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An Appraisal of Physical Building Factors in the Light of Curriculum Demands in Selected Schools of Bernalillo County

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Langholf — An Appraisal of Physical Building Factors

AN APPRAISAL OF PHYSICAL BUILDING FACTORS IN THE LIGHT OF CURRICULUM DEMANDS IN SELECTED SCHOOLS OF BERNALILLO COUNTY

By

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CHAPTER I

INTRODUCTION

There is an ever increasing demand being placed upon existing school buildings and facilities in this country today. Many outmoded and crowded buildings are serving communities much as they did two and three generations ago. It is generally accepted that the schools built now will be in use fifty years from today. What changes have occurred in the past, and are likely to occur in the future, that will affect the functional use of those elementary classrooms being built or planned today? Changes in the approach to elementary education, the curriculum, teaching methods and materials, increased school population, and extended community use of the schools have contributed most to the need for functional planning. Standardized designs have not produced the real answers to special needs of any school program. The modern elementary program is a growing, changing thing. To plan for a school that can renew itself, it would seem necessary to consider the local program of studies and recent trends in education to determine which features provide best for present and future needs of the community.

The purposes of the school plant are coming to be viewed not only as providing the physical facilities for the

educational program, but are now being considered more as a community center for learning and recreation. The extent to which the school plant assumes its part of the total educational process is dependent upon the needs and resources of the community. The sharing of the community in the initial planning often produces an educational attitude and other values which stimulate both the community and the educational staff to further growth. The home fostered view of the school as a learning laboratory and as a community center is seen as a healthy and dynamic attitude which should be encouraged in our democratic system.

From such educational interest upon the part of the community comes the support and mandate for the school building program. The cases in which there has been waste of local funds on poorly planned and constructed schools are legion. Often evaluated less, but far more important, are the waste of child resources and discouragement of the educational staff. It becomes the task of the teacher and the child to make functional use of the environment with which they are provided.

It is through the curriculum and its supervision that the classroom teacher is provided a statement of the educational objectives of the school system in which he teaches. The curriculum guide provided the teacher directs and

encourages the use of space and equipment more efficiently. While there have been many changes in the curriculum in recent years, the environment for learning has lagged many years behind.[1] If the modern curriculum is considered as including not only the school subjects, but all other pupil activities and experiences that it directs, then a reasonable and basic source for planning, is the curriculum itself.

Intelligent planning of educational facilities is also becoming more concerned with educational method. That is, how are the buildings and equipment actually being used in the program? What are the methods of instruction which are used to extend the curricula suggested in the guides? It is obvious that, within reason, the determination of facilities, space requirements, and equipment should be the task of those who are to use the plant. This, of course, demands profes-fional stature through inservice education of the staff.

The most important consideration of all in planning a school plant is the educational program to be served. This involves cooperative planning through the best thinking of many groups and the creative interests and ability of the architect. These composite judgments, coupled with final

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[1] Ward G. Reeder, The Fundamentals of Public School Administration (New York: The Macmillan Company, 1951), p. 578.

recommendations of the administrative staff and special consultant's final recommendations will do much to insure success for the school and community program. However able and understanding these planning activities are at the apex, unless final plans are reviewed at the base in terms of the teacher, child, and the material to be taught, it is probable that the physical plant will hinder rather than facilitate the school and community program.

In any school system where the population growth has been rapid, there is often either an emphasis upon extreme standardization or a wide diversity of school plants. It would seem worthwhile to evaluate the building program periodically in terms of the curriculum requirements and make adjustments in the existing facilities and in future plans. The broadened curriculum, the more active methods of learning, the emphasis upon studying many materials rather than merely studying books - all have centered attention upon the importance of the functional planning of schools and equipment.

The period covered by this study, 1945-1954, saw an unprecedented growth in the population of Albuquerque, New Mexico, and the surrounding area. The school enrollment soared from 17,665 in the school year 1946-1947 to an estimated 34,873 in the school year 1953-1954.[2] Had it not been

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[2] "Albuquerque Public Schools Journal," Vol. 8, No. 3, March, 1954, p. 3.

for the long range planning of Superintendent of Schools, John Milne, and other school officials, this sudden growth might have brought chaos to the school system.

In spite of the never ending population boom and a period of renewed material shortages, the local schools succeeded in preserving a fine basic program and extended many of their activities to meet the changing needs of the community.

Consolidation of the county and city school systems was accomplished and a sound construction program was started. Eighteen new schools were built, twenty-two additions added, and many long needed repairs and modifications to older buildings were completed during the period studied. Five projects are now current, and when finished it is estimated that there will be sixty-three schools in operation in September of 1954. The situation remains critical, when it is considered that there were one hundred and forty makeshift classrooms in use, as of March, 1954, and that the school population is increasing.[3] Even with the most conservative estimate of growth in the future, many more schools will have to be planned and constructed.

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3 "Albuquerque Public Schools Journal," Vol. 8, No. 5, March, 1954, p. 9.

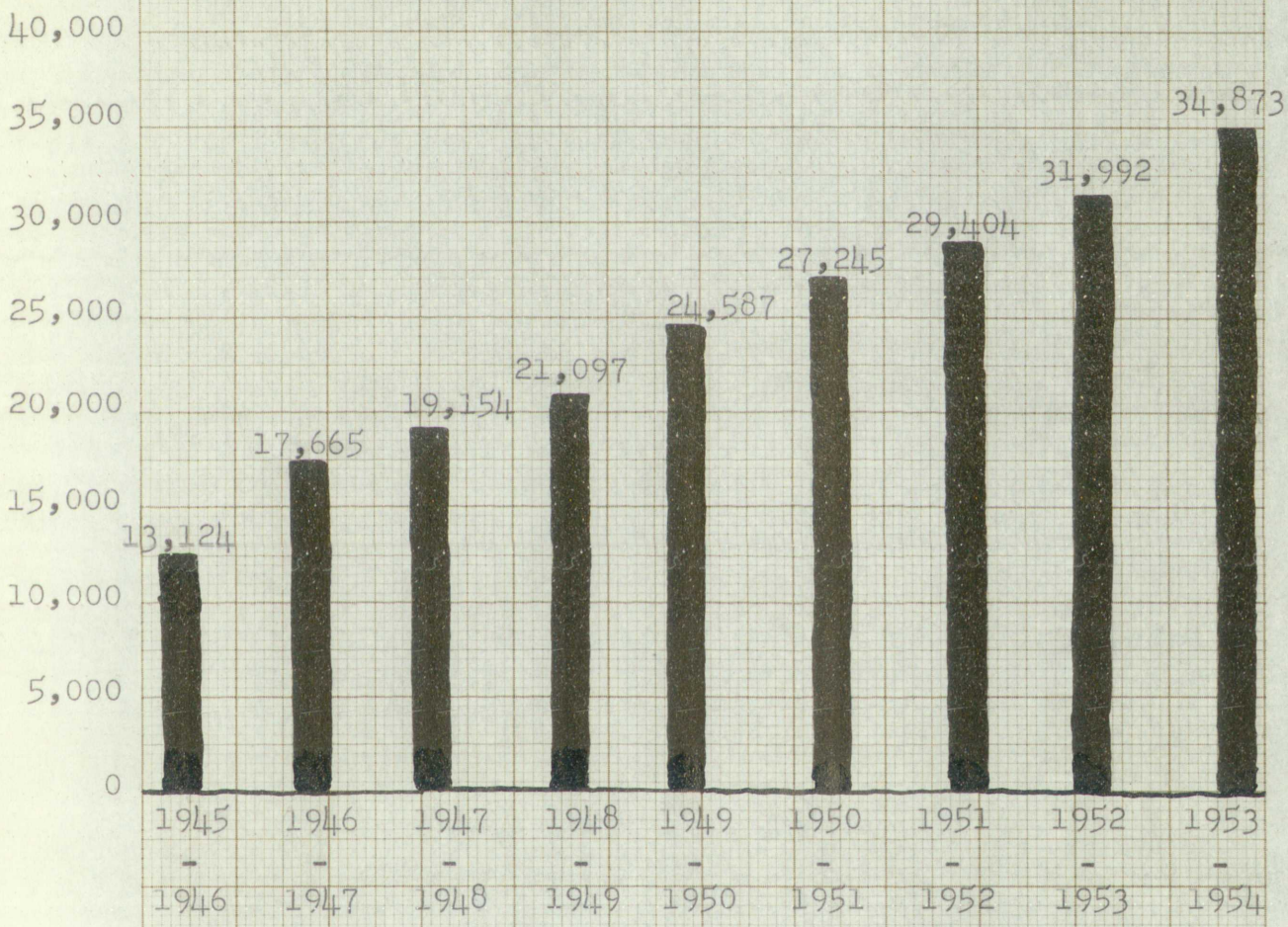

Figure 1

Nine Year Enrollment Figures for the Albuquerque Public Schools

NOTE: Figures published in part, "Albuquerque Public School Journal," March, 1954

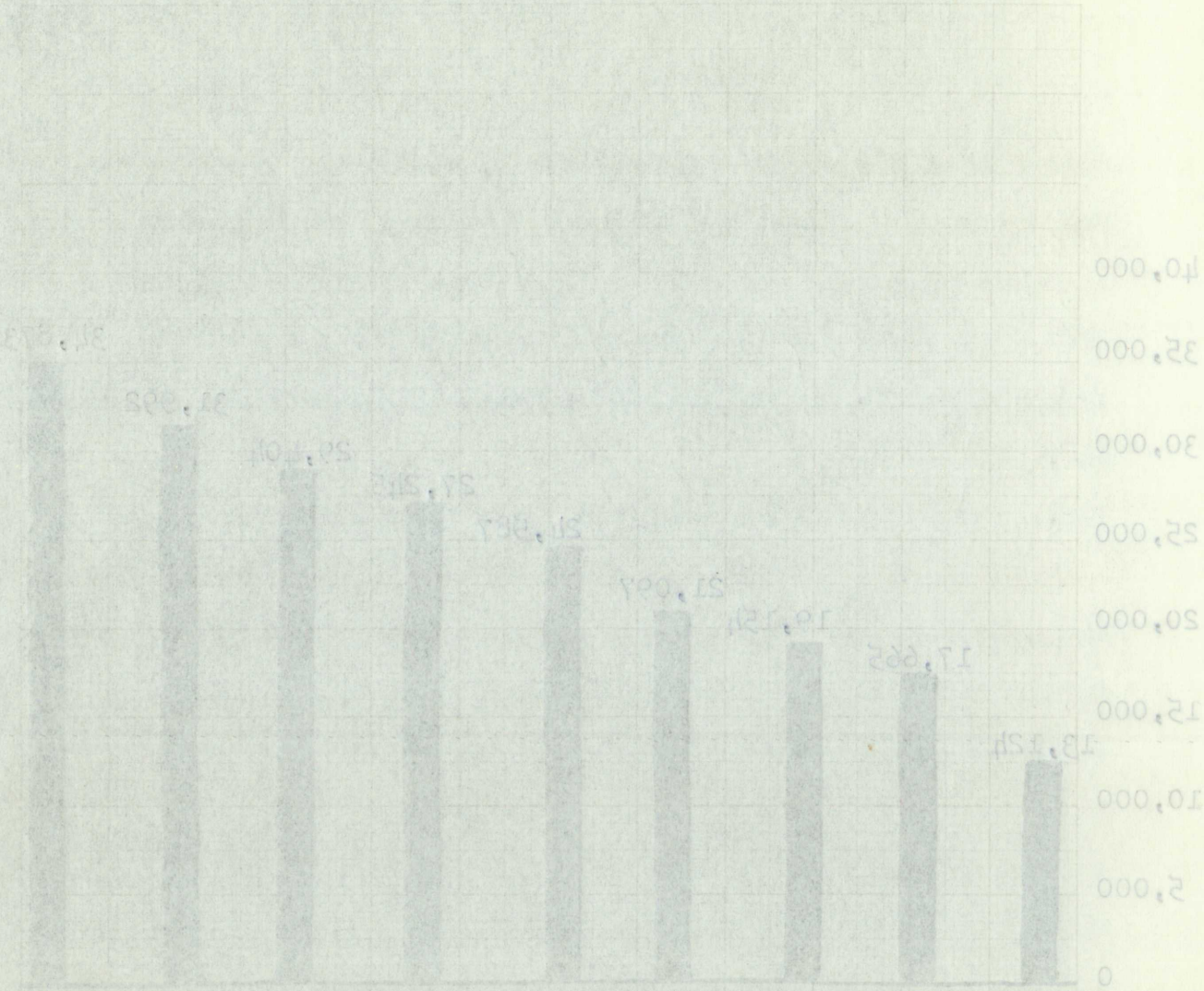

Figure 1

Nine Year Enrollment Figures for the 41 Junior-Senior Public Schools

NOTE: Figures published in part, "A Juniorette Public School Journal," Lorph, 1954.

What of the future? Anyone familiar with the background of Albuquerque's growth may question the attempt to keep up with the vast and dispersed area of housing which may have been the result of a temporary economic situation. It may be, that for the ultimate good of the city system, the emphasis should be one of well planned and diversified school community centers with temporary provisions for emergency needs. The resources of Albuquerque of the future may be such that schools hastily planned to meet quantitative needs will prove unsatisfactory for the community centers that survive.

I. THE PROBLEM

Statement of the problem. It is the purpose of this study (1) to construct a workable check list for the purpose of (2) rating selected elementary schools constructed in Bernalillo County during the years 1945-1954, to show the extent to which the planning of sites, buildings, and equipment meet the needs of the actual instructional activities as presented or implied in the curriculum.

Importance of the study. In order to develop better teaching and learning situations, there must be determined what classroom environment best promotes the objectives of education. The best discoveries of all groups such as: architects, school administrators, community groups, educational staff members, and research workers -- all are important to the functional school plant. However, the basic idea behind the purpose for schools is this: to provide children with good learning environment. Too often this viewpoint becomes lost when schools are being planned and built.

In conducting school planning research, it would seem desirable to set up valid criteria to determine what classroom environment features best promote optimum growth, develment, and learning in the child are present in existing

school plants and those that are proposed. Meeting existing school program needs through proper space and design, available facilities for activities, and adequate and readily available equipment, is the basic function of the school plant.

Delimitations of the study. This study is limited to selected elementary schools constructed in Bernalillo County during the years 1945-1954. The schools selected will include both structures which are new and those which have been modified or enlarged.

The activities rated are limited to educational or recreational activities that are a part of the school program under the direction of an instructor employed by the local system. The activities are limited further to those which take place during the school calendar year.

The study deals with the school plant as defined and expresses in detail only those features which respect or disrespect the curricula as set forth in the current curriculum guides of the Bernalillo County and Albuquerque City Schools.

The mechanical features such as heat, light, ventilation, acoustics, sanitation, and finish are rated only when they directly influence the activities.

II. DEFINITIONS OF TERMS USED

Albuquerque Schools In view of the consolidation of county and city school systems, the term Albuquerque Schools applies to both city and county schools.

Buildings Buildings are interpreted as meaning the structures housing children engaged in elementary educational and directed activities of the Albuquerque Public Schools.

Curriculum Guide This term is used in referring to the departmental guides of the elementary division of the Albuquerque Public Schools which are current and which are supplied to the teaching staff.

Equipment The term equipment refers to furnishings, devices, tools, and other apparatus which contribute directly to the school program. The term does not include mechanical features.

III. SOURCES OF THE DATA

The findings of this study are based upon an appraisal of nine elementary schools in the Albuquerque Public School System. They were selected as representing three phases of school building construction in the nine years following World War II. The analysis was made by applying a check list constructed for this purpose.

IV. ORGANIZATION OF THE REMAINDER OF THE STUDY

Chapter II of the study reviews related literature. A detailed description of the method employed in the construction of the check list and the selection of schools for sampling will be found in Chapter III. There follows, in Chapter IV, a presentation of the role of the curriculum in school planning. A summary of the study and conclusions will be found in Chapter V.

CHAPTER II

REVIEW OF RELATED LITERATURE

Literature on check lists and their construction. The preliminary survey of previous studies, relating to the problem under investigation, revealed that most of the literature dealt with check lists which were used to survey general features of school plants. Closer analysis of the recent check list by Englehardt and School Planning Associates indicates that it is less rigid than earlier standards; however, it remains primarily an instrument to evaluate the mechanical and structural aspects of school buildings.[4] Stoneman and Broady view the social studies program as a core about which the classroom should be designed.[5] They state that in earlier lists, "Englehardt does not state specifically what implications the type of activities he describes have toward school building provisions." The basic purpose of the school plant is to house the educational program of the community in which it is to serve.

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[4] N. L. Englehardt, and School Planning Associates, Portfolio "A", Elementary Classrooms (New York: Teachers College, Columbia University, 1941), preface iv.

[5] Merle A. Stoneman, and Knute O. Broady, Building Standards for Small Schools (Teachers College and Extension Division, University of Nebraska, 1939), p. 32.

Standard criteria, which have since been frozen into law, make it difficult and at times impossible to meet the changes taking place in education today. Bursch and Reid recognize that a design standard, followed too closely, does not have the special needs of a community designed into it.[6] The school is viewed as an increasingly complex and highly specialized educational instrument.

Literature on school plant planning. Perkins and Cocking suggest, in reference to standards that have become law, that they be revitalized to prevent minimum standards from becoming maximum standards in some school systems.[7] The architect is urged to get into the classrooms and see what is going on rather than guessing the needs of children. Attention is called to the fact that "differences" refer to more than just size in children. Standards become "congealed logic" when left handed children are considered queer and need to be cured of a natural difference. Many school children are naturally left handed. Desks which are adjustable to both left and right handedness no longer

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[6] Charles Wesley Bursch, and John Reid, You Want to Build a School? (New York: Reinhold Publishing Company, 1947), p. 3.

[7] Lawrence B. Perkins, and Walter D. Cocking, Schools (New York: Reinhold Publishing Company, 1949), p. 184.

handicap those who are following natural developmental differences.

Landes and Sumption have a complete check list which may be referred to in providing standards for the functional characteristics of the school building.[8] However, it deals more correctly with mechanical aspects of the structure. With continued emphasis upon the structural aspects of school planning, rather than upon the functional activities, strict standardization contributes more than any one factor to the early obsolescence of our schools.

Stoneman, Broady, and Brainard list current functional trends in their chapter on the "General Educational Needs of the Community."[9] Two major factors are given: the general educational needs of our schools in the American democracy, and the special requirements of a given community. The authors also give consideration to the aspects of the general curriculum program which tend to place demands upon the school plant. According to the authors, trends in subject areas, trends in teaching method, and trends toward an

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[8] Jack L. Landes, and Merle R. Sumption, Citizens Workbook for Evaluating School Buildings (Dubuque: Wm. C. Brown Company, 1951), 39 pp.

[9] Merle Stoneman, Knute Broady, and Alanson Brainard, Planning and Modernizing the School Plant (University of Nebraska Press, 1949), pp. 21-45.

expansion of the services that schools are coming to include in the modern elementary program are all placing demands on school plants.

Literature on the changing elementary school program. A classroom suitable for modern elementary school teaching must have more than mechanical features such as good heating and lighting. It is known that children learn best through meaningful experiences which apply facts. It is a process which requires space and facilities with which to work. The classroom becomes a laboratory with sink and storage space and display surfaces for materials to be used. Children move about the room in response to the needs of a variety of activities designed to give meaning to the material to be learned. There is clearly a trend which sees the classroom as an activity center with special rooms for extended activities. Lang describes the characteristics of such a program and indicates that more floor space and equipment is desired.[10] The basic philosophy is described as dynamic, with an emphasis upon "creative self-activity" on the part of the child. The program centers around basic tendencies for play, exploration, communication, and other inter-action

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[10] Frank M. Lang, Desirable Physical Facilities for an Activity Program (New York: Teachers College, Columbia University, 1933), p. 99.

with the classroom environment. The degree to which learning will be rich and meaningful depends upon the potential of the environment to meet the physical, mental, and social needs of the child. There is an emphasis upon developing initiative, creative effort, critical thinking, responsibility, and social relationships through direct and first hand experiences. Attitudes and ideals are considered as important as acquisition of factual knowledge and skills. Lang considers this to be a program which respects the individuality and initiative of each child. In order that a program of this nature can be successful, more floor space and flexible facilities must be planned before the building is constructed. It is difficult to present a true picture of what activities are to be carried out in the classroom because of the many and diverse programs of study which are in use today. They vary with the school and not often can these practices be represented by any general statements.

Macomber, however, presents the basic principles of modern elementary educational practice simply, and with many implications for classroom planning. The changing concept of subject matter makes available many useful aids to instruction which the children can make themselves.[11]

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[11] Freeman Glenn Macomber, Principles of Teaching in the Elementary School (New York: American Book Company, 1954), p. 203.

This makes necessary a work area and tools which can be used for construction activities.

Buildings are being designed to take full advantage of all modern instructional tools including motion pictures, projected still pictures, tape recordings, radio, and television. It is important that building design be flexible to facilitate economical provision for new instructional tools which may be developed during the life of the building.

A pamphlet by the National Educational Association provides new insight into planning for audio-visual experiences for learning.[12] It emphasizes the relationship of building facilities to the school program and provides suggestions for light control, ventilation, projection screens, projection stands, electrical installations, acoustics, and general construction features which must be carefully planned. The pamphlet also cites the need for vertical and horizontal display space. An appendix provides a bibliography and a brief list of the companies producing or distributing audio-visual aids and equipment.

Whitehead, and others, have developed a guide for planning elementary school facilities which approximates

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[12] National Education Association Bulletin, "Planning Schools for Use of Audio-Visual Materials, No. I, Classrooms," (1952), 39 pp.

the purpose of this study.[13] Throughout the guide, the major emphases are the character of educational activities, rooms and areas needed, functional layout of rooms and areas, and essential environmental conditions. The information is presented for school authorities and architects to be used in cooperative planning. "School buildings and their equipment should be planned to serve the function of implementing a desirable program of education."

A fine source of material for planning facilities for athletics, physical and health education, and recreation is found in a guide published by the "Athletic Institute." It provides recommendations for equipment. Specifications[14] are given for activity space and many recent uses of the school site for community activities are illustrated.

Bobbitt presents education's purpose, in the introduction of his book on curriculum, as that of bringing the child's learning potentialities to a reality.[15] Public

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[13] Willis A. Whitehead, and others, A Guide for Planning Elementary School Buildings (Bureau of Educational Research, Ohio State University, 1948), pp. 61-93.

[14] Participants in National Facilities Conference, A Guide for Planning Facilities for Athletics, Recreation, Physical and Health Education (Chicago: Publication of the Athletic Institute, 1947), p. 12.

[15] Franklin Bobbitt, The Curriculum of Modern Education (New York: McGraw-Hill Book Company, Inc., 1941), p. 2.

opinion demands that children be taught a certain amount of elementary skills such as reading, writing, and arithmetic. More specialized knowledge than public opinion, however, is needed to formulate a school plant that organizes the specifics into an integrated educational process.

As the volume of knowledge, the social heritage, and the functional attitude toward the curricula increases, Bobbitt envisions the building problem increasing also, especially in regard to special features of the environment.

CHAPTER III

THE METHODS EMPLOYED

I. THE METHOD IN GENERAL

The check list was originally thought of as a composite instrument which would reflect the current local elementary school curriculum, the more recent educational research, and the results of interviews with members of the Public School Staff. A review of the literature, however, indicated that much of the current thought in school plant planning is to turn directly to the special and often unique needs of the community in which the school is to serve.[16]

With this in mind, more emphasis was placed upon the local conditions which might not apply to planning a school building in other sections of our nation. The fact that school children enjoy the use of outdoor play areas to a nearly optimum degree, eliminates the absolute necessity of planning a gymnasium at the elementary level. In similar ways, such things as exterior design and landscaping of the site become more understandable when considered with a view to their practicality. Schools, in the last analysis, have

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[16] Stoneman, Broady, and Brainard, op. cit., pp. 59-104.

two simple purposes: to promote and carry on the culture, and to provide and equip our citizens with those work skills which the community finds necessary. The method and the extent to which they occur depend ultimately upon the resources and the will of the local community to provide school facilities. It is for this reason that the final check list reflects many of the local school system's unique characteristics. The climate, cultural backgrounds, vocational limitations, and social patterns all combine to produce conditions which are not unique in themselves, but together provide special consideration in planning.

The use of recent literature related to school plant planning followed this general pattern: to review designs of good schools of comparable size and characteristics in similar situations, to search literature in the school plant field, to evaluate the findings in the light of their relationship to the local situation.

II. METHOD OF ASSEMBLING CHECK LIST

The basic source of information concerning the activities of a local school system is found in the local curriculum guides and in their supervision. The first step involved the listing and tabulating of the activities which were suggested or inferred in the curriculum guides of the

elementary school department. Only the current guides supplied the teaching staff were used, and J. B. Linthicum, Director of Instruction, cooperated graciously in assisting in the clarification of the general program.

As tabulation proceeded, activities were assigned to five classifications similar to Englehardt's list: classrooms, special rooms, audio-visual aids, assembly or all-purpose rooms, and outdoor educational and recreational features.[17] Often, activities were found which might have alternate utilization centers. When this occurred, each feature was arbitrarily given one point. Other activities often required more than one facility. In this case, all logical equipment involved in the activity was scored. Table I is an example of classroom tabulation procedure. This method indicated early the need for such facilities as a sink located in the room for water source and clean up purposes. Special rooms were scored when activities were suggested which would disrupt the routine to an undesirable degree. As an example, band and orchestra practice might be more satisfactorily carried on in a room which could also serve as a music center.

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[17] Englehardt, and School Planning Associates, op. cit., p. 5.

TABLE I

COMPARISON OF FREQUENCY OF FEATURES MENTIONED IN THE ELEMENTARY SOCIAL STUDIES CURRICULUM

Feature and Check List Number	GRADE I	II	III	IV	V	VI	Total
"Flexible arrangement." 7-14	20	26	35	21	20	23	145
"Tables for art." 33	18	20	24	20	20	18	120
"B. Board or mural space." 24	12	17	23	24	29	21	126
"Sink for clean up." 41	11	24	13	20	23	25	116
"Chalkboard." 16&18	12	15	30	16	19	23	115
"Library corner." 32	13	8	25	21	17	23	107
"Work bench and tools." 35	15	18	26	15	13	17	104
"Tackboard." 15	7	14	19	16	15	18	89
"Art easel." 20	10	14	13	16	15	12	80
"Horizontal display surface." 39	8	7	15	21	10	17	78
"Light control, curtains." 9	6	8	15	15	14	18	76
"Storage drawers." 38	10	9	8	10	13	12	62
"Science corner 34	6	10	13	6	2	11	48

It was realized early in the construction process that the workability of such a list depended upon a qualitative emphasis rather than a quantitative one. Exact specifications were omitted; however, such authorities as Whitehead, and others, provide specifications which can be applied to almost any school need.[18] For the most part, these basic specifications are now written into law in most states, and are often minimum in nature.

Throughout the analysis of curriculum, repeated listing by the guides of activities which caused children to move about the room was noted. This extended use of the classroom indicated a need for criteria which appraised the flexibility and versatility of the classroom. Desks, chairs, tables, and other furnishings which could be stacked become desirable features. Open space for activities such as dancing, dramatic play, and discussion, are but a few which require more space per pupil than the normal seating arrangement.

Quite often, activities were suggested which involved the use of equipment and facilities that could be constructed by the children as a part of the learning process.

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[18] Willis A. Whitehead, and others, op. cit., pp. 55-104.

As an example, where room pets were suggested, the use of a few tools and a portable work bench could soon produce animal pens from wood and wire. The final check list attempted to emphasize such items so that initiative to construct learning aids might be encouraged.

A library where children can "browse" through books for pleasurable reading may be viewed as optimal in a school system where every available space has been forced into classroom use. However, the importance of special rooms can not be denied, and they are included in the list as an appraisal of space which can later be used for special activities. The check list is meant to imply the need for a library which encourages children to use it through the attractive atmosphere which it provides. There should be open planning with tables and chairs for both group and casual reading.

The health room can, and often does, provide learning experiences in first aid and health which are often difficult to repeat in the classroom. A well equipped health room or clinic should provide adequately for preventive education in health matters as well as for emergency use. Under the supervision of the nurse or staff workers, it can become a valuable center for learnings which often receive too little attention in the elementary school.

The criteria for audio-visual aids were based upon the demands of the local curriculum, and only brief provision was made for determining the extent to which the planning of the school provided for materials which might become available later in the life of the school. There is an abundance of literature available and it should be considered with respect to this basic aspect of space and mechanical design.

The assembly, or all-purpose, room items were arranged into the types of activities for which a room of this kind is usually designed. Often such activities are not directly mentioned in the curriculum, yet they are experiences which tend to extend the learning of the local elementary children. Such social learnings as group manners and etiquette are products of properly supervised lunch programs and large group activities.

Outdoor educational and recreational features followed closely the curriculum guide for Physical Education and Recreation for the Albuquerque Public Schools. It is a thorough treatment and provides activities which not only use the facilities and equipment of the playground, but also the classroom.

For a more detailed check list and related reading, "A Guide for Planning Facilities for Athletics, Recreation,

Physical and Health Education," provides tables on space allocation for outdoor and indoor facilities.[19]

Pruett's evaluative scale, with modifications, was applied as a determinent of the extent of presence or absence of the items listed.[20]

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[19] Participants in National Facilities Conference, op. cit., p. 5.

[20] Haskell Pruett, School Plant Requirements for Standardized Elementary and Accredited High Schools (George Peabody College for Teachers, Nashville, Tennessee, 1934), p. 120.

III. METHOD OF SELECTING SAMPLES

A list of schools which were constructed during the years 1945-1954 was compiled from records available at the Central Office of the Albuquerque Public School System. There appeared to be three periods or phases of construction which might reflect, in part, unique characteristics and differences in the extent to which these schools provide for the requirements of the curriculum.

In brief, the first phase of the recent school construction program in the city schools came as an aftermath to a war that contributed to the rapid population growth, but prohibited much needed new construction and expansion. The schools built during this period show perhaps an understandable emphasis which must have been placed upon meeting the critical needs for classroom space. Even with a backlog of local bond support, the booming population growth caused more desirable features to become secondary to the problem of housing the rising school population. Figure 1, as previously presented, more clearly illustrates the growth which occurred during the nine year period covered by this study.

In the second phase, overwhelming support was given to the school building program through bond issues for construction purposes. Additions were constructed and many of

the buildings received long awaited repairs and remodeling. Recreation services were expanded and several new activities were added to the educational program. This phase was marked by many accomplishments; however, defense preparations and wartime economies increased costs to a point where expenditures were kept to essentials.

In the third phase, the tempo of the national defense activities swelled the population and overcrowded the schools in the area. Federal legislators recognized the obligation of the government to such impacted areas and provided assistance for easing the overcrowded classrooms. This legislation provided for the abnormal increaae in population as families moved near Sandia Atomic Weapons and Kirtland Air Force Bases. This aid provided Bernalillo County with slightly over four million dollars for school construction and for maintenance and operation respectively.

Here were three periods which may or may not reflect differences in the way in which they meet or defeat the program of the public school system.

One school was selected at random, and the workability of the check list was tested. Minor changes were made, then it was duplicated in its final form to serve as an instrument for appraising the facilities of nine schools selected from the list. Three schools representing each

period were designated for study. They were chosen as being characteristic of the period, and as representing a cross section of the Albuquerque School system. All schools of the first two phases had been remodeled or additions had been built on them. Two of the schools of the first phase were formerly county schools which had been consolidated with the city schools. One of the schools of the third phase was built entirely with federal funds, and the major proportion of the cost of the other two was financed by the government.

IV. METHOD OF EVALUATING SAMPLES

The most difficult part of a evaluation of this type is the problem of remaining objective in applying specific criteria to many and diverse situations found in the school plant. The schools of each phase were studied as a group primarily for that reason. It then became an arbitrary decision which involved answering whether such a feature was present or not, and if present, to what degree.

The provision of four columns was intended as an aid to later comparative analysis of the distribution in an attempt to show differences which may or may not exist. The symbols were repeated in their respective columns to prevent errors in marking.

The purpose of the rating scale was as follows: to arbitrarily rate the presence or absence of various environmental factors which are required, or the need for which is implied in the current curriculum.

+ Provision is present or available to a satisfactory degree.

- Provision is present or available to some extent but only fairly well considered.

O Provision is not present or is not satisfactory.

N Condition does not apply.

The check list necessarily involved the use of judgment on the part of the investigator. It is valuable as a localized method of reviewing provisions for desirable facilities in terms of the curricula. Research of this type would seem to have a definite part in the routine planning for better teaching and supervision, better buildings and grounds, and better curricula.

CHAPTER IV

THE CHECK LIST RESULTS

I. TECHNIQUE

The data collected from the nine schools were posted on a sheet which followed closely the form of the check list. Schools which represented each of the three building phases were assigned four columns to permit use of the full range of the rating scale. Major headings were divided to allow a more specific indicator of areas of inadequacy. It is important that all items be rated, and that the number of "N" ratings be held to an absolute minimum to provide valid totals for comparison. As an example, at the time this check list was used, one of the new schools had not been completely furnished and much of the equipment had not been assigned.

Even without extending each column on the posting sheet, certain patterns become obvious. In Table I, as the item is viewed horizontally, some show a definite change; while others indicate a set reflecting local policy. The vertical dimension can be represented by a numerical total which may be used to indicate general areas of relative strength. Horizontal totals of all plus factors may provide

the degree to which certain items are represented in the local schools. At best, it is but an indicator and depends upon faithful reporting for any accuracy it may have.

II. RESULTS

In general, a comparison of the distribution and degree of rating is indicated by the posting sheet, Table II. Classrooms were found to be satisfactory with respect to their size. There has been a nominal increase in the size of the rooms in the newer schools. Schools in group one had less attractive finish in the classrooms and the furnishings were heavier, with less modern wall cabinets and shelves. For the most part, classrooms meet the needs of the child. However, the inadequacy noted most was the lack of provisions for left handedness and posture control. The flexibility of the average classroom is good and provides quite adequately for the modern learning experiences listed in the curriculum. Inter-room walls remain structurally stationary, but in each building there was a movable wall between two rooms. This served as an assembly room and for activities which needed the extra space. Instructional devices, see Table II under Classrooms, C., improved steadily throughout the period studied. The lack of proper map and chart clips was eliminated through the use of the new

TABLE II

POSTED CHECK LIST RESULTS

	I. CLASSROOMS GROUP	I				II				III			
		+	-	0	N	+	-	0	N	+	-	0	N
A. 1.	Are classrooms large enough? (Elementary - 35 sq. ft. per pupil, min. of 900 sq. ft.)	3				3				3			
2.	Can seats and tables be easily moved, stacked, and rearranged by the children?	3				3				3			
3.	Are seats and tables scaled to size for individual differences?	3				3				2			1
4.	Are seats adjustable for posture control?			3				3				2	1
5.	Are there provisions for left handedness?			3				3				2	1
6.	Is there an adequate cloakroom?	1	2			2	1			1	1	1	
B. 7.	Are seats, tables, shelves, cases, and so forth, movable and versatile?	2	1			3				3			
8.	Are provisions adequate for small group study and discussion?	3				3				3			
9.	Are provisions adequate for darkening the room for projection?	3				3				3			
10.	Are provisions adequate for dancing in the room?	3				3				3			
11.	Are adult folding chairs readily available for open house?	3				3				1	1		1
12.	Are provisions adequate for room games and parties?	3				3				3			
13.	Can inter-room walls be opened for extended classroom use?		2	1			1	2			1	2	
14.	Are classrooms cheerful and attractive?	2	1			3				3			

TABLE II (Continued)

			+	-	O	N	+	-	O	N	+	-	O	N
C.	15.	Adequate tackboard or pinning board?	3				3				3			
	16.	Adequate chalkboard space? (16-20 lineal ft.)	3				3				3			
	17.	Can chalkboards be elevated or reversed?			3				3				3	
	18.	Are chalkboards of proper height for child use?	3				3				3			
	19.	Are there adequate reference shelves?	3				3				3			
	20.	Are there art easels or paint stands?	2	1			2	1			2			1
	21.	Are there primary chart stands?	1	2			2	1			2			1
	22.	Are there intermediate chart clips?	1	1	1		3				3			
	23.	Are there adequate map clips or hooks?	1	2			3				3			
	24.	Is there adequate mural space?	3				1	2				1	2	
	25.	Is a portable science laboratory readily available?			3				3				2	1
	26.	Are there provisions for room pets?	1		2				3				3	
	27.	Is there a room globe?		3				3			1	1		1
	28.	Are there provisions for newspaper and magazine storage?	1	1	1		3				3			
	29.	Is there a book cart readily available?	2	1			3				1		1	1
	30.	Is there a typewriter suited to classroom use?		1	2			1	2				2	1
	31.	Is there an adequate pencil sharpener in the room?	1	2			3				3			
D.	32.	Individual and group library area?	1	2			2	1			3			
	33.	Adequately equipped art corner?		2	1		3				3			
	34.	Science corner equipped with planting box, aquarium, terrarium?			3			1	2				3	
	35.	Is there a workbench and tools for construction activities?	1		2		1		2				3	

TABLE II (Continued)

			+	-	O	N	+	-	O	N	+	-	O	N
E.	36.	Flag display stand or wall mount?	3				3				3			
	37.	Patriotic displays or pictures?			3				3				3	
F.	38.	Are built in closets and cases adequate to care for equipment and supplies that are regularly used?	2	1			3				3			
	39.	Are there adequate horizontal display surfaces?	2	1			3				3			
	40.	Are classrooms such that activity groups may work in any area and be separated from other groups through use of partitions, counters, or shelves?		2	1		2		1		3			
	41.	Are provisions made for water use and clean up of classroom activities in the room?		3			1	2			3			
	42.	Are materials and equipment suitably stored or arranged for use?	2	1			3				3			
	43.	Are there individual toilets in the rooms?			3				3				3	
	44.	Are there drinking fountains in the rooms?			3		1	2			3			
	45.	Is there a file cabinet for class and teacher use?		1	2				3		1		2	
	46.	Are duplicating machines readily available?	2	1			3				2			1
	47.	Is there a telephone or intercommunication system?	1		2		1		2		3			

II. SPECIAL ROOMS

A.	48.	Are space and equipment facilities adequate for study and work with clay, plastics, wood, metal, reed, paper, cloth, and other materials?			3				3				3	

TABLE II (Continued)

			+	-	0	N	+	-	0	N	+	-	0	N
	49.	Are facilities adequate for study and work with processes such as: oils, crayon, charcoal, silk screens, air brush, and block printing?			3				3				3	
	50.	Are there adequate provisions for storage of equipment and supplies?			3				3				3	
	51.	Are there adequate facilities for water supply and clean up in the room?			3				3				3	
	52.	Are there adequate tables, easels, and drawing boards?			3				3				3	
	53.	Is there adequate chalkboard space? (6-8 lineal ft.)			3				3				3	
B.	54.	Are there adequate provisions for storage of books?	2	1				3				3		
	55.	Are there provisions for marking and repair?		1	2			1	2		1	1		1
	56.	Are there adequate files for accounting for books?		1	2			1	2		1	1		1
	57.	Are there adequate provisions for the storage of materials, films, recordings, and visual devices?	3				2	1				3		
	58.	Are there adequate chairs and tables for study by individuals and small groups with an atmosphere which promotes reading?		1	2		1	2				1	2	
C.	59.	Is there adequate space for seating of group facing the instructor?		1	2				3			1	2	
	60.	Are there adequate chairs and music stands?	1	1	1		3					1	2	
	61.	Are there provisions for instrument storage?			3			2	1		3			
	62.	Is there adequate chalkboard space? (6-8 lineal ft.)			3		1	1	1		1	1	1	
D.	63.	Are facilities adequate for the observation and study of insect colonies, aquatic animals, land animals, and plants?			3				3				3	

TABLE II (Continued)

			+	-	0	N	+	-	0	N	+	-	0	N
	64.	Is there a museum or collection space?			3				3				3	
	65.	Are facilities adequate for teacher demonstration with water and critical materials?			3				3				3	
	66.	Are facilities adequate for pupil experimentation and work?			3				3				3	
	67.	Are facilities adequate for storing and studying of charts and specimens?			3				3				3	
	68.	Is there adequate chalkboard space? (6-8 lineal ft.)			3				3				3	
E.	69.	Are facilities adequate for emergency treatment and first aid instruction?	2	1				3				3		
	70.	Are there provisions for health counseling, medical examinations, and inspections?	2	1				3				3		
	71.	Are there facilities for psychological and intelligence testing?	2	1				3				3		
	72.	Are provisions made for examining vision, hearing, and for weighing?	3					3				3		
	73.	Is there a rest room?	1		2			3				3		
	74.	Is there a shower?			3			3				3		
	75.	Is there a cot for resting?	3					3				2		1
		III. AUDIO-VISUAL AIDS												
A.	76.	Shades for darkening rooms?	2	1			2	1				3		
	77.	Viewing screens?	3				2		1		2		1	
	78.	Space for storage of models?	3					3				3		
	79.	Storage of maps and graphic materials?	2	1				3				3		
	80.	Adequate three-speed record players?	1	2				3				2		1
	81.	Adequate radios, FM and standard broadcast?	1	2			2	1				2		1
	82.	Tape or wire recorder?	1		2		2		1		1		1	1
	83.	Slide projector?	3				2	1			1		1	1
	84.	Opaque projector?			3				3		1		1	1
	85.	Moving picture projector, sound?	1		2				3		1		1	1

TABLE II (Continued)

			+	-	O	N	+	-	O	N	+	-	O	N
		IV. ASSEMBLY OR ALL-PURPOSE ROOM												
A.	86.	Drapes for darkening room?	3				3				3			
	87.	Cart or stand for projector?	1	1	1		3				1		1	1
	88.	Permanent speaker system?			3				3		1		2	
	89.	Screen?	2		1		2		1		1		1	1
	90.	Adequate and well placed electrical outlets?	1	2			3				3			
B.	91.	Record player?	1	2			3				2			1
	92.	Piano	3				2	1			1		1	1
	93.	Acoustics?		2	1		2	1			3			
	94.	Instrument storage?	1	1	1		1	1	1		2	1		
	95.	Chalkboard? (6-8 lineal ft.)	3				3				1		1	1
C.	96.	Stage?			3				3			1	1	1
	97.	Scenery tackboard?		3			2	1				2	1	
	98.	Curtain?			3				3				3	
	99.	Special lighting features?			3				3				3	
D.	100.	Public address system?			3				3		1		2	
	101.	Display cases?		2	1			1	2				2	1
E.	102.	Folding tables and chairs?	1	2				2	1		2			1
	103.	Disposal facilities?	3				2	1			2			1
	104.	Hot lunch facilities?	1		2				3				3	
	105.	Kitchen?	2	1			3				3			
F.	106.	Adequate floor space?	2	1			3				3			
	107.	Adequate floor surface?	2	1			3				3			
		V. OUTDOOR EDUCATIONAL AND RECREATIONAL FEATURES												
A.	108.	Primary space adequate and separate?	2	1			2	1			1	1		1
	109.	Intermediate space adequate	2	1			2	1			1	1		1
	110.	Are play areas adequate for all pupils to play at same time?	3				3				3			
B.	111.	Are there provisions for animal pens or cages?		1	2				3				3	
	112.	Are there provisions for construction activities?			3				3				3	

TABLE II (Continued)

			+	-	0	N	+	-	0	N	+	-	0	N
	113.	Are there provisions for experimental gardening?			3				3			1	2	
	114.	Is there a sand box?	2		1		3				2		1	
	115.	Is there a spray pool?			3				3				3	
	116.	Are there adequately paved areas?			3				3		1		2	
C.	117.	Two slides (1) 8' (1) 6'			3				3				3	
	118.	Teeters? (4)	3				3				2			1
	119.	Climbing structure?			3				3		1		1	1
	120.	Horizontal bars, different heights?	1	1	1				3		1		1	1
	121.	Swings? (3) 10' (3) 8'	3				3				2			1
	122.	Horizontal ladder?			3				3				2	1
D.	123.	Volleyball?	3				3				1	1		1
	124.	Horseshoe pits?			3				3				2	1
	125.	Basketball? (backstops)	3				2	1			1	1		1
	126.	Tennis?			3			1	2		1	1		1
	127.	Other court games such as kickball?	3				3				2			1
	128.	Tetherball?	1	2			1	2			2			1
	129.	Badminton?	2		1		3				2			1
E.	130.	Softball diamond? (backstop)	3				3				2			1
	131.	Touch football?	3				3				2			1
	132.	Soccer?	3				3				2			1
	133.	Field hockey?	1	2				3				2		1
F.	134.	Outdoor tables for games?			3				3				2	1
	135.	Fireplace?			3				3				2	1
	136.	Are there adequate toilets opening to outside?	2	1			3				3			
	137.	Adequate outdoor fountains?	2	1			3				3			
	138.	Provisions for archery?			3		1		2				2	1

combination strip above the chalkboard.

Facilities and equipment for aquariums, planting boxes, and construction benches and tools were lacking. In the newer schools, however, expanded use of a sink area provides adequately as a center for such activities. Simple science apparatus were notably lacking.

Furnishings which may or may not have patriotic value to children were lacking at the time the schools were studied. Framed pictures of the founders of our nation were noticeably absent in the hall or rooms.

The classrooms, according to the results of this evaluation, are coming more and more in accord with the needs of the teacher. Lacking were individual toilets in the rooms and filing cabinets.

Properly equipped special rooms were lacking; however, newer schools have rooms which are perhaps designed to serve special purposes. None of the schools had art rooms as such, but work rooms with sinks were found in most newer schools. Library space and equipment facilities have improved in newer schools. The libraries in the older ones were found to be more of a storage space than for active use of children. There is a noticeable lack of accounting and repair facilities. Music rooms are needed, and it was found that any available space was used for group music

activities. Science rooms were also lacking. The health room or clinic was rated the highest of all the special rooms and was found to be satisfactory in all the schools covered by this study.

Audio-visual aids were available to a very limited degree. In all schools the equipment was available on call from the visual-aids department, but few schools had equipment readily available in the building. Only two of the nine schools had their own motion picture projectors. Earlier schools had one or two sets of curtains to be hung over the classroom windows. Newer schools have draw drapes in each room.

Assembly or all purpose rooms were being used for classrooms in most cases, and were limited in use by inclusion of classroom features. All had kitchens, but were lacking in adequate lunch room facilities for the children.

Outdoor educational and recreational features indicated that there is less emphasis upon playground equipment than some authorities suggest. Slides and horizontal ladders are not provided; however, swings and teeters were found to be more than adequate. In one school of each period, the primary playground was too close or shared with the intermediate grades. Provision for outdoor construction activities, gardening, and a spray pool were lacking. Only

one school had a paved area for court games, and this was the school built entirely with federal funds.

Other facilities on the playground such as tables and a fireplace were lacking. All schools, except one, had toilet rooms which opened directly onto the playground. In general, the size of the playgrounds was more than adequate.

Table III is an example of the method used to compare the percentage of the schools rated satisfactory or plus on the check list. The item or items given a percentage rating can be compared directly with the total weight that the item was given from the tabulation of the curriculum guides. Flexible arrangement, numbers 7-14 in the check list, had a total mention of 145 and rated plus in 81% of the schools appraised in the study. This indicates that the activity type program in the local schools has been well provided for in the schools used in this study. The low percentages with reasonable degree of mention are areas where future planning may be needed.

Careful planning is indicated in the larger and more adequately equipped classrooms of the newer elementary schools. They are pleasant and cheerful in design and atmosphere. One wall has given way to a cloak rack and service area in one corner. A sink, fountain, counter, and storage facilities make this corner a center for more than

TABLE III

PERCENTAGE FIGURES OF SCHOOLS RATED PLUS

IN SELECTED CLASSROOM FEATURES FROM CHECK LIST

Feature and Check List Number	Total Frequency of Mention in Curriculum	Percentage Rated Plus
"Flexible arrangement" (7-14)	145	81%
"Tables for art" (33)	120	67%
"B. board or mural space" (24)	126	45%
"Sink for clean up" (41)	116	45%
"Chalkboard" (16&18)	115	100%
"Library corner" (32)	107	67%
"Work bench and tools" (35)	104	11%
"Tackboard" (15)	89	100%
"Art easel" (20)	80	67%
"Horizontal display surface" (39)	78	89%
"Light control, curtains" (9)	76	100%
"Storage drawers" (38)	62	88%
"Science corner" (34)	48	11%

one classroom activity. Low bookcases with broad display surfaces extend full length under windows and are more than adequate for all materials. Venetian blinds and drapes are provided in each room to control the light and darken the rooms for projection. Glass block diffuses and directs light to the ceiling where it adds a cheerful atmosphere to the room. There is restricted ventilation above this glass, but newer buildings have utilized vents opening into the hall. There is extensive use of chalkboard, tackboard, and sliding map hooks and clips. The mural display and bulletin board have disappeared with the cloakroom wall. In their stead, rolling bulletin boards provide temporary display space. In many of the new schools, each classroom opens onto the playground avoiding unnecessary traffic and undesirable noise and confusion in the halls.

Facilities other than the classrooms have undergone similar changes. Elaborate office suites, kitchens, multipurpose rooms, clinics, and teacher rooms are more than satisfactory. Exterior appearances are perhaps conservative, but not unattractive. The one school financed completely with federal funds had many of the more desirable features found in contemporary school design. The exterior followed modern lines which produced interesting lines and shaded areas. Mechanical features and service features

expressed less emphasis upon economy in materials and equipment. A gymnasium, library, and special rooms followed more closely the activities they were to provide for. The atmosphere in this school was that of spaciousness and freedom of design and materials.

All schools were notably lacking in facilities which were considered to be valuable in extended community use of the school building and grounds. A lack of planning was noticed for the growing trend toward a school that can function as a community center for social, recreational, or civic activities.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

The purpose of this study was to prepare a workable check list for use in determining the extent to which elementary schools constructed during the years 1945-1954 were planned to meet the environmental requirements of the curriculum.

Subjects for the investigation were nine elementary schools representative of the school construction of this period. These schools were divided further into three groups representative of the following building phases: the period immediately after the war and one of a backlog of critical school building needs, the interim period of local bond issue to provide for the increasing school population, and a period marked by federal aid due to defense operations in the area.

Data for this study were obtained by observing the features and then recording them on the check list. The check list was prepared from tabulating the needs of the current curriculum, review of recent literature on check list construction and school plant planning, and logical

considerations for trends in education and for the local situation.

A rating scale was used, and each school was appraised in terms of the degree of presence or absence of 138 items presented in the check list. Results were posted and a table of comparisons presented showing the ratings for each construction phase. The results were evaluated and inadequacies were compared and discussed.

II. CONCLUSIONS AND SOME IMPLICATIONS

On the basis of the limited data presented in this study, the following conclusions were drawn.

1. In general, schools selected for this study reflect to a satisfactory degree planning for the environmental needs of the current curriculum of the Albuquerque Public Schools.

2. A Comparison of all three phases of construction indicated that in some of the earlier schools the curricular environment bordered on inadequacy.

3. There was indicated a need for future planning which would consider recent trends in education, contemporary school plant design, new materials and construction methods, and the value of community use of the schools. The American school, by tradition, is a center for promoting democratic principles on both child and adult levels. Recent trends in school site planning indicate a returning emphasis upon the use of the school for community activities which tend to promote understanding of the schools, their problems, and their programs. It would seem desirable to cultivate such an understanding during a time when the schools are being increasingly attacked.

According to the findings of this investigation, it is reasonable to conclude that there is a need for con-

tinuous planning to meet the many changes in the demands being placed upon the environment by modern elementary programs of study.

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APPENDIX

CHECK LIST PREPARED FOR USE IN STUDY

CHECK LIST FOR INDOOR-OUTDOOR EDUCATIONAL ENVIRONMENT AND ESSENTIAL FACILITIES

The importance of such mechanical aspects as heat, light, ventilation, acoustics, safety, sanitation, and finish are recognized as basic to the characteristics of a well planned elementary school plant. However, recent changes in the educational activity programs have caused a shift in the emphasis from rigid and restrictive requirements to a study of the role of learning processes and their effect upon functional planning of schools. The criteria listed below are offered as helpful suggestions for educators and architects who are considering the needs of the pupil and teacher in terms of the educational program to be carried out.

The purpose of the rating scale is as follows: to arbitrarily rate the presence or absence of various environmental features which are required, or the need for which is implied in the current curriculum.

+ Provision is present or available to a satisfactory degree.

- Provision is present or available to some extent but only fairly well considered.

0 Provision is not present or is not satisfactory.

N Condition does not apply.

I. CLASSROOMS

	+	-	O	N
A. Do the physical aspects of the classroom tend to recognize the needs of the growing child?				
1. Are classrooms large enough? (Elementary - 35 sq. ft. per pupil, min. of 900 sq. ft.)				
2. Can seats and tables be easily moved, stacked, and rearranged by the children?				
3. Are seats and tables scaled to size for individual differences?				
4. Are seats adjustable for posture control?				
5. Are there provisions for left handedness?				
6. Is there an adequate cloakroom?				
B. Do space facilities and flexibility of the equipment provide adequately for modern learning experiences which tend to promote social competence?				
7. Are seats, tables, shelves, cases, and so forth, movable and versatile?				
8. Are provisions adequate for small group study and discussion?				
9. Are provisions adequate for darkening the room for projection?				
10. Are provisions adequate for dancing in the room?				
11. Are adult folding chairs readily available for open house?				
12. Are provisions adequate for room games and parties?				
13. Can inter-room walls be opened for extended classroom use?				

14. Are classrooms cheerful and attractive?____ ____ ____ ____ ____

C. How adequate are instructional devices in terms of the activities to be carried out? ____ ____ ____ ____

15. Adequate tackboard or pinning board?_____ ____ ____ ____ ____

16. Adequate chalkboard space? (16-18 lineal ft.)_____ ____ ____ ____ ____

17. Can chalkboards be elevated or reversed?_____ ____ ____ ____ ____

18. Are chalkboards of proper height for child use?_____ ____ ____ ____ ____

19. Are there adequate reference shelves?_____ ____ ____ ____ ____

20. Are there art easels or paint stands?_____ ____ ____ ____ ____

21. Are there primary chart stands?_____ ____ ____ ____ ____

22. Are there intermediate chart clips?_____ ____ ____ ____ ____

23. Are there adequate map clips or hooks?_____ ____ ____ ____ ____

24. Is there adequate mural space?_____ ____ ____ ____ ____

25. Is there a portable science laboratory readily available?_____ ____ ____ ____ ____

26. Are there provisions for room pets?_____ ____ ____ ____ ____

27. Is there a room globe?_____ ____ ____ ____ ____

28. Are there provisions for newspapers and magazine storage?_____ ____ ____ ____ ____

29. Is there a book cart readily available?____ ____ ____ ____ ____

30. Is there a typewriter suited to classroom use?_____ ____ ____ ____ ____

31. Is there an adequate pencil sharpener in the room?_____ ____ ____ ____ ____

D. Are areas and facilities provided for all of the activities which are to take place in the room?

32. Individual and group library area?_____ ___ ___ ___ ___

33. Adequately equipped art corner?_____ ___ ___ ___ ___

34. Science corner equipped with planting boxes, aquarium, and terrarium?_____ ___ ___ ___ ___

35. Is there a workbench and tools for construction activities?_____ ___ ___ ___ ___

E. Are there facilities and furnishings which contribute to patriotic learning?

36. Flag display stand or wall mount?_____ ___ ___ ___ ___

37. Patriotic displays or pictures?_____ ___ ___ ___ ___

F. Are classrooms designed to facilitate the work of the teacher?

38. Are built in closets and cases adequate to care for equipment and supplies that are regularly used?_____ ___ ___ ___ ___

39. Are there adequate display surfaces?_____ ___ ___ ___ ___

40. Are classrooms such that activity groups may work in any area and be separated from other groups through use of partitions, counters or shelves?_____ ___ ___ ___ ___

41. Are provisions made for water use and clean up of classroom activities in the room? (Sink)_____ ___ ___ ___ ___

42. Are materials and equipment suitably stored or arranged for use?_____ ___ ___ ___ ___

43. Are there individual toilets in the rooms?_____ ___ ___ ___ ___

44. Are there drinking fountains in the rooms?_____ ___ ___ ___ ___

45. Is there a filing cabinet for class and teacher use?_____ ___ ___ ___ ___

46. Are duplicating machines readily available?_____ ___ ___ ___ ___

47. Is there a telephone or intercommunication system?_____ ___ ___ ___ ___

II. SPECIAL ROOMS

Are there special rooms large enough and properly equipped to carry out the activities for which they were intended?

A. ART ROOM

48. Are space and equipment facilities adequate for study and work with clay, plastics, wood, metal, reed, paper, cloth, and other materials?_____ ___ ___ ___ ___

49. Are facilities adequate for study and work with processes such as: oils, crayon, charcoal, silk screen, air brush, and block printing?_____ ___ ___ ___ ___

50. Are there adequare provisions for storage of equipment and supplies?____ ___ ___ ___ ___

51. Are there adequate facilities for water supply and clean up in the room?_____ ___ ___ ___ ___

52. Are there adequate tables, easels, and drawing boards?_____ ___ ___ ___ ___

53. Is there adequate chalkboard space? (6-8 lineal ft.)_____ ___ ___ ___ ___

B. LIBRARY

54. Are there adequate provisions for storage of books?_____ ___ ___ ___ ___

55. Are there provisions for marking and repair?_____ ___ ___ ___ ___

56. Are there adequate files for accounting for books? ____ ____ ____ ____ ____

57. Are there adequate provisions for the storage of materials, films, recordings, and visual devices? ____ ____ ____ ____ ____

58. Are there adequate chairs and tables for study by individuals and small groups? ____ ____ ____ ____ ____

C. MUSIC ROOM

59. Is there adequate space for seating of group facing the instructor? ____ ____ ____ ____ ____

60. Are there adequate chairs and music stands? ____ ____ ____ ____ ____

61. Are there provisions for instrument storage? ____ ____ ____ ____ ____

62. Is there adequate chalkboard space? (6-8 lineal ft.) ____ ____ ____ ____ ____

D. SCIENCE ROOM

63. Are facilities adequate for the observation and study of insect colonies, aquatic animals, land animals, and plants? ____ ____ ____ ____ ____

64. Is there a museum or collection space? ____ ____ ____ ____ ____

65. Are facilities adequate for teacher demonstration with water and critical materials? ____ ____ ____ ____ ____

66. Are facilities adequate for pupil experimentation and work? ____ ____ ____ ____ ____

67. Are facilities adequate for storing and studying of charts and specimens? ____ ____ ____ ____ ____

68. Is there adequate chalkboard space? (6-8 lineal ft.) ____ ____ ____ ____ ____

E. HEALTH ROOM

69. Are facilities adequate for emergency treatment and first aid instruction?_____ ___ ___ ___ ___

70. Are there provisions for health counseling, medical examinations, and inspection?_____ ___ ___ ___ ___

71. Are there facilities for psychological and intelligence testing?_____ ___ ___ ___ ___

72. Are provisions made for examining vision, hearing, and for weighing?_____ ___ ___ ___ ___

73. Is there a rest room?_____ ___ ___ ___ ___

74. Is there a shower?_____ ___ ___ ___ ___

75. Is there a cot for resting?_____ ___ ___ ___ ___

III. AUDIO-VISUAL AIDS

A. Are suitable audio-visual educational facilities provided for?

76. Shades for darkening rooms?_____ ___ ___ ___ ___

77. Viewing screens?_____ ___ ___ ___ ___

78. Space for storage of models?_____ ___ ___ ___ ___

79. Storage for maps and graphic materials?_____ ___ ___ ___ ___

80. Adequate three-speed record players?_____ ___ ___ ___ ___

81. Adequate radios, FM and standard broadcast?_____ ___ ___ ___ ___

82. Tape or wire recorder?_____ ___ ___ ___ ___

83. Slide projector?_____ ___ ___ ___ ___

84. Opaque projector?_____ ___ ___ ___ ___

85. Moving picture projector, sound?_____ ___ ___ ___ ___

IV. ASSEMBLY OR ALL-PURPOSE ROOM

Are provisions for assembly and public performances suitable for

A. FILM VIEWING

86. Curtains for darkening rooms?_____ ___ ___ ___ ___

87. Cart or stand for projector?_____ ___ ___ ___ ___

88. Permanent speaker system?_____ ___ ___ ___ ___

89. Screen?_____ ___ ___ ___ ___

90. Adequate and well placed electrical outlets?_____ ___ ___ ___ ___

B. MUSIC

91. Record player?_____ ___ ___ ___ ___

92. Piano?_____ ___ ___ ___ ___

93. Acoustics?_____ ___ ___ ___ ___

94. Instrument storage?_____ ___ ___ ___ ___

95. Chalkboard? (6-8 lineal ft.)_____ ___ ___ ___ ___

C. DRAMATICS

96. Stage?_____ ___ ___ ___ ___

97. Scenery tackboard?_____ ___ ___ ___ ___

98. Curtain?_____ ___ ___ ___ ___

99. Special lighting features?_____ ___ ___ ___ ___

D. ACHIEVEMENT

100. Public address system?_____ ___ ___ ___ ___

101. Display cases?_____ ___ ___ ___ ___

E. LUNCH FACILITIES

102. Folding tables and chairs?_____ ___ ___ ___ ___

103. Disposal facilities?_____ ___ ___ ___ ___

104. Hot lunch facilities?_____ ___ ___ ___ ___

105. Kitchen?_____ ___ ___ ___ ___

F. DANCING

106. Adequate floor space?_____ ___ ___ ___ ___

107. Adequate floor surface?_____ ___ ___ ___ ___

V. OUTDOOR EDUCATIONAL AND RECREATIONAL FEATURES

A. Are the school grounds large enough for the number of pupils who attend the school? (Primary 1-3 acres, intermediate 5 acres, plus 1 acre for each 100 children.)

108. Primary space, separate?_____ ___ ___ ___ ___

109. Intermediate space?_____ ___ ___ ___ ___

110. Are play areas adequate for all pupils to play at the same time?_____ ___ ___ ___ ___

B. Are outdoor work and play areas adequate for the curricular activities and suitable to the children using them?

111. Are there provisions for animal pens or cages?_____ ___ ___ ___ ___

112. Are there provisions for construction activities?_____ ___ ___ ___ ___

113. Are there provisions for experimental gardening?_____ ___ ___ ___ ___

114. Is there a sand box?_____ ___ ___ ___ ___

115. Is there a spray pool?_____ ___ ___ ___ ___

116. Are there adequately paved areas?_____ ___ ___ ___ ___

C. Are there adequate, separated areas equipped for the teaching and supervision of the following Physical Education activities?

117. Two slides? (1) 8' (1) 6' _____ ___ ___ ___ ___

118. Teeters? (4) _____ ___ ___ ___ ___

119. Climbing structure? _____ ___ ___ ___ ___

120. Horizontal bars, different heights? _____ ___ ___ ___ ___

121. Swings? (3) 10' (3) 8' _____ ___ ___ ___ ___

122. Horizontal ladders? _____ ___ ___ ___ ___

D. COURT GAMES AREA

Are there adequate natural surfaces, levelled and rolled for games such as

123. Volleyball? _____ ___ ___ ___ ___

124. Horseshoe pits? _____ ___ ___ ___ ___

125. Basketball? (backstops) _____ ___ ___ ___ ___

126. Tennis? _____ ___ ___ ___ ___

127. Other court games such as Kickball? _____ ___ ___ ___ ___

128. Tetherball? _____ ___ ___ ___ ___

129. Badminton? _____ ___ ___ ___ ___

E. FIELD GAMES AREA

130. Softball diamond? (backstop) _____ ___ ___ ___ ___

131. Touch football? _____ ___ ___ ___ ___

132. Soccer? _____ ___ ___ ___ ___

133. Field hockey? _____ ___ ___ ___ ___

F. OTHER FACILITIES

134. Outdoor tables for games? _____ ___ ___ ___ ___

135. Fireplace?_____ ___ ___ ___ ___

136. Adequate toilet rooms opening to outside?_____ ___ ___ ___ ___

137. Adequate outdoor fountains?_____ ___ ___ ___ ___

138. Provisions for archery?_____ ___ ___ ___ ___

Date Due

JUN 1	1955	MAY 1 1 RECD	
JUN 1 2	1955		
JUL 2 0	1955		
AUG 1 0	1955		
AUG 2 6	1955		
SEP 1 2	1955		
SEP 2 8	1955		
NOV 2 6	1958		
DEC 6	RECD		
DEC 8	RECD		
MAR 2 3	1960		
MAR 1 1	RECD		
DEC 1 1	1963		
DEC 2 1	RECD		
JAN 2 5	1964		
JAN 2 1	RECD		
MAY 2 3	1965		
	PRINTED	IN U. S. A.	