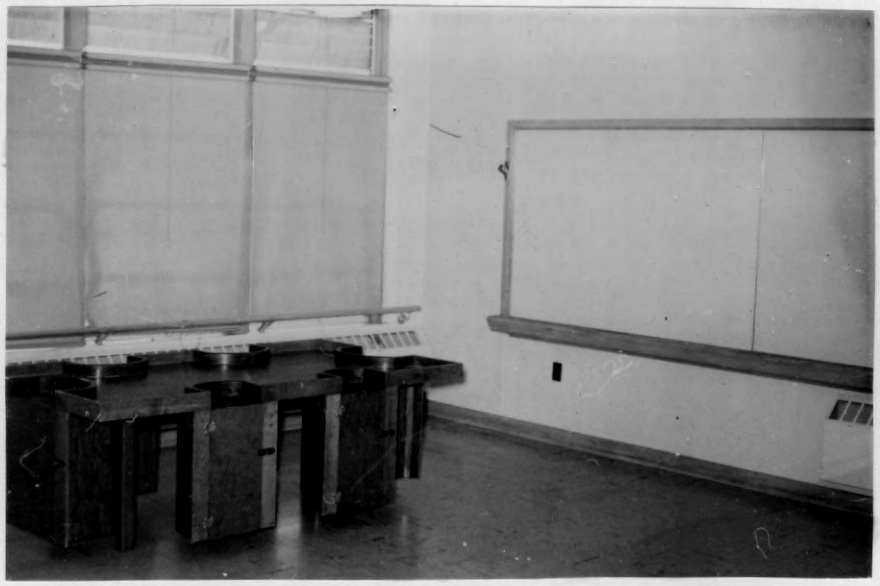
The Visual Aids center is adjacent to the library. This section serves as a place to preview motion pictures, filmstrips, and slides, to operate sound equipment for tape recordings, and also for transcribing, repairing machines, and storage of all visual aids materials, including maps, pictures, globes, charts, models and exhibits. The Library center is so designed that a teacher starting a unit of study may come to the library and get the reference books, periodical literature and magazines she desires to use, then pass to the visual aids section to order the necessary films, filmstrips, and slides and to secure the desired maps and other material for the subject unit.

Hoover School, Yakima

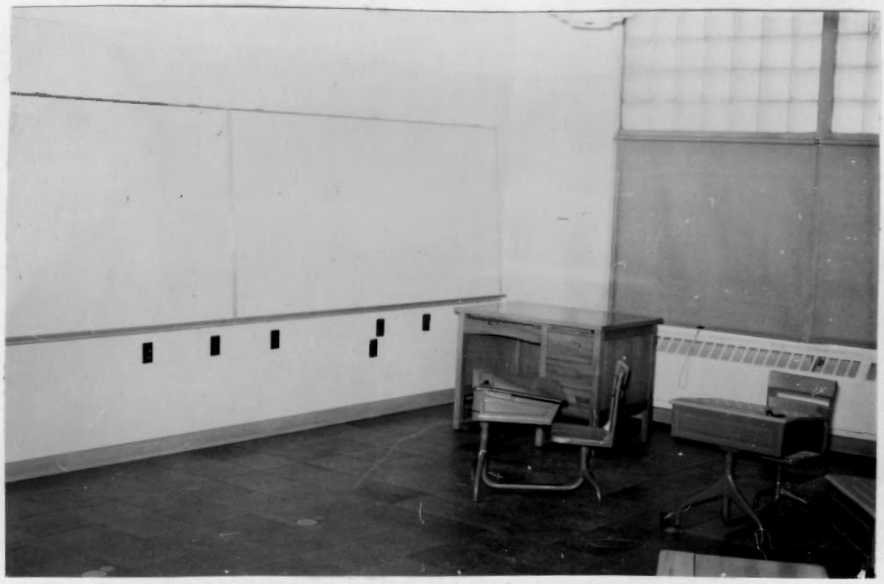
The particular area of interest in Hoover school is the special wing provided for work with handicapped children. This unit is composed of four specially designed and constructed classrooms: the Sight Saving room, the Orthopedic room, the Physical Therapy room and the Partial Hearing room.



The Sight Saving room attempts to provide a near ideal level of lighting. The boards of the room are a soft cream color rather than the conventional black or green. These boards are non glare, and are tiltable so that the student may adjust the angle of the board to reduce eyestrain from any viewing position.



The Orthopedic room is equipped with facilities to give comfort to the spastic children who occupy it for classes. A support rail surrounds the room to assist the students in normal class movement. Instead of the conventional table and chairs, this room provides a standing table where students are put in small stalls to give them comfort at their desk activities. Typewriters are provided in this chamber to assist the students in doing their written assignments.



The partial hearing room shown above is acoustically treated to assist in making conditions ideal for the student who has hearing difficulty.

Wallplugs, floorplugs and deskplugs are furnished so that headsets consisting of microphone and earphones can be plugged in any place in the room that is convenient, in normal class movement.

A photograph of the Physical Therapy room was not available. The room is built as a small gymnasium and contains all of the apparatus that is needed to give ample exercise to the handicapped child.

Gilbert, Ruth E. Childs, Nob Hill and McClure Elementary Schools

These four Yakima schools are all built on a similar design. Modular construction, in which the building repeats itself every twenty-eight feet, is used to cut construction costs. The buildings cost from ten dollars and fifty cents to ten dollars and fifty five cents per square foot of floor space. In the present area of prices this is a very reasonable figure. The total cost of construction was $204,000 to $208,000 for each building.

Portable libraries or book cases on rollers (above) are used to save space and permit flexibility in room arrangement.

Portable cloak closets shown above lend flexibility in room arrangement and may be moved in the same manner as the portable library pictured on page 56.

Movable furniture in the room is designed to give greater variety in room arrangement. In the above picture, movable bins and counters may be noted, as well as the sink which is included in each regular classroom.

Steps used in the front portion of the stage act as permanent risers and eliminate movement of heavy equipment for elementary

school children.

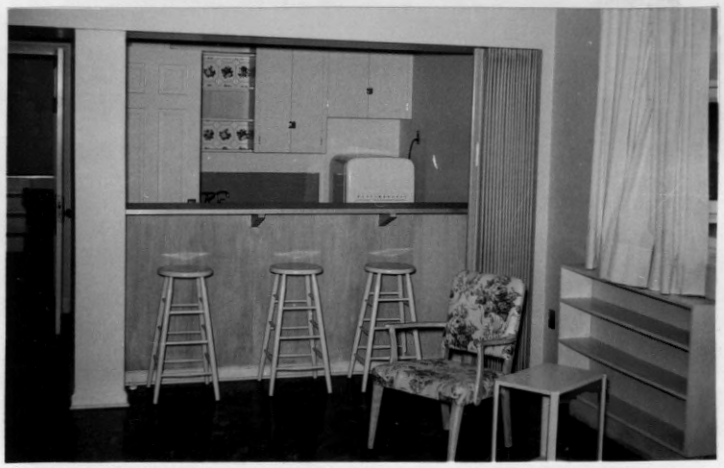
Toilets that have access both from the outside and the interior of the building are featured in the four new Yakima elementary schools. This eliminates some traffic through the building when children are on the playfields in the morning, noon and after school, as well as during the recess period.

Bellevue High School

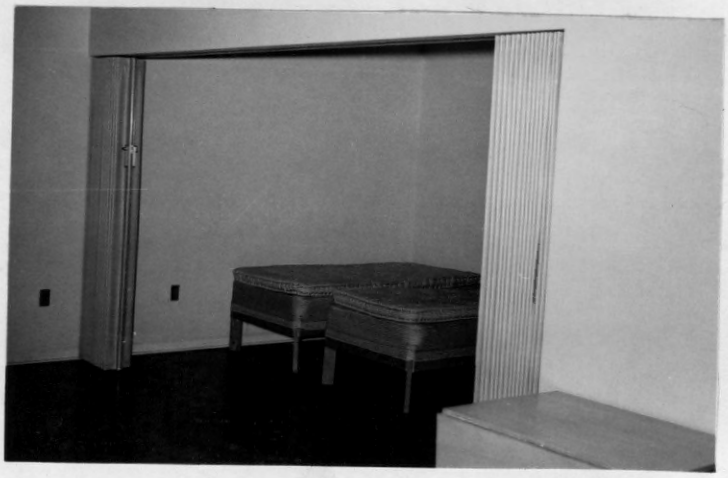
The front entrance of Bellevue High School is shown above.

The office arrangement of the Bellevue High School is unique. As one enters the building, a very attractive stone wall is in view. This wall serves as a back for a trophy case and waiting benches.

The principal's office may be seen over the counter to the left of the ornamental wall. Less congestion was the aim in the design of this office arrangement.



The home economics unit provides an attractive apartment space. A breakfast bar with small kitchen and accordian type doors gives a convenient and home-like atmosphere to this chamber.



The bedroom of the simulated apartment may be separated from the living room by an accordian type door. Through slight rearrangement of furniture one large flexible room may be obtained when the folding wall is pushed back.

Southgate Elementary School, South Central Seattle

The Southgate Elementary School was one of the pioneers in breaking away from the conventional design formerly accepted by schools. This school not only represents a change in design, but also innovations in construction materials and in the approach to school lighting and furnishings.

By viewing the following three pictures in their respective order, a reader may receive a panoramic view of the entire exterior design of the school.

The writer when taking this picture was standing at the main entrance looking left.

This is a view of the front entrance.

The writer when taking this picture was looking right from the main entrance.

Unique office arrangement provides a warm, friendly atmosphere. The low, acoustically treated ceiling, rich colored draw draperies, the mahogany veneer wall finish and composition tile floors provide an atmosphere far different from that encountered upon entering the office of the conventional school, filled with file cabinets, drab colors and antiquated furniture.

The hallways of the Southgate Elementary school pictured above are finished with composition tile flooring, unpainted Semesto board walls, and richly painted exposed beams in the ceiling. The purpose of this type of construction was low cost and easy maintenance.

Overhead lighting in the rooms is obtained by placing Alsynite sheets in the roof. This material is of a plastic nature, is non-breakable and admits a soft diffused light.

Louvers placed in the ceiling are controlled by regulating photoelectric cells which open and close the apparatus to admit a uniform quantity of light.

Alsynite sheeting placed below louvers may be viewed in the above picture. This plastic material gives a desirable quality of

natural light through diffusion and allows solar heat to enter. Solar heat in turn reduces the cost of artificial heat. The average daily cost of heating this particular school was $3.60 during the school year 1951-52.

Laminated beams and Alsynite sheeting are used in the gymnasium. (See above.)

A small stage with small benches provides an attractive story telling corner, and a platform for dramatic activities in the kindergarten.

Modern furniture of all sizes and assortments are used in this elementary school.

South Central High School

Alsynite sheeting is placed in the roof of the new gymnasium. Roofing material used for exterior finish is Semesto board sheeting.

Use of the laminated beam and Alsynite sheeting may be seen in the above photograph.

Lafayette Elementary School, West Seattle

A side view of the Lafayette Elementary School is shown in the photograph above.

Unusual lighting in the Lafayette Elementary School is achieved through the use of the saw-tooth design in the roof. (See above.)

The interior of the classrooms has a soft, good level of light provided by the louvers in the saw-tooth portions of the ceiling.

Genesee Elementary School, West Seattle

A shifting in school population has caused the Seattle Public School planners to design units that would be movable and yet serve the educational requirements. Portable classrooms were constructed to meet this need. Each unit provides a normal sized classroom that can be easily connected to the main section of the building through movable hallways. The heating plant is centrally located and around this area the portable units can be laid out in almost any desired pattern. The cost of each individual classroom was approximately $12,000.

From the above picture one may see how the units are connected and patterned.

An individual portable classroom is shown in the above photograph.

Monticello Junior High School, Longview, Washington

Rooms are placed obliquely to the length of the building in the Monticello Junior High School, utilizing the saw-tooth design in the overall placement of classrooms to obtain bilateral lighting. The practice of this type of arrangement gives good results in lighting, however, it increases the length of the outside wall which is a somewhat more expensive practice and creates odd shaped usable space in the halls.

Moses Lake High School

The basic unit of the Moses Lake High School was built in 1948 and the new addition was being built at this writing. The plans for the new addition contain two unusual features; a greenhouse attached to the Biology Laboratory and a "Little Theater" type classroom. Because of the state of construction, pictures were not available in time to be included here.

Moses Lake Elementary School

Finger type design is employed in the basic planning of the Moses Lake Elementary School. A main section that is composed of administrative offices, cafeteria, play area, and multipurpose space occupies the position of the hand. Classrooms in wing formations are placed perpendicular to the central unit and take up the position of the fingers, as may be noted in the above picture.

Outdoor corridors are featured in this elementary school. In this type of construction, covered, single passage walkways reduce the square footage of the building, thereby lowering the cost.

Quincy Elementary School

Modular construction is accentuated in the general planning of this elementary school. Although classrooms are almost exactly alike, different colors used in each compartment give some variety in appearance.

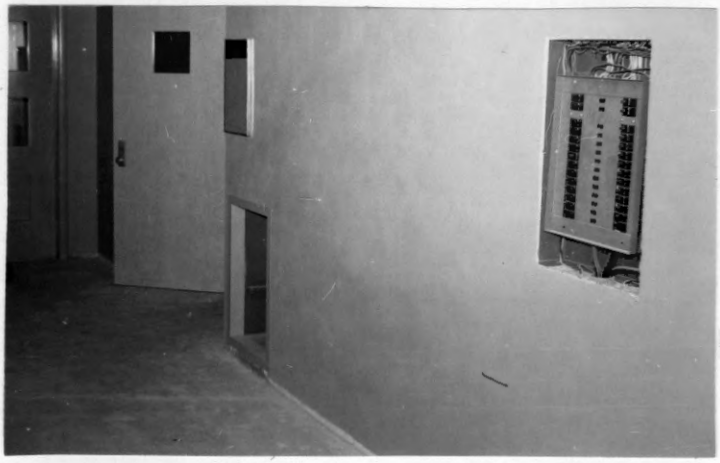
Portable libraries and furniture are used for flexibility, permitting the classroom to fit the teacher and not the teacher to

the classroom.

Movable, open faced counters such as those shown permit easy rearrangement in individual classrooms.

Foldaway art easels are located near the sinks to confine messy activities to one area which is easily cleaned and maintained.

An innovation in waste disposal appears in this elementary school. Rather than the conventional, bucket type, waste container found in many school rooms, a drawer is located in the inside wall, near the hall, so that waste material may be deposited to fall through to a container easily removable by custodial service in the corridors.



Shown above is the custodial space for wastebaskets in the passageways.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

I. CONCLUSIONS

In the past five years the state of Washington has made rapid progress in the building of new schools. In these new buildings there are many features that provide for a definite need. Some of these features are new and others are evolutions from the school of yester-year.

Recognized authorities indicate that school buildings should be planned to fit the needs of the community, the pupil, and the educative process. Different approaches to design and construction that answer the needs of school districts are essential to local planning. School buildings in a community reflect the thinking and philosophy of the people whom it serves.

All school buildings are not designed alike, nor should they be. Individual differences in communities such as needs and purposes cause school buildings to be different from those of neighboring communities. School buildings are specifically designed to be learning laboratories.

Superintendents are arranging for more democratic planning when approaching a building program. Participants in planning new school buildings are encouraged to include wide areas of consideration by cross sectional population.

Occasionally people err through lack of farsightedness in planning, resulting in the building of a conservative school which is almost obsolete at the time of construction.

Surveys indicate that school buildings in the state of Washington are following the national trend in number, type of construction, cost, location, and design.

Because of rapid growth in some areas in the state some schools are providing very flexible buildings which can be easily changed or added to.

Architects are soliciting and utilizing the thinking and suggestions of teachers, the superintendent, the community, and even of students in the planning of new buildings. This has resulted in facilities which make for more pleasurable teaching and learning situations.

Features that may cost a little more in initial construction fees pay dividends in operation, maintenance and utility.

Through flexibility, classrooms are being designed to fit the teachers, rather than requiring the teacher to fit the classroom. Although a school building is constructed to fit an immediate need,

much thought and consideration is being given to long term planning.

II. RECOMMENDATIONS

1. In order to do a complete survey of this particular nature a writer could consider individual school buildings designed by different architects and compare their approaches to specific problems.

2. A study of the relationship that exists between the curriculum and the features of specific school buildings would provide very interesting data.

3. An historical approach to innovations in school buildings offers many unexplored areas of writing.

4. The field of a more extensive survey might remove restrictions placed on this paper and consider neighboring states or wider geographical areas.

5. Many areas of more specific scope such as site selection, flexible design, construction materials for school buildings, costs, and long term planning provide more specialized approaches to research writings.

It is not recommended that these unusual features be included in school buildings unless they meet the specific needs of that school and community.

The unusual features in school buildings will continue to

grow in number because the needs and demands are constantly growing and changing.

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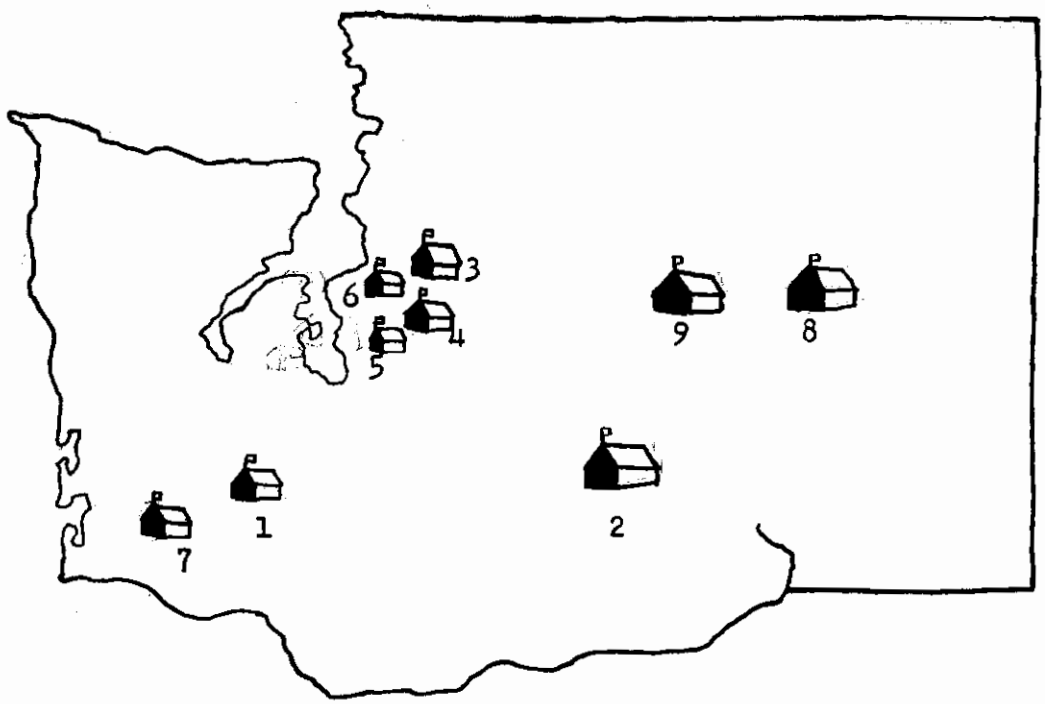
APPENDIX A

MAP OF STATE OF WASHINGTON



1. Chehalis High School

2. Yakima: Hoover, Gilbert, Childs, Nob Hill, and McClure Elementary Schools

3. Bellevue High School

4. Seattle: Southgate Elementary School and South Central High School

5. Seattle: Lafayette Elementary School

6. Seattle: Genesee Elementary School

7. Longview: Monticello Junior High School

8. Moses Lake High School and Moses Lake Elementary School

9. Quincy Elementary School