

A CRITICAL ANALYSIS OF THE SCHOOL OFFICE AND ITS
FACILITIES IN THE CONSOLIDATED
AND VILLAGE SCHOOLS
OF OKLAHOMA

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A CRITICAL ANALYSIS OF THE SCHOOL OFFICE AND ITS
FACILITIES IN THE CONSOLIDATED
AND VILLAGE SCHOOLS
OF OKLAHOMA

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PREFACE

That there is an urgent need for further study of the school office and its facilities is a fact that requires little justification. Anyone who is even casually familiar with our school plants will attest this condition readily. Mr. O. L. Boyington, a Pampa, Texas, contractor, who has built many consolidated school buildings in this state, recently remarked that too often the school office was "any little room stuck off anywhere that was 'left over'."

General facilities are frequently faulty, or altogether lacking. Usually, the office is equipped with neither safe nor vault for the proper safeguarding of the records. This necessitates the making of two sets of records or else demands many needless, time and energy consuming, trips to the vault of some generous banker who permits the records to be kept there gratuitously. The blame for such conditions as these must be shouldered by the educator and board of education who have failed to develop acceptable criteria for offices and office equipment.

It is the fervent hope of the author that this study may be of some small service in aiding anyone desiring to establish a more satisfactory office.

Norval Thomas Gray

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TABLE OF CONTENTS

CHAPTER		PAGE
I	THE PROBLEM.....	1
II	THE PROCEDURE AND ORGANIZATION.....	5
	A. Survey of Literature.....	5
	B. Analysis of Published Plans.....	6
	C. Field Survey of Offices.....	7
	D. Questionnaire Study.....	9
	E. Calculations Used.....	11
	F. Organization of the Study.....	11
III	THE FUNCTIONS OF THE OFFICE.....	14
	A. The Office Personnel and Its Activities...	14
	B. The Office Functions.....	23
	C. Conclusion.....	24
IV	THE OFFICE; ITS LOCATION, SIZE AND ARRANGE- MENT.....	25
	A. Location of the Office.....	27
	B. Design.....	29
	C. Summary of Location, Size and Arrangement Criteria.....	47
V	THE OFFICE; HEALTH AND FURNISHINGS.....	50
	A. Health Considerations.....	50
	B. Office Furniture and Fixtures.....	58
	C. Office Aids.....	63
	D. Communication Aids.....	65
	E. Records.....	66
	F. Summary of Criteria on Office Health and Fixtures.....	78

CHAPTER	PAGE
VI	OFFICES IN OKLAHOMA VILLAGE AND CONSOLIDATED SCHOOLS..... 85
	A. The Functions of the Office..... 86
	B. Location of the Office in the Building... 90
	C. The Design of the Office..... 92
	D. Health Features of the Office..... 101
	E. Office Furniture and Fixtures..... 106
	F. Aids and Communication Devices..... 107
	G. Office Records..... 111
VII	CONCLUSIONS..... 118
	APPENDIXES..... 123
	BIBLIOGRAPHY..... 136

LIST OF TABLES

TABLE		PAGE
I	GROUPING OF 150 SCHOOLS TO WHICH QUESTIONNAIRES WERE SENT.....	3
II	RELATION BETWEEN THE NUMBER OF SCHOOLS TO WHOM QUESTIONNAIRES WERE SENT AND THE NUMBER OF STATE ACCREDITED SCHOOLS IN EACH GROUP...	4
III	ROOMS INCLUDED IN THE OFFICE SUITE IN 88 NORTH CENTRAL SCHOOLS SURVEYED BY GREEN.....	30
IV	STANDARDS OF FOOT-CANDLE ILLUMINATION FOR OFFICES.....	56
V	HORIZONTAL MEASUREMENTS OF OFFICE FURNITURE AND FIXTURES IN TWENTY SCHOOLS VISITED.....	61
VI	COMPARISON OF THE NUMBER OF ACCREDITED SCHOOLS IN THE STATE TO THE NUMBER OF SCHOOLS REPORTED BY THE QUESTIONNAIRE.....	86
VII	COMPARISON OF THE NUMBER OF QUESTIONNAIRES SENT TO THE NUMBER RETURNED.....	86
VIII	PERCENTAGES OF SCHOOLS HAVING CERTAIN OFFICIALS BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED.....	87
IX	LOCATION OF THE OFFICE ON DIFFERENT FLOOR LEVELS COMPARED BY DATE OF ERECTION CLASSIFICATION IN 99 SCHOOLS STUDIED.....	91
X	A COMPARISON OF THE PERCENTAGE OF OFFICE SUITES CONTAINING CERTAIN ROOMS BY GROUPING ACCORDING TO THE NUMBER OF TEACHERS EMPLOYED.	93

TABLE	PAGE
XI PERCENTAGES OF SCHOOL OFFICE SUITES HAVING BUT ONE MAIN OFFICE BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED.....	94
XII A COMPARISON BY PERCENTAGE OF 97 OFFICE SUITES CONTAINING CERTAIN ROOMS BY DATE OF ERECTION PERIODS.....	95
XIII CUMULATIVE FREQUENCY OF THE FLOOR AREA OF 65 GENERAL OFFICES COMPARED BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED....	96
XIV COMPARISON OF MAXIMUM, MINIMUM, AND MEDIAN FLOOR AREAS OF VAULTS, WORKROOMS, AND CLERICAL SPACES IN 106 SCHOOLS STUDIED.....	99
XV FREQUENCY AND PERCENTAGE OF SEVERAL ARTICLES FOUND AS BUILT-IN FIXTURES IN THE OFFICES STUDIED OR ADJACENT THERETO.....	100
XVI PERCENTAGE COMPARISON OF HEALTH FEATURES: HEATING, WINDOW AREA, AND ARTIFICIAL LIGHTING IN 106 SCHOOL OFFICES STUDIED.....	103
XVII HOURS PER WEEK OF OFFICE NIGHT WORK REPORTED BY 101 SCHOOLS STUDIED.....	105
XVIII FOOT-CANDLES OF ARTIFICIAL ILLUMINATION AT POINT OF MOST FREQUENT USE IN 17 SCHOOL OFFICES VISITED.....	105
XIX COMPARISON OF PERCENTAGES OF SCHOOL OFFICES CONTAINING CERTAIN ARTICLES OF FURNISHINGS BY GROUPING ACCORDING TO NUMBER OF TEACHERS EM- PLOYED IN 106 SCHOOLS STUDIED.....	108

TABLE	PAGE
XX	PERCENTAGE COMPARISON OF THE NUMBER OF SCHOOL OFFICES CONTAINING CERTAIN OFFICE AIDS AND MEANS OF COMMUNICATION BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED IN 106 SCHOOLS STUDIED; ALSO COMPARISON TO REAVIS AND WOELLNER STUDY..... 109
XXI	PERCENTAGE COMPARISON OF CERTAIN OFFICE RECORDS KEPT IN 106 SCHOOL OFFICES STUDIED BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED..... 115

LIST OF FIGURES

FIGURE		PAGE
1	AN OFFICE SUITE FOR A SMALL HIGH SCHOOL	36
2	AN OFFICE PLAN FOR A SMALL SCHOOL WITH VAULT AND STORE ROOM PROVIDED	37
3	AN OFFICE PLAN FOR A SMALL HIGH SCHOOL WHERE VAULT AND STORE SPACE IS PROVIDED.	38
4	AN OFFICE PLAN WITH OFFICES FOR BOTH SUPERINTENDENT AND PRINCIPAL AND A FIRST AID ROOM. OFFICE ACCOMMODATIONS ARE INCLUDED FOR A COUNSELOR AND FIRST AID SUPERVISOR.....	40

CHAPTER I

THE PROBLEM

The subject of school offices and office facilities in our state is one of vital concern to efficient school administration. In the field of literature on the subject of school administration, considerable prominence is usually accorded the different aspects of this subject. Notable among writers dealing with office problems generally are Almack and Bursch (1), Johnson (21), Engelhardt and Engelhardt (15), Cox and Langfitt (8), Douglass (13), Reeder (26), and Reavis and Woellner (25). Outstanding among writers discussing the office primarily are Ford and Winn (30) and Green (31). These latter authors are interested in the offices of larger schools than those analyzed in this discussion.

The Purpose of This Investigation.--In this investigation an attempt was made to formulate and classify certain definite criteria embodying as high a degree of objectivity as was possible for the purpose of properly evaluating offices and office facilities in consolidated and village schools of Oklahoma.

In order to effect this desired end available authority was examined to determine the legitimate functions of the school office. From these functions criteria were established for the location and arrangement of rooms comprising the office, and of the office fixtures and equipment. These criteria were then applied to representative

school offices in Oklahoma consolidated and village schools for the purpose of determining their adequacy in view of the necessary functions of the office and in order that practical recommendations might be made regarding future construction, arrangement, and equipment.

Specifically, the problems which are the subject of this investigation may be explicitly stated as follows:

1. What are the functions of the office in the consolidated and village schools?
2. What size and type of room or rooms are necessary for the performance and execution of these functions?
3. What equipment is necessary for the performance and execution of these functions?
4. What are the criteria needed by boards of education, superintendents, and other administrative officers to aid in determining: (1) evaluation of plans presented for their consideration; (2) efficiency and adequacy of existing offices; and (3) further construction and equipment?
5. What are the conditions in Oklahoma village and consolidated school offices?

Delimitation.--Architects and engineers are more thoroughly prepared to deal with problems of structural stability and beauty of design than are educators. Furthermore, such safeguards as building laws, insurance rates and the like all operate to protect buildings against undue inefficiency in these essential considerations. These

problems are, therefore, omitted from consideration in this investigation.

The study is further limited to schools employing from five to twenty teachers in the system.

The Scope of the Investigation.--Personal visitation was made of twenty-one schools located in the central-northeastern part of the state. These schools are almost all located within a triangle formed between the cities of Tulsa, Oklahoma City, and Enid when using those cities as the apexes of the figure.¹ This territory was selected because of its accessibility and because it is representative of three great rural areas of Oklahoma, namely: (1) the cotton land on the south; (2) the wheat and ranch land on the north and west; and (3) the oil fields of the east.

In addition to this, questionnaires were sent to 150 schools of the state.² These schools were grouped as follows:

TABLE I
GROUPING OF 150 SCHOOLS TO WHICH
QUESTIONNAIRES WERE SENT

Group	Number of Teachers Employed	Number of Schools to Whom Questionnaires were Sent
I	5- 8	60
II	9-13	50
III	13-20	40
		Total 150

¹
Infra, See Appendix A

²
Infra, See Appendix B

The schools were selected by random sampling from the Oklahoma Educational Directory (36). The technique employed was to take a definite number of schools from a given number of pages. In most cases the first school listed on a page was the one selected. If more than one was to be selected, the first and last on the page belonging to the group studied was usually taken.

Table II shows the relation of the number of schools to whom questionnaires were sent to the number of schools in that particular grouping in the state. This furnishes an index to the sufficiency of the sampling in regard to representation.

TABLE II

RELATION BETWEEN THE NUMBER OF SCHOOLS TO WHOM
QUESTIONNAIRES WERE SENT AND THE NUMBER OF STATE
ACCREDITED SCHOOLS IN EACH GROUP

Group	Number of Questionnaires Sent to Schools	Number of State Accredited Schools
I	60	340
II	50	213
III	40	121
Total	150	674

CHAPTER II

THE PROCEDURE AND ORGANIZATION

The steps in the procedure may be separated into four activities. These different techniques were employed in the following order: (1) Survey of literature through library study; (2) Analysis of published plans of existing school offices; (3) Field survey of offices within a reasonable proximity; (4) Questionnaire study of representative schools of the state in the classes surveyed.

SURVEY OF LITERATURE

All available sources of information were sought out diligently and checked in an endeavor to obtain a consensus of expert opinion and a general summation of the known information pertaining to the problem. This study of literature was particularly necessary in order to collect data for setting up criteria for the school office and its facilities.

Sources of Information in the Library Study. These sources included a careful searching through library indexes, the educational index, the Readers Guide, and annotated bibliographies to locate materials desired in textbooks, school surveys, research studies, government bulletins, Master's theses, magazines, State bulletins, bulletins of the National Education Association, and catalogues of supplies and equipment for offices. This survey was confined chiefly to the library of the Agricultural and Mechanical College at Stillwater, Oklahoma, together

with a few personal references and a few borrowed from other sources.¹

ANALYSIS OF PUBLISHED PLANS

The American School Board Journal has for many years published plans of the better school buildings as they were built throughout the United States. These plans often contain measurements of the rooms and other valuable data.

An analysis of 50 of these plans was made from a

1

The following procedure was adopted in order to preserve and facilitate the handling of significant materials found while reading.

1. A provisional outline was made with the chapters briefed and numbered.

2. References were secured in the usual manner and carefully surveyed.

3. References of value to the study were assigned numbers consecutively with the citation in the form required for inclusion in the bibliography, and the annotation all being typed on a 3" x 5" card. These cards were later filed in alphabetical order for the purpose of making up the bibliography from them.

4. Significant information from a given reference was either briefed or directly typed. A code number consisting of four parts was then used to assign it to its proper place in the study. (Britton A. Nicol. "Complete Technique for Recording, Indexing, and Filing Material by Course," University of Southern California, November, 1934, p. 23) An example of this is IV/2 - 8/77. This means that the material on page 77 of the eighth reference read would be valuable in writing the second topic of Chapter IV. Thus the first number refers to the chapter of the thesis in which the information is to be used, the second number to the topic of the chapter, the third number is the number of the reference read, and the fourth number is the page on which the material was found.

5. These notes were later filed by chapter and topic when the thesis was to be written.

survey of 150 issues of that publication examined, which covered the time from December, 1923 to January, 1937.

Check lists for the tabulation of data on relative floor areas were made in an effort to determine, if possible, floor areas commensurable with office needs. Magazines were made available through a "stack permit" in the library and the data located. The analysis made included: (1) classification of schools by size and type; (2) classification by date of erection; and (3) a frequency of office rooms found.

Unfortunately, when this information was all compiled, there appeared to be no central tendencies in any of the frequency studies made. Therefore, no tables from this study are included since the information found did not tend to be determinate to any marked degree.

FIELD SURVEY OF OFFICES

During the month of January, 1937, a personal visit was made to twenty offices within a reasonable proximity of the writer. This survey was made generally with two ends in view: (1) To investigate first hand some seemingly vital, but minute details which were almost impossible to gather in any other manner; (2) To determine through this survey, if possible, a better idea of the nature and scope of the questionnaire which was to be sent out to 150 schools afterward.

Contents of the Check List for the Office.--The check list used for visitation purposes contained space for a

sketch of each room and location of articles of equipment, a check of measurements, a list of equipment and records, and much other information.² A detailed statement regarding the origin of each individual item included in the list would be too lengthy to include in this division of the study. However, most, if not all of the items, are discussed and the citations made in Chapters IV and V. The plan followed was to note all items which could be considered criteria of office design or equipment as they were encountered in the extensive survey of literature or as they occurred logically as determinants of feasible office functioning. Later the related items were grouped and formulated into the check list. Preparation for the field survey included gaining the approval of the check list by Dr. M. R. Chauncey, Major Adviser.

The Procedure with the Check List.--Access to each office was made possible through the kindness of the superintendent or principal of each school visited. Each item of the check list was filled in, if possible.

The analysis of the data thus secured involved:

1. Classification of the schools by size and date of erection.
2. A frequency check of the location of the office in the building.
3. A frequency check of the rooms included in the office suite.

²

Infra, See Appendix A

4. A frequency check of the office alterations since erection.

5. A frequency check of records found.

6. A frequency check of items of equipment, and a horizontal area measurement of items included in the office furnishings.

7. A frequency check on the illumination adequacy, heating, ventilation, and other health features of the rooms included in the office.

QUESTIONNAIRE STUDY

It was realized that school officials are usually a very busy group. Therefore, it was not deemed advisable to devise and send out a lengthy or involved questionnaire covering every possible item of functional information. Still, it was felt that to be of the most usefulness the questionnaire should cover many items. Accordingly, it was so devised that it could be answered by "yes" and "no", and by underlining items that applied in other instances.³ Obtaining the approval of Dr. W. R. Chauncey, Major Adviser of the study, on the questionnaire, it was accordingly mimeographed and sent, with personal letter to each of 150 schools. The selection of schools was made from the Oklahoma Educational Directory (36) by random sampling as explained in Chapter I. There were 106 responses, 70.67 per cent return.

3

Infra, See Appendix B.

Contents of the questionnaire.--While, in the main, the questionnaire sent out treated the same topics found in the check list used, there are certain practical differences.

1. The questionnaire stresses more the functional uses of the office.

2. The check list goes into far more detail in such type of heating, walls, lighting adequacy, and other health principles.

3. The check list also called for measurements of items of equipment in an effort to establish the size of room or rooms necessary to accommodate certain furnishings in the office.

4. The check list contained sketches showing the location of the chief items of equipment in the offices studied.

It may be said of the origin of the questionnaire that it was the result of the study of literature bearing on offices and their facilities, and an outgrowth of the use of the check list.

Treatment of Data Secured from the Questionnaire.--

The data obtained from the questionnaires returned was analyzed in the following manner:

1. Classification of the schools by size and date of erection of the building in which the office is located.

2. Frequency checks on the functional uses of the office.

3. Frequency check on the location of the office in the building.

4. Frequency checks on the number and type of rooms included in the office.

5. Frequency checks on the accessibility of the rooms to each other.

6. Frequency tables of built-in fixtures, furniture, office aids and communication, and records.

7. Frequency checks on health features found in the offices.

These tables will be found in the subsequent chapters of this study.

CALCULATIONS USED

It was found that in most of the tables, the primary or original data did not justify the use of more refined measures than the range, median, and per cent. In a few instances, however, the mean was calculated using the

formula: $M = \frac{\sum X}{N} = A + \frac{(\sum fd)}{N}h$ Holzinger (20:82)

ORGANIZATION OF THE STUDY

This study is divided into six main parts as follows:

1. Chapter I, The Problem, states the purpose of the investigation.

2. Chapter II, The Procedure and Organization, shows how the study developed and was organized.

3. Chapter III, The Functions of the Office, analyzes the activities of each member of the office force and from that analysis sets up the functions of the office.

4. Chapter IV, The Office, Its Location, Size, and Arrangement, sets up the criteria of the office in regard to location in the building, size and number of rooms and general arrangement of rooms.

5. Chapter V, The Office; Its Health and Furnishings, determines standards for healthful offices and their furnishings.

6. Chapter VI, Offices in Oklahoma Village and Consolidated Schools, shows by numerous tables and discussion the actual conditions of these schools as determined by a questionnaire study.

7. Chapter VII, Conclusions, contains the recommendations and conclusions that were drawn from the study.

CHAPTER III

THE FUNCTIONS OF THE SCHOOL OFFICE

In order to approach with any degree of accuracy the problems involved in the selection of correct size, type, facilities, and equipment for the room or rooms comprising the office, it is necessary first to define the term office and then to determine the legitimate functions of the office. To achieve this latter end, it is necessary to list those who should use the office; the activities of those officials in the office; and finally, through the problem or job analysis method, to determine the space, facilities, and equipment needed for the successful performance of these activities. This chapter will attempt to point out the office personnel and its activities; then analyze these activities and regroup them as office functions. The next chapter will be devoted to the determination of the space, facilities, and equipment necessary for the performance of the functions found.

Webster's New International Dictionary defines the word office as "any of various buildings or sets of rooms in which the business of some branch of governmental administration is conducted or from which it is directed." In this discussion the school office will be considered as the room or set of rooms in which the business of school administration is conducted and directed, for it is seldom, if ever, that schools of the type treated in this analysis have offices in buildings set apart.

THE OFFICE PERSONNEL AND ITS ACTIVITIES

The administrative force comprising the office personnel will be represented under the following divisions: (1) Board of Education; (2) Superintendent; (3) Principal; (4) Secretary or Clerk; (5) Counsellor; (6) First Aid Supervisor.

The Activities of the Board of Education.--That the board of education should meet for its major activities in the school office is a fact well established by custom as a precedent in Oklahoma consolidated schools. Then, too, since the office is the seat of school government, since it contains the many vital school records regarding the school kept by the superintendent and principal, which are here available to the board, and since the office is or should be fitted for the task of making and preserving records, it is certainly the logical meeting place of the board of education. That this is true will be further evident as the work of the board is examined.

Olsen (24:155), in a study of boards of education and their work, makes the following distinction between the duties of boards of education and school superintendents.

The work of the school district has been analyzed and assigned so as to leave full control of the school system to the board of education. The technical and administrative functions have been delegated to the professional executive (superintendent).

While this statement may in actual practice be sometimes difficult of application, it is probably one of the

clearest definitions of duties between the board and the superintendent to be found in present-day writing on this subject.

According to Olsen (24:8), the primary duties of the board of education are: (1) selection of a superintendent; (2) adoption of general policies for the administration of the school; and (3) seeing that these policies are carried out. A survey of the School Laws of Oklahoma, 1935 (40), reveals several general and specific duties legally devolving upon the board of education. Article VI, Section 124, outlines these general obligations: Boards shall (1) elect own officers excepting the treasurer. (N. B. This applies to independent schools only). (2) fill vacancies in board; (3) make rules and regulations; (4) organize and maintain a system of schools; and (5) exercise sole control over the schools and school property.

Eleven specific activities of the board of education found in the reference just cited are:

1. Members take oath of office. (Sec. 38)
2. Members sign orders of clerk. (Sec. 40)
3. Provision for school supplies. (Sec. 41)
4. Clerk keeps certain records. (Sec. 41)
5. Making of annual report. (Sec. 44)
6. Making of election report. (Sec. 47)
7. Board contracts teachers. (Sec. 53)

8. Responsibility for school buildings. (Sec. 65)
9. Board provides transportation. (Sec. 164)
10. Responsibility for school census. (Sec. 236)
11. Board approves claims and writes warrants.
(Sec. 371)

While these duties in turn could be further subdivided into various smaller tasks, for instance, Olsen (24), in his book, The Work of the Board of Education, lists 142 such details, this minute division was not considered feasible in the present discussion.

The Activities of the Superintendent.--A clear-cut distinction between the school superintendent and principal is difficult. While it is true that the General Statutes of Oklahoma, 1908, does authorize the employment of an individual to administer and supervise the work of the school by the board of education, the offices of superintendent and principal, per se, are without legal recognition, to say nothing of clear definition of each office or distinction between the work of each in Oklahoma. Few authors have ventured a clear-cut allocation of duties in the case. Allocation of functions, duties, and the work of the superintendent and principal also varies with the size of the administrative staff. Again, it is common to shift these duties and responsibilities, depending upon the amount of curricular and extra-curricular work performed by each official. For instance, in most consolidated and village schools, if one of these officials happens to be

a good coach, ordinarily office responsibility is shifted to maintain a proper balance and not overwork the one engaged in coaching.

Doubllass (13:365) states that in schools with fewer than 75 to 100 pupils the principalship and superintendency are almost always combined in one individual. It is commonly assumed that the work of the superintendent is largely administrative and that of the principal, predominately supervisory. That is the position held by Ford and Winn (30:9). Another distinction usually met is that the superintendent is the executive head of two or more schools or divisions of schools, while the principal is usually the supervisor of one school only. Therefore, these premises will be used in the attempt to separate the activities of the superintendent and principal. However, it is conceded freely that in individual schools the division given might not be advantageous nor to the best interests of the school. The question obtaining here is not especially who should conduct certain functions but rather what are the duties and functions necessary of performance.

Certain definite activities are set forth in the Annual High School Bulletin, 1936 (38), which are required of Oklahoma administrators, that their respective schools may be accredited by the State Department of Education.

1. The proper assignment of teachers according to college preparation to meet the State's specified requirements (38:13).

2. A file of certificates and transcripts of all teachers must be kept ready for inspection (38:5).
3. Within certain prescribed limits, requirements for credit and graduation must be determined by the superintendent (37:10).
4. The administrator must also arrange the program of studies offered (37:15) and set the time for each in the daily schedule (37:10).
5. Complete financial reports and records shall be kept by the administration to insure business-like accounting for all school funds (37:18).
6. Holding conferences with other officials, patrons, and other persons is also an important activity of the superintendent, Almack and Bursch (1:61).
7. Communication by telephone and by letter concerning administrative affairs is another activity, Almack and Bursch (1:61).
8. Rules and regulations of the school should be enforced by the administration, Draper and Roberts (14:334).
9. The work of requisitioning, purchasing, and checking in supplies is a duty of the superintendent, Draper and Roberts (14:334).
10. Various statistical studies should also be made by the superintendent in order to detect trends and solve administrative problems in his school, Draper and Roberts (14:334).

11. The administration should also make frequent check upon the functioning of the school activities, Foster (17:438).

12. Making announcements and setting requirements for the various achievements in school is designated by Cox and Langfitt (8:75) as an important activity of the superintendent.

13. Conducting faculty meetings is a responsibility of the superintendent, Draper and Roberts (14:334).

The Activities of the Principal.--Again in the High School Bulletin, 1936 (37), are found certain activities necessary of accomplishment in order for an Oklahoma school to be accredited for its high school work. The following duties may well be assigned to the principal.

1. Supervision of the school janitor and the formulation of rules for his guidance (37:7).

2. Inventories of all apparatus and equipment must be kept (37:12).

3. The principal must keep or be responsible for the keeping of records of attendance and scholarship in prescribed form (38:8).

4. Transcripts of the work of students who have moved to other districts should be furnished when requested of the former school officials (37:9).

5. Another supervisory duty is that of admitting students entering the high school to advanced standing (37:9).

6. The care of pupils doing unsatisfactory work is a function which belongs to the principal, Draper and Roberts (14:334).

7. Rules concerning examinations, grading, and promotion should be made, Draper and Roberts (14:334).

8. Information for reports and records must be accumulated in order to obtain the necessary data. This is a very essential duty, Foster (17:437).

9. Visitors and teachers will of necessity be contacted by the principal in his office on various school problems, Cox and Langfitt (8:75).

The Activities of the Secretary or Clerk.--Ford and Winn (30:10), basing the conclusion on a recently completed survey made by Winn for a doctor's dissertation, state that registrars and counsellors are found in schools of the United States as the enrollment in the individual school reached approximately 1000 on the average. However, these authors further add that there is an indicated need for "clerical service in all schools with provisions for a full time clerk ---- for schools of 150 enrollment or more." An additional clerk was added as the school reached about the 700 enrollment mark on the average. There can be no questioning the fact that, if clerks were provided in our consolidated and village schools, much of the time now spent by superintendents and principals, drawing relatively high salaries, in checking records and making routine reports could be utilized far more advantageously

in other directions. The time-consuming details could easily be cared for by less expensive help. Draper and Roberts (14:334-6) list these two activities as functional duties of the secretary or clerk.

1. Checking absences and tardinesses daily.
2. Keeping the records of attendance, grades, and general pupil accounting.

Ford and Winn (30:9) have three additional duties for the secretary or clerk.

3. Direction of office traffic.
4. Supervision of the vault.
5. Supervision of the "lost and found" department.
6. Typing of written communications is a time-honored secretarial activity.
7. Mimeographing of forms, tests, and other materials is also a clerical duty.

The Activities of the Counsellor.--If we are to take seriously the theory that all children should have equal educational opportunity then we must provide equal facilities for all pupils. If there is need for guidance in the city school, there is correspondingly just as much need for it in the smaller consolidated and village school. Jones (22:30) makes this impressive statement regarding the need of guidance by a school counsellor.

Intelligent choice (of occupation) can result only where the young person has adequate facts and experiences, and receives careful counseling at all stages of his progress. These the school must provide. Delicate adjustments are necessary in the life of the youth of today that were not necessary half a century ago.

While in the smaller schools it would be impossible to have a full-time counsellor in all probability, this important duty should not be neglected. It should be assumed by the superintendent, principal, or better still, by a qualified teacher who is not so encumbered with other activity as the average superintendent and principal.

A long enumeration of functions of the office found in Draper and Roberts (14:334-6) contains these obligations which might well be vested in the counsellor.

1. Recording of intelligence examinations.
2. Making statistical studies.
3. Planning the use of intelligence examinations with educational and vocational programs.
4. Determination of the place of social activities and groups.
5. Solution of problems in supervision and guidance of extra-class activities.

Ford and Winn (30:9) have listed this other very valuable function.

6. Adjusting failure and problem cases.

The Activities of the First Aid Supervisor.--In the consolidated and village school it is usually impossible for financial reasons to employ a first aid supervisor. This work could readily be made the additional duty of some member of the regular faculty. No argument is needful to prove to anyone at all familiar with school practice the necessity of having a well equipped first aid room or space in charge of a competent person.

This supervisor should:

1. Care for all minor injuries.
2. Keep health records of each child in school.
3. Make statistical use of such records.

THE OFFICE FUNCTIONS

By the process of analyzing the foregoing activities it becomes apparent that certain activities are common to all staff members utilizing the school office and that certain other activities are peculiar to particular officials.

Office Functions Common to Office Personnel.--These activities in which all members of the office force engage as necessary office functions are:

1. Clerical work such as the making of reports, records, the writing of letters, and the preservation of reports and records.
2. Conferences and interviews with students, patrons, teachers, and others in the office.
3. Telephone conversations with students, patrons, teachers, and others.

Additional Office Functions of the Superintendent and Principal.--

1. Conducting teachers meetings to insure professional growth and a unified program.
2. Enrollment of new students in the school.
3. Reading of literature on school problems, studies, numerous reports and bulletins, and the planning of all phases of school procedure and organization.

Additional Office Functions of the Clerk:

1. Checking attendance and scholastic records.
2. Direction of office traffic in the outer office.
3. Supervision of the vault or safe, and the "lost and found department."
4. Typing and mimeographing communications.

Additional Functions of the Counsellor.

1. Compilation of data for use in pupil guidance.
2. Adjustment of failure and problem cases.
3. Administration of tests of pupil abilities to be used for guidance purposes.

Additional Functions of the First Aid Supervisor.

1. Administration of general health examinations.
2. Treatment of minor injuries and health problems.

CONCLUSION

Since it has been established by the criteria of authority and of actual needs in the school that these office functions are vital to the most successful school administration, there remains no doubt that the school office should be so constructed and equipped that these functions just discussed are possible of accomplishment. The ideal office layout therefore, should receive careful attention in such matters as accessibility to other parts of the building and to the outside; correct design for clerical work; conference, reading, health, comfort, communication; and the preservation of records.

CHAPTER IV

THE OFFICE; ITS LOCATION, SIZE, AND ARRANGEMENT

It might well be stated that the school office and its personnel form the hub about which all school activity revolves. Since the office should be the seat of all school organization, it seems difficult, indeed, to visualize the best organization and management issuing from a meagerly equipped and poorly constructed office. If school executives are to be freed from the shackles of unnecessary office routine and ineffective management, school offices must be designed so as to meet the demands of maximum efficiency.

This is all the more true since the past decade has witnessed a remarkable growth of the administrative phases of secondary education. In this connection it is necessary only to note the administrative responsibility involved in a few of the new fields of endeavor recently espoused by the American school such as a broader extra-curricular program, vocational guidance, vocational subjects, and an attempt to make proper adjustment between each child and the school through a thorough testing program.

The paramount reason, then, for this and the following chapter is to determine adequate criteria for a satisfactory school office in the consolidated and village schools of Oklahoma. The data have been collected from many sources

as even a cursory inspection of the ensuing pages will demonstrate. The standards set up are the result of intensive study of office problems and an extensive study of authority on school offices, together with a compounding of the resulting data accumulated.

It was recognized that all measurement, all criteria must lie somewhere between the two extremes of perfect objectivity and pure subjectivity. Further, that criteria dealing with abstract quality, adequacy, ability, approach nearly extreme subjectivity. Therefore, in order that validity might obtain, attempt was made to establish criteria embodying as high a degree of objectivity as possible.

The Divisions of the Office Criteria.--For the purpose of classifying comprehensively the many aspects involved in correct and expedient location, design, and equipment of the office suite it was found desirable to discuss it from these viewpoints: (1) where the office should be located; (2) how the rooms should be designed to be sufficient in accommodations; (3) what health considerations should be observed; (4) what furniture it should contain; (5) needful communication aids; (6) what records should be kept; (7) the professional school office library.

The first three topics of this group will be discussed in this present chapter. The last four topics will be treated in the next chapter.

THE LOCATION OF THE OFFICE

In a somewhat similar study reported in the American School Board Journal, Green (51:70) suggests these governing regulations for the location of the office.

1. It should be located so that its traffic will not interfere with other educational activities.

2. It should be coordinated into one suite.

3. Establishment of the office on the first floor is preferable to location on other floors in most cases.

Johnson (21:12), in discussing offices, makes these further recommendations regarding location.

4. The office should be situated near the main entrance and in a central position in the building.

5. The office should be so located that other rooms and other activities are easily accessible from the office.

Another point relative to proper location of the office, not found in discussions on the subject but gained through the experience of the author, is this one.

6. The office should be placed where other activities will not interfere with the office work.

The first consideration in regard to location is expressly opposed to the practice of having the office situated clear across a classroom, for example, from the corridor or entrance necessitating more or less interruption to class or other activity every time someone seeks admittance to the office. Again, the condition arising from having the office suite divided and separated one part

from the other by any considerable space is very unhandy to say the least. This occasions much of wasted motion in carrying records, apparatus, and equipment, back and forth. It is usually desirable to locate the office on the first floor, since here it is more available to the outside, to the public traffic that comes to every office, without the noise and inconvenience attending the climbing of stairs. Ayres, Williams and Wood (3:46) suggest the first or second floor for the office. In many instances in our consolidated and village schools, in fact in most cases, both the superintendent and principal do part time teaching in the high school. Where this condition prevails in a combination grade and high school building of the two-story type, it might then be advisable to locate the office on the second story. This would be practical since the second floor in such instances is generally given over to high school use. Thus, if the office were to be located otherwise, the situation would subject the superintendent and principal to a great deal of unnecessary travel up and down stairs each day between the office and class room.

It is readily apparent that for convenience the office should be as centrally located as possible. That is, it should be accessible from the main corridor and as close to the main outside entrance as possible. At the same time, the office should not be shut off from the school activities, since the office forms the connecting link between the

school within and the public without. There are, however, certain noisy activities near which the office should not be located unless due precaution is made to deaden the walls between. For instance, the gymnasium, or the band room are not usually desirable adjuncts to an office.

DESIGN

The several considerations to be discussed as criteria of design have been treated under the following captions: (1) number of rooms and size; (2) arrangement of rooms; (3) built-in fixtures.

Number of Rooms and Size.--Introductory to the discussion of the school office by Cox and Langfitt (8:77) is found this statement regarding an adequate number of rooms in the office suite.

In all schools the office layout should provide at least three divisions: (1) an outer office or public space which may also serve as a waiting room; (2) a room or space for clerical work which may be separated from the outer office by a counter; and (3) a private office for the principal even though it be small.

It will be noted that this arrangement really necessitates but two rooms, one for a combination waiting room, clerical space, and general outer office; the other a private office for the principal. This position is also held by Johnson (21:214) who writes of having two rooms, an "inner and an outer room," the former for a reception room, the latter for an "office proper" (private office). This position is further sustained by Almack and Eursch (1:61) who list as needed rooms, a waiting room, a conference room,

and a storage room. The addition of a storeroom as an adjunct to the office is certainly advisable in view of the fact that so many school supplies are of necessity handled through the office and must frequently find storage there. That this is the position of Douglass (13:367) is to be inferred from his diagram of a principal's office. This diagram shows the general office, the clerical space, and a private office for the principal.

Green (31:70), in a study of eighty-eight North Central high schools having 500 pupils or less scattered over a large area of the United States, found the rooms included in the office suite as shown in Table III.

TABLE III
ROOMS INCLUDED IN THE OFFICE SUITE IN 88
NORTH CENTRAL SCHOOLS SURVEYED BY GREEN

Type of Room	Number of Rooms Found	Per Cent of Schools Having Such Rooms
General Office	79	89.7
Office Supply Room	58	63.8
Private Office	50	56.8
Vault	48	52.8
Public Waiting Room	43	48.3
Office Cloak Room	22	24.2
Office Toilet	14	15.5
Work Room	4	4.4
Dean's Office for Girls	3	3.3
Dean's Office for Boys	2	2.2
Assistant Principal's Office	2	2.2

In this study it will be noted that the three rooms under discussion were to be found in nearly 50 per cent of the schools surveyed. A general office was found in 89.7 per cent of them, a supply room was common to 63.8 per cent of them, and 56.8 per cent of them had private offices. The

public waiting room as a separate room was found in 48.6 per cent of the schools. However, it is quite likely that the waiting room functions were common to the general offices where there were no separate waiting rooms.

In addition to the three rooms under consideration there is certainly great need for a school vault. The Annual High School Bulletin (58: Art. X, Item 6) states:

The records shall be kept in a fireproof safe (or vault) in the office of the superintendent or principal or a duplicate copy of the records shall be preserved in a suitable place outside the school building.

Little reasoning is required to decide that if the time of the superintendent or principal is worth much to the school it certainly is too valuable to be spent carrying school records back and forth to some "suitable place outside the school building" in order that constant revision and necessary additions may be made to keep the set a perfect duplicate. A vault is far superior to a safe in that it contains so much more room for records and other materials which are valuable and vital to the school. Thus the conclusion reached by Ford and Winn (30:10) seems justified. "Vaults are indispensable to the safeguarding of school records and should be an integral part of every office suite."

Another room soon to be needed by every school of any size is a radio control room. Poore (33:47) found the Chicago schools besides about 800 other schools in a dozen states nearby, utilizing the American School of the Air

programs. There is a radio control system with public address facilities now in operation in the Orlando Consolidated Schools (Logan County). Blom (4:16) advises that this equipment should be centralized in the office since it is then less costly than individual room equipment and obviously there it can be put under closer supervision. While space in some of the other rooms may serve fairly well, better supervision will result and better care generally can be given this equipment in a room specially set aside for this purpose.

In Chapter III, The Functions of the School Office, it was found that those commonly comprising the office force were: (1) Board of Education; (2) Superintendent; (3) Principal; (4) Secretary or Clerk; (5) Counsellor; (6) First Aid Supervisor. Thus far nothing has been determined with respect to the room needed for the functioning of the board of education, the counsellor, or the first aid supervisor. While, perhaps for financial reasons, a separate room for the board of education might not be practical in the size of schools under discussion, it is still true as was pointed out before that the office is the logical meeting place of the board. This meeting can well be cared for in the office. Equipment for this function will be treated in a later discussion. The superintendent and principal should each have private offices according to Douglass (13:365), as stated in Chapter III, when the enrollment reaches the 75 to 100 mark. Ford and Winn (30:10)

also found need for separate offices for the superintendent and the principal above the 100 pupil enrollment figure.

If separate offices are not possible for the persons acting as counsellor and first aid supervisor, certainly they should be given desk and file space somewhere in the office. Even in a small school there is definite need for a first aid room where a sick or injured pupil may be put to bed and given care away from the noise and prying eyes of his or her classmates. Ayres, Williams, and Wood (3:45) state, "every school should have a dispensary." This room is undoubtedly best located where it can be closely supervised as a part of the office.

Thus, through summarization and analysis of the foregoing discussion, there exists a great need for these rooms in the office suite.

1. A general office, including a waiting room and a clerical or secretarial space.
2. Private offices for the superintendent and principal.
3. A storage room or closet for supplies.
4. A first aid room.
5. A vault.
6. A radio control room containing a public address system.
7. Accommodations for a first aid supervisor and a counsellor.

The question of the size of rooms needed is not one to be easily nor readily ascertained. A committee on schoolhouse planning from the National Education Association headed by Cooper (7:1) recommends that the total administrative suite should not occupy more than 16 per cent of the floor area of the building. This committee also stated (7:64) that there were but "slight differences between the area needs in the different types of schools." However, even this information is not of deep significance since heating and ventilation rooms; wardrobes; all storage rooms; and toilets, as well as offices were included in the administrative suite areas. Definite standards by these or other authors for the different rooms of the office suite seem to be entirely lacking. In a survey of eighty schools in twenty-four states of varying sizes the office and rest room facilities varied from one-half of one per cent to six per cent of the total floor area (7:68).

An effort was also made to determine sizes of office floor areas through a check of published plans of school buildings as found in 150 issues of the American School Board Journal. However, as explained in Chapter II, the techniques employed resulted in findings of no particular value other than to show that there were no central tendencies evidenced in regard to the sizes of any office rooms grouped by size frequency order.

Certain sources of information studied were valuable, however, in a solution of the problem of room sizes.

Engelhardt and Engelhardt (16:574) set the following standards for the Oakland (California) Public Schools.

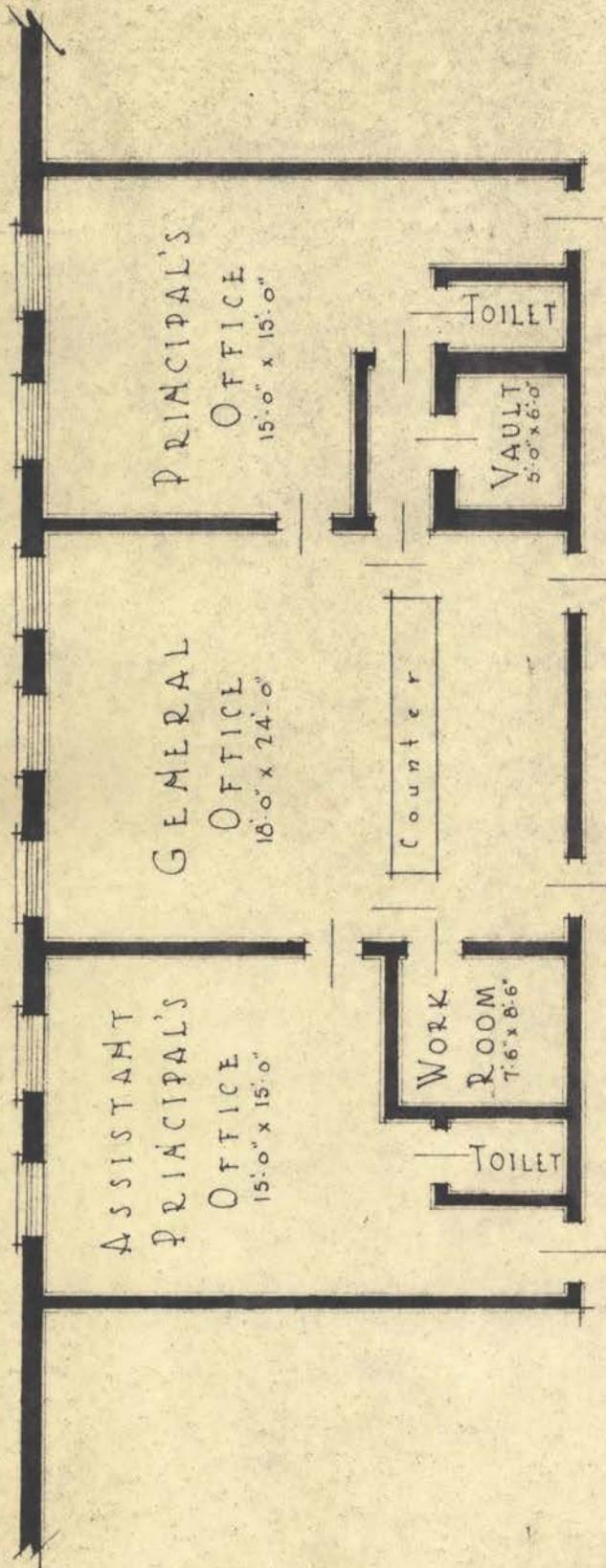
Private Office-----	10' x 16'
Secretary's Office-----	13'6" x 16'
Public Space-----	6' x 18' 6"
Supply and Book Room-----	10'6" x 22'

While these standards are for elementary schools, they are still useful in a study of consolidated and village schools, since they, too, are designed for elementary as well as high school work. Furthermore, there is no reason for assuming that the activities in an elementary school office and those in a high school office would differ greatly; certainly not enough to influence size materially.

Green (31:70), making a study of the office suite for high schools, includes a sketch for an office in a small high school which is reproduced as Figure 1.

It will be noted that the measurements of his proposed rooms are as follows:

Assistant principal's office (or principal) -	15' x 15'
Principal's office (or superintendent)-----	15' x 15'
General office, including clerical space and a waiting room -----	18' x 24'
Work room adjoining clerical space -----	7'6" x 8'6"
Vault adjoining the principal's office and the clerical space-----	5' x 6'



C O R R I D O R

FIGURE 1

An office suite for a small High School

— from Green (1970)

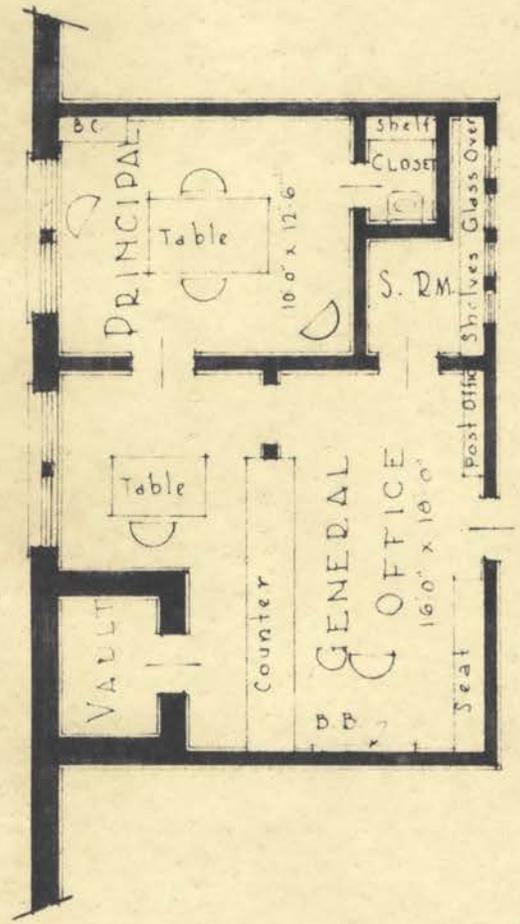


FIGURE 2

An office plan for a small school with vault and Store Room provided - from Douglas (2,367)

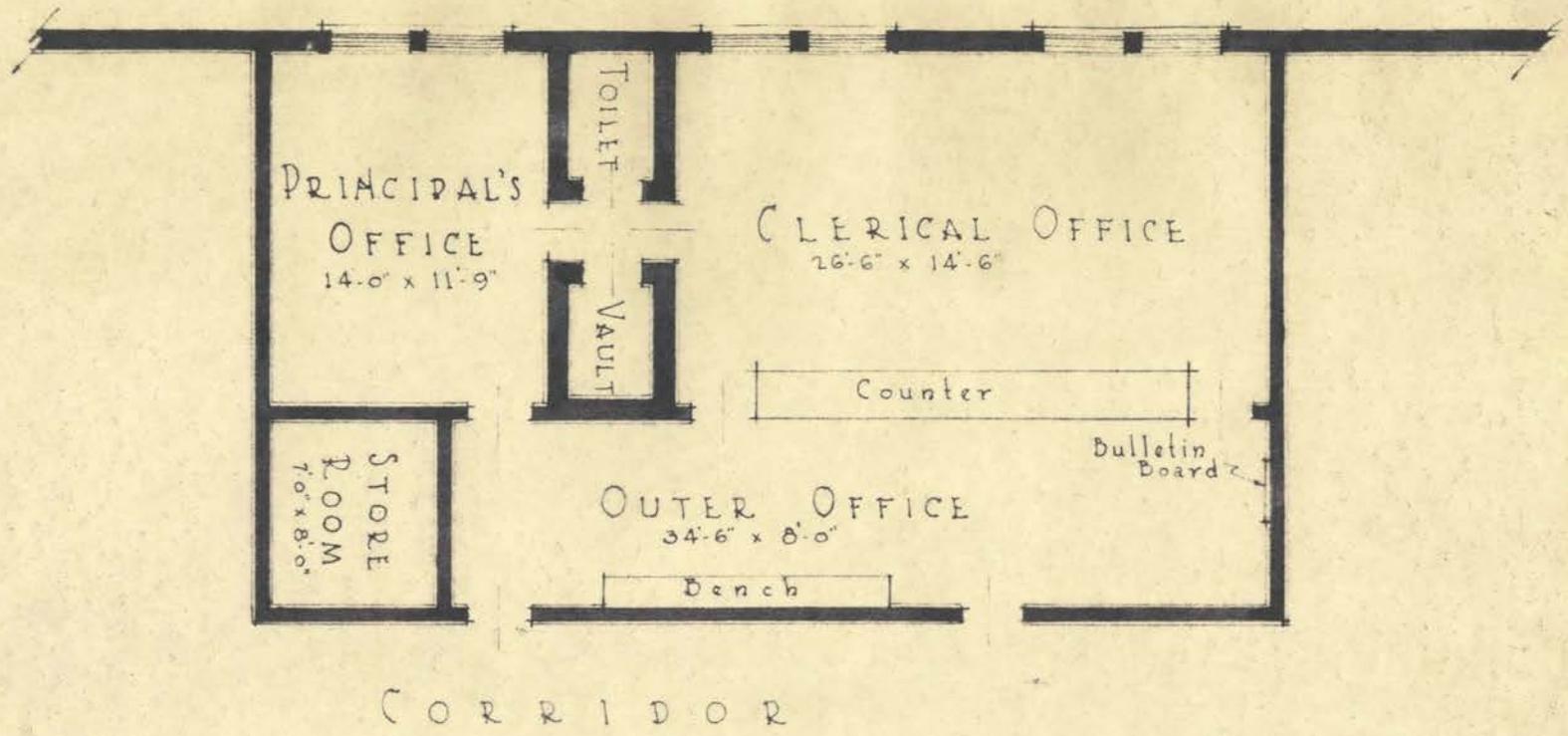


FIGURE 3

An office plan for a small High School where Vault and store space is provided
 — Adaptation from Cox and Langfitt (1980)

Green's article does not state exactly how he determined the sizes of these rooms. The study generally as stated before, is based upon a survey of 185 North Central Schools. From a diagram in a textbook by Douglass (13:367) the following sizes of rooms comprising parts of the office suite are found. (See Figure 2.)

General office (clerical space and waiting room divided by a counter)----- 16' x 18'

Principal's (private) office----- 10' x 12'6"

While measurements of the vault and storeroom were lacking, these were obtained by the use of a scale ruler.

Vault----- 4' x 5'

Storeroom (minus a small closet).... 5' x 10'

Cox and Langfitt (8:80) reproduce a somewhat similar sketch showing larger areas and including a toilet. This is shown with windows added to the original drawing as in Figure 3. This diagram provides these measurements.

Principal's (private) office----- 14' x 11'9"

Clerical office -----26'6" x 14'6"

Outer office (public space)----- 8' x 34'6"

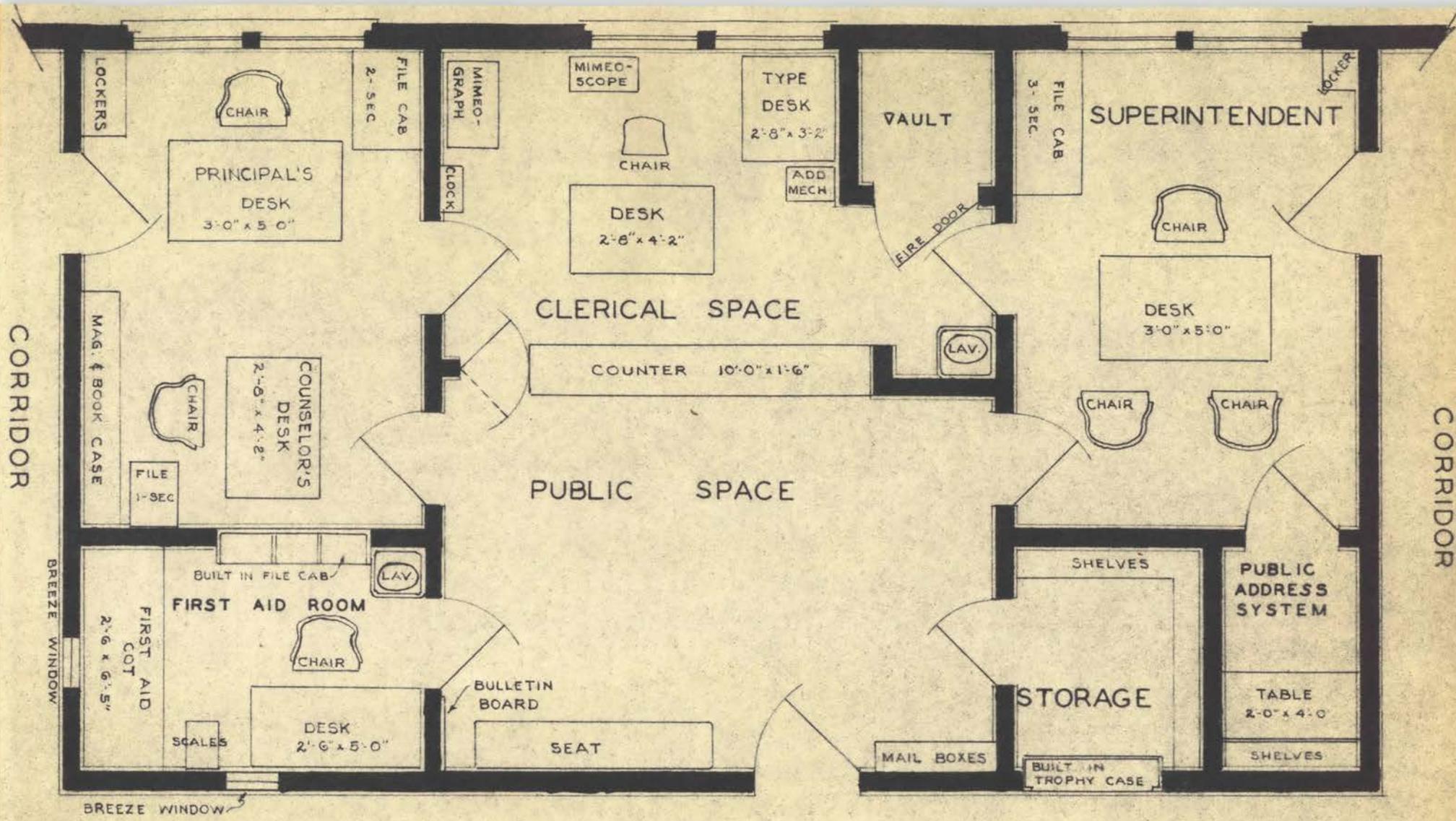
Storeroom ----- 7' x 8'

Vault (approximately) ----- 3' x 4'

Toilet (approximately) ----- 3' x 5'

However, the best guiding principles in determining the size room for any division of the office is consideration of the functions of the room, and the size and quantity of equipment necessary to perform these functions.

Figure 4 shows an office plan which is the result of careful



CORRIDOR

Scale $\frac{1}{4}" = 1'-0"$

FIGURE 4

An office plan with offices for both Superintendent and Principal and a first aid room. Office accommodations are included for a Counselor and First Aid Supervisor.

consideration of the functions of each room and the equipment space needful as determined by actual measurements of such equipment, including the calculation of space necessary to operate it.

This diagram was made to form a compact arrangement of the necessary office rooms embodying the suite. It takes up a space which is the approximate size of the school room unit commonly used, which comprizes a regular classroom with a cloakroom situated at the end of the classroom. It should be considered the absolute minimum as far as space requirements are concerned.

It will be noted that this plan provides the three main divisions recommended, viz. waiting room, clerical room, and private offices. In addition to these rooms, a storage room, a first aid room, a vault, a radio control closet, and space for a counsellor are included. The plan also meets well the criteria of arrangement. One room (the first aid room) would necessarily have to be artificially lighted. This is not ideal but owing to the location of the room, natural lighting is impossible.

The plan bears the approval of Mr. Frank Williams, Director of the Division of Schoolhouse Planning, State Department of Public Instruction (Oklahoma).

In this diagram (Figure 4) the superintendent's office is shown to be 14 feet long and 10 feet wide. This room is large enough to accommodate a few visitors or a board meeting without undue crowding. It is ample to care for the

clerical work, reading, and other like functions.

The public space is designed to meet the needs of a waiting room and an assembling place for teachers' meetings. This room, which is 16 feet long and 11 feet wide, would be commodious enough for all ordinary groups.

While separate rooms for the principal and counsellor would be preferable from an idealistic point of view, the additional expense incurred by making these offices separate would be considerable. Thus, for practical reasons, it would seem advisable to house them in the same room. Especially is this true since the counsellor in the types of school under discussion could be no more than a part time official in that capacity. By a careful planning of schedules there should be no conflicts of importance resulting from such a combination. This room is planned to be the same size as that of the superintendent's office. Since it will not be used for board meetings, this size should be ample.

The clerical space is designed to be 9 feet long and 16 feet wide with a vault included which takes up a space 5 feet square (outside measurement). These dimensions provide room for such functions as clerical work, supervision of the vault, and direction of office traffic.

The vault shown is four feet square, inside measurement. All advisable records could be kept in a vault of this size. The radio control closet for the public address system is detailed as six feet, six inches long by four

feet wide. A later discussion of public address apparatus will prove this size to be adequate.¹ While almost any size of storage room is possible to defend, the one planned as six feet, six inches long and five feet, six inches wide affords 77 cubic feet of shelving space, if the shelves are a foot wide and extend seven feet above the floor. This is in addition to the central area of the room which is all open.

Ayres, Williams, and Wood (3:46) list as an office need "a small dressing room, equipped with toilet facilities." While this room is perhaps advisable in the large school, it can scarcely be recommended in the consolidated and village type of school under discussion. In all types of schools there is usually need for careful supervision of the toilets. This can be best assured in the smaller schools if the student rest rooms are also utilized by the entire faculty as well. In addition to this, the extra expense of providing separate rest rooms facilities for the few persons on the office force would be difficult to defend in the interests of economy.

The final space to be considered is designed for health work. The room shown in the sketch is planned to be a combination office and first aid room. The proportions of this room should be greater were it to be for other than emergency use as a health room and the director a full time official in a larger school.

¹

See page 66.

For the smallest consolidated and village school having but one head official (superintendent or principal) the plans of Figure 2 and Figure 3 are worthy of consideration. It will be noted that neither of these drawings contain space for a counsellor or first aid supervisor as separate and distinct officials. However, it is probable that in such a small school the one superintendent or principal would be obliged to serve in those capacities himself, and thus the one office would suffice.

It is suggested that the outer office in Figure 3 might conveniently be divided so that the end farthest from the storeroom could be made into a sizeable first aid room. It is certain that there can be no particular justification for an outer office or waiting room in a school of this size which is 34 feet and six inches long:

Arrangement of Rooms.--An analysis of arrangement of the rooms included in the office involves the use of such criteria as: accessibility; privacy where needed; health; and convenience.

Three definite statements regarding desirable arrangements are made by Almack and Bursch (1:62). They are:

1. Doors to offices should be marked and an invitation to enter should also appear on the door.
 2. Waiting rooms should be light and well ventilated.
 3. Storage space should be accessible to the principal.
- Johnson (21:214) has this recommendation, in addition:

4. Inner offices should have two doors, one opening into the reception room, and the other opening to the outside. This is advisable since it promotes greater efficiency. It is sometimes necessary for a principal or superintendent to make a hurried egress from the office on important matters of business. This is frequently difficult if the outer office contains many people. Having the outside entrance to the private office besides the door from the waiting room, always means many steps and much time saved for the principal and superintendent whose duties demand a great deal of traffic in and out of the office.

Other considerations on arrangement advanced by Cox and Langfitt (8:77) are these:

5. There should be a counter separating the waiting room from the clerical space. This counter, these authors state, should be high enough to write upon comfortably while standing and should have storage space beneath.

6. Teachers' mail boxes, bulletin boards, and the daily register should be placed in the waiting room in order to eliminate congestion which might easily otherwise result were these fixtures put in less accessible locations.

Other matters helping to determine the degree of convenience, accessibility, and privacy which prevail are:

7. The clerical space should be so located in relation to the waiting room space that control of traffic to and from the office may be regulated by the clerk.

8. Private offices for convenience should be as directly accessible to each other as possible.

9. The clerical space should be accessible to all private offices in order to facilitate the use of the vault and the handling of records and other materials.

10. Privacy in the private offices should be guaranteed by carefully constructed walls and close-fitting doors. At the same time, the use of glass in the door between the outer office and private office is advisable. This is because there is need to protect officials using private offices from the petty gossip which frequently is occasioned by conferences in such offices not possessing windows or glass paneled doors.

Built-in Fixtures.--Some of the criteria to be considered in the discussion of built-in fixtures are: durability; adequacy; and alternation easily possible.

There can be no questioning the fact that fixtures built right into the walls of the building itself are far more durable than those simply set in the room. Built-in fixtures, if properly designed and constructed, should be practically rack-proof. Then there is no legitimate reason why built-in fixtures are not adaptable to complete adequacy of any needs of an office.

However, with built-in fixtures, alternation is not easily possible. In view of the fact that due to growth, curriculum changes, and many other more or less valid

reasons office changes and alternations are frequently made, too extensive use of built-in fixtures are not advisable.

Ford and Winn (30:10) from a nation-wide survey found extensive use of these built-in items in the administrative offices.

1. Bulletin boards, usually located in the public space or clerical office.
2. Mail boxes in the waiting room.
3. Benches in the waiting room.
4. Cabinets and key cases in the clerical spaces.
5. Trophy case either in the waiting room or in the corridor near the office. This item is not mentioned by Ford and Winn, but is a necessary fixture for the preservation of trophies. By having it as an adjunct of the office it is under closer supervision.

SUMMARY OF LOCATION, SIZE, AND ARRANGEMENT CRITERIA

A. Locate the office in the building:

1. Where its traffic will not interfere with other educational activity.
2. Where it will be coordinated into one suite.
3. On the first floor ordinarily.
4. Centrally, and near the main entrance.
5. Where it is easily accessible to other school activities.
6. Away from certain noisy school activities.

B. The office should contain:

1. Three main divisions: (1) waiting room; (2) clerical room or space; (3) private offices for the superintendent and principal.
2. A storage room or a closet for supplies.
3. A first aid room with office facilities.
4. A vault.
5. A closet for radio and public address apparatus.
6. Office facilities or at least desk room for a counsellor.

C. Rooms should be of ample proportions. Sizes considered as minimum to perform necessary functions and house equipment needed are:

1. Private offices----- 10' x 14'
2. Clerical space----- 9' x 16'
3. Waiting room----- 11' x 16'
4. Storage closet ----- 5'6" x 6'6"
5. First aid room ----- 6'6" x 10'
6. Vault ----- 4' x 4'
7. Radio control room----- 4' x 6'6"

D. Rooms should be arranged with:

1. Doors well marked.
2. Waiting rooms light and sufficiently ventilated.
3. Storage space readily available to superintendent, principal, and clerk.
4. Two doors for private offices; one to the reception room; the other, to the outside.

5. A counter between the waiting room and the clerical space.
 6. Mail boxes, bulletin boards, and daily register in the waiting room.
 7. Clerical space situated so that office traffic may be controlled by the clerk.
 8. Private offices as directly accessible to each other and to the clerical space as possible.
 9. Privacy for private offices.
- E. Fixtures which may suitably be provided as built-ins are:
1. Bulletin boards in the waiting room.
 2. Mail boxes in the waiting room.
 3. Benches in the waiting room.
 4. Cabinets and key cases in the clerical space or room.
 5. Trophy case.

CHAPTER V

THE OFFICE; HEALTH AND FURNISHINGS

In the preceding chapter an effort was made to determine the correct situation of the office in the building, together with an analysis of some problems of design which involved the size, number, and arrangement of rooms comprising the office suite.

The present chapter will be devoted to the establishment of criteria to promote healthful offices and to aid in the selection of suitable and adequate office furnishings.

HEALTH CONSIDERATIONS

The role that the subject of health plays in the discussions of things educational today is quite well known to almost everyone engaged in any form of educational pursuit. Yet the fact that many of the elementary rudiments of health are commonly violated in our school offices is one of easy demonstration.

Those factors which greatly influence the health of those utilizing the office are: (1) ventilation; (2) heating; (3) lighting; (4) floors; and (5) walls. These topics will be considered in the order shown.

Ventilation.--Wood and Hendricksen (35:44), in discussing how to judge good ventilation use these two criteria.

1. What is the average temperature through the winter in the room? If it is around 68° Fahrenheit, it is probably satisfactory, according to these authorities.

2. What does the system cost to install and operate?

These writers recommend the Wheeler System of Window Gravity as it was approved by a Joint Commission on Health Problems in Education of the National Education Association and the American Medical Association. The essentials of this plan as it affects school offices are;

1. Radiators long enough to extend full width under the windows.

2. Deflecting boards at the bottom of windows (windows open at bottom, not top).

3. Window shades attached firmly. Preferably two shades, one pulling up from the middle and the other pulling down from the middle of the window.

Driscoll (29:78) observes:

For rooms of normal occupancy, such as ---- most offices ---- infiltration (of air) through the walls and windows is sufficient for every ventilating need.

However, other investigators assert that this does not fully answer the ventilation needs. The problem of relative humidity should be given consideration. Croft (9:305) sets up this standard: "In ---- office(s) ---- the relative humidity should be about 50 or 60 per cent."

It was found by Ayres, Williams, and Wood (3:156) that a cubic foot of air taken at 32° Fahrenheit and heated to 70° increases its moisture holding capacity three and one-half times. This means that air taken into a room from the outside during cold weather becomes very "thirsty" air when heated. Mr. Albrecht Haeter, Professor of Electrical

Engineering, Agricultural and Mechanical College, Stillwater, Oklahoma, says that it is not at all uncommon to find rooms with a relative humidity of from 10 to 25 per cent - less than the relative humidity of most deserts! This condition causes dry skins, flushed faces and a parching of the mucous membrane. With the moisture gone, the mucous membrane cracks and disease germs find ready entrance to the raw tissue. The germs then begin their devastating work. There can be no doubt that much of our prevailing throat and nasal trouble has origin in rooms lacking in moisture content.

Thus, the frequent use, or better still, the permanent location of a good hygrometer in every school office is to be strongly recommended. In fact, it should be used in every school room. In order to rectify the moisture deficiency in his own office, Mr. Naeter has simply put a small jet in the side of his office radiator. This can be opened at intervals to let steam escape into the room. A small pail is suspended under the jet to catch any water which might condense as the steam escapes from the jet. Incidentally, this practice will also prevent the common opening up of cracks in walls and furniture in rooms due to dry air. While this practice is possibly not the most practical for general school use, the advisability of employing this device where better means of regulating relative humidity cannot be obtained is such that it should not be questioned.

Ayres, Williams, and Wood (3:154) advocate the use of humidostats to keep the proper amount of humidity in the air. These humidostats automatically turn steam into fresh air flues to be carried into the rooms as it is needed.

It is highly probable that in the future air conditioning will become cheaper and will be utilized by schools generally. Satisfactory air conditioning equipment will regulate temperature, humidity, circulation and remove air impurities.

The use of Venetian blinds is looked upon with disapproval by these authorities (3:73).

Venetian blinds --- gather dust, seriously darken the room, get out of order, cut off breezes, and frequently allow narrow bars of sunlight to stream across the room to irritate the eyes ---

This opinion is not held by such writers as Ford and Winn (30:34). These criticisms of the use of Venetian blinds seem scarcely valid since they can be kept in working order and reasonably free from dust by any competent janitor. The proper regulation of the blinds will eliminate the other evils cited. On the other hand, the use of Venetian blinds will aid materially in permitting the exclusion of direct glare of the sun while permitting good ventilation through the window. Certainly in this respect Venetian blinds are far superior to ordinary shades.

Heating.--While the low pressure steam system which is so prevalent in our schools today is a generally satisfactory

type of heating unit, there is one condition under which it is not satisfactory. Frequently members of the office force must work in the offices on week ends and holidays when school is not in session. If there is no other heat available in the office and the weather is cold, the entire boiler must be heated to supply warmth to the office. This is an expensive and time-consuming practice. For this reason a small gas or other type stove is really a practical necessity in the school office. Many schools now use a radiator with a gas fire directly beneath it. This is in effect a separate boiler. With this type of steam heat, it is possible to heat individual rooms easily and quickly.

Lighting.--The lighting of the office is a subject worthy of the most careful consideration. Again citing Ayres, Williams, and Wood (3:66-67) natural light should be: (1) unilateral, and (2) entered through a window glass area equal to at least one-fifth of the floor area.

In discussing artificial lighting, Bruce states:

The immediate benefits which proper school lighting affords----important as they undoubtedly are, are probably overshadowed by the ultimate benefits of conserving vision.----disorders such as irritability, nervousness, dizziness, and headaches result from abuse of the eyes.

Bruce lists these requirements for artificial lighting:

1. Sufficient wiring capacity.
2. Outlets located so as to secure glare-free light.
3. Ample illumination for efficient study.
4. Careful, systematic maintenance.

Since the first of these points belongs obviously to the realm of the professional electrician, it will not be discussed here. In order to secure glare-free light, free from specular refraction or reflection it is necessary to have all light fixtures behind or at the side of the person seated at the desk. Never should the light be in front of the individual since then the light rays will strike articles on the top of the desk or the desk top itself and reflect back into the eyes.

The reference work, Electrical Engineering (3:125-6) is authority for this statement:

Semi-indirect units of dense glass and totally indirect units are, in general preferable to all others for office lighting where a ceiling of good reflecting power is obtainable. ---- a lighting system of such units permits maximum flexibility in arrangement of furniture in a general office---

Bowl fixtures should be selected with these criteria in mind.

1. So constructed as to be easily cleaned.
2. A hard and smooth finish.
3. Contour plain enough that light will not become pocketed and lost.

To determine the adequacy of either natural or artificial lighting at a given point it is necessary to use a foot-candle meter.² While to the novice in the field of lighting, it might not appear necessary to resort to this

²

This instrument measures light intensity in terms of the amount of light from a standard candle at a distance of one foot from the objective.

expediency, the fact that visual perception of light intensity is governed by Fechner's Law should convince anyone that the eye in such cases is utterly undependable.³

A survey of the writings of such authority as Harrison and Weitz (19:4), Gay and Faucett (18:349), Cushing (11:188), and Stowell (54:94) shows the validity of the following table of foot-candles of light for offices at the point of most frequent use.

TABLE IV
STANDARDS OF FOOT-CANDLE ILLUMINATION FOR OFFICES

Place	Recommended	Required
Office (desk work)	10 - 20	8
Clerical work	20 - 30	18
Waiting room	5 - 10	4
File room and vault	5 - 10	4
Toilets and wash rooms	5 - 10	4
Corridors and stairways	5 - 10	3

Since it is not necessary to illuminate an entire room to the recommended intensity for office work, the use of the so-called "student lamp" is advocated in the interest of economy. Any lamp of this type may be used upon the

³

Fechner's Law states: "The intensity of sensation increases as the logarithm of the stimulus." The reason for this is due partly to the fact that the contraction of the pupil tends to off-set the increased light intensity almost completely by shutting out more light rays.

desk and is generally satisfactory if it bears the approval of the Illuminating Engineering Society.⁴

Floors.--Ayres, Williams, and Wood (3:26) set up three criteria for school floors. Floors, they state, should be: (1) fireproof; (2) soundproof; and (3) impervious to draughts. To be fireproof, wooden floors should be laid over concrete. Double floors are necessary to insure sound proof and draught-proof construction. The lower floor may be made of rough lumber and should be laid diagonally. Asbestos, felt, and mineral wool should be used between the two floors to further its ability to resist sound and draught. These same authors found that oak, maple, and hard pine make satisfactory floor materials with preference being given in the order named. A covering of cork, rubber, tile, fiber, linoleum or other like material is very desirable since it has several advantages. It is smooth, cleans easily, is sound proof, and is a poor conductor of heat or cold. Monroe (23:169) recommends the use of floors made with what is commonly known as "hospital construction," i. e. curved at the joining of the wall and floor to facilitate easy cleaning.

Walls and Woodwork.--The use of plaster, woodpulp, cement, tile, terrazo, brick, and various types of composition

4

Illuminating Engineering Society, 29 West 39th Street, New York City, New York. Commonly called "I. E. S." This is a national organization of engineers, manufacturers, contractors, architects interested in the problems of illumination who by experimentation and investigation seek to determine adequate standards for illumination. The findings of this group are quoted and accepted by authorities generally on lighting problems.

board are recommended by Ayres, Williams, and Wood (3:28) as suitable materials for walls, provided there are no cracks, and the finish is smooth and painted. Burlap, tapestry, and wallpaper are dust and disease catchers. Carpet strips in doorways are also collectors of dust and dirt. They need not be used if doors are fitted carefully.

Ayres, Williams, and Wood (3:29) and Monroe (25:190) advocate the use of plain doors without moulding or panels to collect dust and dirt. These doors have the further advantage of not sagging as easily as the more common panel door.

Color schemes should be utilized which are restful to the eye and yet do not absorb light, according to Ayres, Williams, and Wood (3:73). Grey, buff, and tan may be used in the lighter shades. The ceiling should be just off white. All woodwork should be finished dull to avoid unpleasant reflection of light. Green (31:70) recommends that as little woodwork be used as possible. He also suggests that metal woodwork is preferable since it is fireproof.

OFFICE FURNITURE AND FIXTURES

One of the important considerations in regard to a properly functioning school office is the arrangement of the furniture and other furnishings. It is impossible in this analysis to lay down very definite regulations for the placement and location of furniture due to the many sizes and shapes of offices and the furniture itself. This does

not however, in any sense, do away with the problem itself. The language of Vaughan, Ex-Superintendent of Public Instruction, State of Oklahoma (39:52) is worthy of quotation in this connection.

The office should be so well arranged, and so efficiently organized in general appearance, that it will serve as an incentive and suggestion to school boards and school teachers to see that their own workshops, records, and work are equally well organized. A pleasing surrounding will often do more than words to quiet the nerves of some ill-tempered person who is bringing his troubles to the office. If he is given a comfortable chair in a well organized office, with clean walls and windows, and a few beautiful pictures to attract his attention, he can be quickly induced to forget his anger and his original intention of "getting the superintendent told.

Furniture and Fixtures Needed.--Several authorities list furniture designed for office use. Almack and Bursch (1:61-62) list as desirable office furniture:

1. Chairs.
2. Flat topped desk.
3. Filing cases.
4. Book case.
5. Magazine rack.
6. Pictures and window curtains.

Reeder (26:486) includes also;

7. Typewriter table and chair.
8. Work table.
9. Desk lamp.

A list of furnishings for the administrative office by Donovan (12:55) advises the inclusion of:

10. Washbasin (or lavatory).

This last-named item is a great time saver, especially for those who use finger-soiling carbon paper, gelatin duplicators, and inky mimeographs.

In addition to chairs and table (or desk) for the dispensary, Ayres, Williams, and Wood (3:46) found need for these items.

11. Couch (or cot).

12. Scales.

13. Cabinet.

Type and Size of Furniture and Fixtures.--Green (31:70)

advocates a flat-top desk, 48 inches by 60 inches for the principal (or superintendent). This desk, he further states, should be furnished with filing devices in the drawers and a plate glass top. Swivel chairs are also recommended by this author for the superintendent and principal. Such chairs are far more comfortable than the common, rigid, straight-back chair.

Since open-shelved books catch dust readily and are hard to dust, bookcases with glass doors are preferable to those with open fronts.

Care should be used in the selection of pictures and window curtains so that the color schemes will not "quarrel". These fixtures as well as all others common to the office should reflect the culture and refinement of the office force. Green (31:70) advises that soft, subdued colors are preferable in general.

The size of different articles of furniture and fixtures is important in planning an office of adequate size or in planning room for new equipment. In order to obtain information of this kind, articles of furniture and fixtures were measured during the visitation of the twenty schools explained in Chapter II. The information so derived is exhibited in Table V.

TABLE V
HORIZONTAL MEASUREMENTS OF OFFICE FURNITURE
AND FIXTURES IN TWENTY SCHOOLS VISITED

Article Measured	Number Measured	Maximum Size	Minimum Size	Median Size
Book cases	7	12"x36"	12"x34"	12"x54 $\frac{1}{2}$ "
Clocks, Program	3	9"x21"	9"x21"	9"x21"
Desks, Flat-top	5	50"x60"	30"x60"	32"x60"
Desks, Roll-top	15	36"x60"	30"x48"	30"x54"
File Cabinets	17	18"x42"	18"x19"	16"x25"
Laboratories	1	-----	-----	20"x20"
Magazine Racks	2	6"x72"	12"x60"	-----
Clerical Counters	1	-----	-----	16"x39"
Steel Lockers	3	21"x50"	18"x36"	18"x36"
Safes	7	30"x36"	23"x25"	26"x26"
Trophy Cases	14	18"x48"	12"x30"	16"x39"
Typewriter Tables	10	24"x36"	15"x18"	18 $\frac{1}{2}$ "x32"
Work Tables	10	24"x72"	50"x36"	36"x45"

It will be noted in this connection that due to the technique employed no attempt is made to set up further criteria for size than to point out sizes already in use. In general, it is recommended that sizes much smaller than the median are too small to be of greatest usefulness. This assumption was reached by conferences with superintendents and principals who used the items in question.

Steel Furniture.--The use of metal furniture is becoming more common. It has certain obvious advantages.

1. It is quite fireproof.
2. It is easily cleaned.
3. The drawers and doors do not swell and stick as do those of wood.
4. Joints will not split or open up due to humidity change.
5. Steel furniture also possesses greater strength generally, than wood.

The disadvantage of steel furniture is that it is considerably more expensive in the first cost. However, in view of its greater durability, this disadvantage is largely overcome.

Location of Furniture and Fixtures.---The clerical space should contain the program clock, file cabinets, a desk, a safe (if there is no vault), a typewriter table and chairs. Steel lockers are also good equipment, especially if storage room otherwise is meager.

The private office should contain a flat-top desk, bookcase, file cabinet, magazine rack, and a desk lamp. Steel lockers are also valuable in most private offices.

The waiting room should be furnished with a comfortable bench or chairs for visitors. A small reading table or magazine rack with appropriate magazines is also advisable for this room.

The first aid room should have a cot or couch, platform scales, a cabinet or steel locker, flat-top desk, files, and chairs.

Laboratories may be in the private office or the clerical space, if screened from the public view. Trophy cases may be put in waiting rooms or corridors outside the office. Since trophy cases are for "show" purposes, corridors are probably the best place for them, if this location does not cause traffic to be obstructed. Pictures and window curtains appropriately selected and hung lend dignity and character to the office. Rugs are of questionable value. If floors are covered with a sound deadening device such as linoleum, rugs are then defensible for decorative purposes only. Especially where the traffic is heavy, rugs are not to be commended since they are catchers of dirt, dust, and disease germs.

OFFICE AIDS

Careful selection of office aids can do much to increase the efficiency of office routine and to reduce tedium. Douglass (13:368) in this connection lists:

1. Duplicating machine (mimeograph, neostyle, ditto, etc.)
2. Typewriter
3. Stapling or clipping machine
4. Adding or calculating machine
5. Memorandum - "tickler"
6. Filing cabinets of records, pamphlets, bulletins, and correspondence

Cox and Langfitt (8:82-3), in a similar list, suggest:

7. Desk baskets for incoming and outgoing mail
8. Deskwork organizer

Other minor items of office aids are noted by Reeder

(26:486):

9. Clock
10. Ink stand

11. Paper weight
12. Stamp moistener
13. Scissors
14. Ruler
15. Pencil sharpener
16. Slide ruler
17. Rubber stamp and pad
18. Paper punch
19. Paper cutter

In view of the many tests, instructions, forms, and records generally that must issue from the school office, the typewriter and the duplicating machine require little defense if the saving of time is a factor to be considered. Since neatness and order are necessary for proper functioning, stapling or clipping machines to group sets of papers together, filing cabinets for indexing and preservation of records and reports are needful. The adding machine and calculating machine are great time savers and insure a higher degree of accuracy in the figuring of reports and records.

Desk baskets and deskwork organizers are of value in that they help to keep the desk of the superintendent and principal in an orderly and presentable condition. In addition to that, such aids add materially to the ease and dispatch with which office work may be handled.

Since some device is necessary to "tickle" the memory of most school executives so that important matters will not be delayed or forgotten, there is need for the memorandum. Cox and Lengfitt (8:82-3) list four acceptable aids of this variety. They are:

1. Memorandum pad

2. School calendar
3. Card file index for each day in the year
4. Folders for filing materials on topics requiring administrative attention

COMMUNICATION AIDS

Douglass (13:368) lists as essential communication aids for office use:

1. A telephone
2. A program clock

Almack and Bursch (1:61) advocate:

3. Letter boxes for teachers and janitor

Green (31:70) recommends the use of:

4. A buzzer or other signal

Donovan (12:53), in discussing "Little but Important Things often Forgotten in Schoolhouse Planning" finds need for:

5. A radio and public address system

In the type of school under analysis in this thesis, there could be but little justification for the installation of more than one telephone in the office. Certainly, one is necessary. So often the principal must have immediate check upon a student away from school. Frequently, a substitute teacher must be located in a short time. Arrangements must be made for all kinds of inter-scholastic meets and games.

A program clock, automatically controlled, should be provided in order that all classrooms will function on schedule time.

The handling of announcements, supplies, and reports is quickly and easily accomplished by the use of teachers' and janitors' mail boxes placed where they are accessible as these persons come to sign the register as they arrive or leave for the day.

While not a practical necessity, a buzzer, bell, or other signal is very useful and a time saver for the office force. It may be used to summon teachers or other officials for conference or to answer the telephone. Its greatest usefulness is in the larger school systems.

The increasing use of the radio and public address system has already been partially discussed.⁵ The public address set used in the Orlando Consolidated Schools, Orlando, Oklahoma uses a space 18 inches square on a table. A model shown in a recent R. C.A. Catalog (41:26), suitable for the usual consolidated and village size range of schools, is 21½ inches long, 21½ inches high, and 10 inches deep. Another, in the same catalog of the same general type measures 17 ¾ inches high, 21 inches wide, and 12 inches deep. Almost any radio or phonograph may be used with these public address systems. A complete set includes:

1. Input apparatus - microphone, radio, or phonograph
2. Vacuum tube amplifying equipment
3. Loud speaker or sound projector

RECORDS

One of the chief functions of the school office is the keeping of school records. Jones (22:107) concludes:

5

See page 32.

The improvement of school records is, in fact, one of our most imperative needs and is receiving the careful attention of our most progressive school men.

For the purpose of classifying the many records advocated by authority, four main divisions will be designated. These divisions are: (1) pupil accounting records; (2) general records; (3) financial records; and (4) temporary office records.

Pupil Accounting Records.--As a means of "leading to identification of average, retarded, and maladjusted pupils," Cox and Langfitt (8:387) advise the use of:

1. Pupil progress - chronological age table
2. Mental age - grade table
3. Educational age - grade table
4. Chronological age - grade table

These forms, according to these writers, reflect the general conditions of the school and show the principal or superintendent where improvement and change in procedure are desirable.

Another pupil accounting form recommended by Cox and Langfitt (8:399) who state that it is "probably the most convenient and efficient manner of filing the records of one pupil in the central office" is the:

5. Cumulative folder

This folder should contain all items on the individual pupil that teachers might wish to file for future reference.

These same authors (8:393), quoting from Eikenberry,⁶ list as desirable records of pupil population:

⁶
Eikenberry, D. H., Syllabus of a Course in High School Supervision, pp. 255-6. (Published by the author, 1927.)

6. Registration card
7. Achievement card
8. Health card
9. Personal qualities
10. Placement card
11. Teacher's periodic report (report card to parents)
12. Teacher's semester summary (of attendance and grades)
13. Registers
14. Principal's monthly attendance report

These cards and reports serve to make records which furnish the executive and teacher with available and vital information on each pupil.

Cox and Langfitt (8:381) introduce as additional forms for pupil accounting the following from Emmons.⁷

15. Notice of transfers
16. Memorandum of transferred pupil record

Two more records are added by Reeder (26:512) which are essential to adequate pupil accounting:

17. Pupil's cumulative record (so-called permanent record)
18. Principal's office record

In the interest of studying the aptitude and ability of the individual student, Cubberley (10:612) recommends the use of:

19. Individual profile chart

This card or chart shows a graphic summary of health, intelligence, achievement, and social rating scores. It is a splendid form for the guidance counsellor to use, as well as the first aid supervisor and principal.

⁷
Emmons, Frederick C., "Census and Attendance Records," School Records and Reports, Research Bulletin of the National Education Association, Vol. V, No. 5, p. 263.

20. School census report

This report forms the basis for the apportionment of the interest and income from the permanent school fund (State of Oklahoma) is necessary for statistical purposes, and is required by state law (40:XII:236).

21. Certificate of Eligibility and Individual Participation Record

The Annual High School Bulletin (38:19) provides that:

The Certificate of Eligibility and Individual Participation record of each pupil (participating in any form of athletic contest) should be kept up-to-date on forms provided by the State Athletic Association.

22. Student transcripts

This is another form of pupil accounting required by the State Department of Public Instruction. The Annual High School Bulletin (38:9) states:

Transcripts of students who enter with advanced standing shall be secured and filed when such students enroll.

23. Record of punishment and problem cases

This record may well be included in the cumulative folder. It is desirable as a means of pupil adjustment. Since no pupil wants a bad written record against him in the office, this form has outstanding disciplinary value.

General Records.--Several general records are specifically required by the State Department of Public Instruction (Oklahoma) through its Annual High School Bulletin (38) or are necessitated through reports that are demanded for accrediting.

1. An application for accrediting

This record is for the purpose of giving the State Department valuable information about each high school expecting to receive accrediting with the state colleges.

2. Certificates of teachers, janitors, and truck drivers.

In order to determine educational qualifications of teachers for teaching fields, school offices are required to have accessible certificates of all teachers. Recently, to insure greater efficiency and generally better service, certificates are required of janitors and truck drivers. These are executed upon a prescribed form furnished by the state.

3. A cumulative record of subjects taught by years.

This record is valuable in checking up on subjects offered by a school in the past. It is especially needed by the new superintendent in determining alternations of subjects and the trends of the curriculum in his school.

4. Daily programs.

The practice of keeping a file of the daily programs as a cumulative permanent record is advisable. If care has been used in the formulation of such programs and schedules in the past, these old plans often save hours of time in making new programs. Besides this, the old programs substantiate needful facts regarding previous curriculum matters very frequently.

5. The Instructional Score Card

This form should be filled out and filed each year. It shows clearly the advancement of the school generally in instruction, buildings, playgrounds, and other matters. Again, it shows those who use it other improvements that could be made to make the school better.

6. Inventories of all equipment, apparatus, books, and furniture.

The use of complete inventories in school administration goes far to put the school on a business-like basis. Such inventories are of great value in selecting necessary equipment and in determining the actual physical conditions of the plant and its furnishings.

7. Transcripts of teacher scholastic preparation.

Complete transcripts of collegiate preparation of teachers must be kept on file in the school office in Oklahoma schools in order that inspectors may readily determine the adequacy of teacher preparation.

8. Transportation maps of territory serviced by school buses.

These maps are required by the State Department of Public Instruction to aid in the calculation of the allotment of areas to schools, to help determine the State financial program for transportation, and for statistical purposes.

9. Transportation reports.

The transportation reports required are those of the bus drivers to the superintendent and the final report sent

to the State Department of Public Instruction. These reports should become permanent records in the school office as aids to the determination of trends and future needs of the transportation service.

10. State Statistical Report (Part I)

This report becomes a cumulative record of statistical value as a summary of school progress each year.

General records of the school board which may be kept in the office are:

11. Record of the minutes of the Annual Meeting.

12. Record of the minutes of the board meetings.

These records are required by state law. A special space should be reserved in the school safe or vault for these valuable papers.

13. Teachers' contracts.

These contracts are required by state law. Since they form the formal agreement between teacher and board, they should be carefully preserved in the office.

14. State Bulletin File.

For reference use, there should be a complete file of all bulletins, pamphlets, and instruction sheets issued by the State Department of Public Instruction.

15. Teacher rating cards.

16. Semester summary of work covered.

The teacher rating card is of greatest value in the larger school. It attempts to deal objectively with the classification of the qualities of the teacher so rated.

The semester summary is a summary of the work covered by the teacher in each course taught. It is valuable in that many teachers will be more careful in their work if faced with the realization that a written report of their work must be made at the end of the semester. If required in enough detail, it may be considered to serve somewhat as an index to teaching performance.

17. Rules and regulations.

A written record of such rules and regulations of the school as may be necessary should be part of the complete records of any school office.

18. National Youth Administration records.

In order to participate in the National Youth Program three types of forms must be filled and kept as records. These are: (1) applications; (2) time sheets; and (3) N. Y. A. Bulletins.

Financial Records.--Carefully kept records are necessary for satisfactory financial accounting. Gregory (37:20) states:

The function of financial accounting is twofold. In the first place, financial accounts serve as a basis for determining whether the public money has been legally spent for the purpose for which it was intended. ----In the second place, adequate financial accounting supplies school officials and employees with facts which are necessary for efficient and intelligent administration.

Several records and reports are required by law. These should be considered the minimum rather than the maximum.

1. Auditor's report.

This report is required of all independent districts each year. As these reports accumulate, they become a part of the school's permanent records.

2. School budgets.

There are three types of budgets, according to Gregory (37:3): (1) the long-time budget which links the annual budgets into an integrated school program; (2) the detailed annual budget which is a complete detailed financial statement of the needs for the next year; (3) the official budget which is the "estimate as made and approved" from the detailed annual budget by the superintendent and board of education and approved by the county excise board.

This last-named budget is headed, Estimate of Needs and Financial Statement of the Fiscal Year _____. It contains several exhibits such as: (1) prior and current year accounts; (2) miscellaneous revenue; (3) transfer fees "receivable"; (4) state aid; (5) Federal Indian tuition; (6) advalorem tax account; (7) re-statement of cash balances on hand; (8) common school relief fund investments; (9) appropriation accounts, warrants issued, and unexpended balance; (10) summary of accounts and estimate of needs; (11) sinking fund investments; (12) judgment indebtedness and detail of bonded indebtedness; and (13) a complete sinking fund statement.

3. Claims

Claims for all supplies and services must be made on legally prescribed forms before any warrants may be given in payment.

4. Purchase orders.

These forms should be made out and properly signed before orders are filled by vendors. Copies of all purchase orders should be kept as part of the office records. These forms are required by state law.

5. Warrant book.

The warrant book is absolutely essential to the work of the board of education since all payment of all general school fund and state aid expenditures are made by warrant. It should be kept in the office if the board holds its meetings there, since there it will always be available.

6. Statistical Report (financial) Part II.

This is a report required by the State Department of Public Instruction as part of the accrediting process. It contains valuable statistical information regarding the expenditure of school money.

7. Secondary aid Report.

This is another report required of schools asking for secondary aid from the state. It is designed to show that the school is financially unable to maintain a given standard without state aid, and present all other facts necessary to receive secondary aid.

8. Expenditures and appropriation record.

This record, commonly called Clerk's Record of Warrants Issued, shows the distribution and classification of all general fund and state aid fund expenditures. In addition to the fact that this record is required by law, all

superintendents and clerks should have available the exact financial status of each account in the appropriation.

Three more records are recommended by Gregory:⁸

9. Coupons on bonds record.
10. Insurance record.
11. Tax collections record.

These records are very essential to estimating future needs and future income. The first one should show the date and the amount of coupons due on bonds, either owned by the district or against it. The insurance record should show the amount and the date due of all school insurance. The tax collection record should show who pays taxes, the amounts paid, and the amounts delinquent.

12. Extra-curricular funds record.

The wise superintendent will insist that a careful, well-kept record will be made showing all extra-curricular income and how it was spent. As a further check in order to account for such money faithfully, he will use a receipt book. If this procedure is followed, the superintendent or other official handling the extra-curricular money should be able to show a "clean hand."

Temporary Office Records.--These records which are little more than reports kept for a semester or a term are vital to effective administration.

1. Absence and tardiness excuses.

8

Gregory, Marshall, Director of the Division of Research and Service, State Department of Public Instruction, Oklahoma City, Oklahoma.

An excellent way to eliminate truancy and carelessness in school attendance is to demand excuses for such tardiness and absence signed by a parent or guardian. In this connection, an "autograph album" of parental signatures is indispensable.

2. Report cards.

(These cards were also suggested under "Pupil Accounting").

3. Pupil directory.

This directory is suggested by Cox and Langfitt (8:393). While a pupil directory or a school directory might be valuable in a large school, it is not very necessary in a small school as far as office needs are concerned. All the information contained in a pupil directory can easily be found on the registration card. It might be commendable as a student project as extra-curricular activity.

4. Calendar of events for the year.

This item suggested by Reeder (26:487) is an excellent office feature. It is a great aid when scheduling any curricular or extra-curricular activity. It should entirely prevent the scheduling of conflicting dates.

5. Unsatisfactory work report to parents.

Copies of each report of this type sent out should be retained by the office for future reference and possible consultation with the pupil affected or his parents.

Professional Library.--The following recommendations for a professional library are found in Reeder (26:487). These references are so well known and their uses so obvious that no explanations are necessary.

1. Many books on administration and supervision of schools.
2. Reports of State Superintendent, State Auditor, and State Treasurer.
3. Reports of the Bureau of Education.
4. Reports of the State and National Education Association.
5. Courses of study - local, state, and others.
6. School Directory - local and state.
7. Educational Directory - (U. S. Bureau of Education)
8. A dictionary.
9. World Almanac.
10. Who's Who in America.
11. Catalogs of textbook publishers, school supplies, and equipment firms.
12. Catalogs of colleges and universities.
13. State school law.
14. School administrators' magazines.

SUMMARY OF CRITERIA ON OFFICE HEALTH AND FURNISHING

I. Health Considerations

A. Good ventilation should;

1. Provide a temperature of approximately 68° Fahrenheit.

2. Be within a reasonable cost to install and operate.

3. Provide for sufficient relative humidity.

B. Heating

1. The low pressure system of steam heating is generally satisfactory.

- a. Provision should be made so that when the school is recessed just the office may be heated.

C. Lighting to be healthful should:

1. If natural, be unilateral and entered through a window glass area equal to at least one-fifth of the floor area.

2. If artificial, provide

- a. Sufficient wiring capacity.

- b. Ample illumination.

- c. Glare-free light.

- d. Hard, smooth, easily cleaned bowl fixtures.

D. Floors to be healthful should be:

1. Of fireproof construction.

2. Soundproof

3. Impervious to draughts.

4. Be so constructed as to be easily cleaned.

E. Walls should be:

1. Free from burlap, tapestry, and wall paper.

Carpet strips should not be used under doors.

2. Made of suitable materials such as smooth plaster, woodpulp, cement, terrazo, brick, or composition board.
 3. Painted some color which is restful to the eye but does not absorb light, such as tan, grey, or buff. Ceilings just "off white".
- F. Woodwork to meet health needs should be:
1. Finished dull to avoid reflection of light.
 2. Metal preferably (fireproof).
 3. Plain in doors, without moulding or panels.

II. Office Furniture and Fixtures

A. Steel furniture is desirable.

B. Location of furniture and fixtures.

1. The clerical space should contain:

- a. The program clock
- b. File cabinets
- c. A desk
- d. A safe (if there is no vault)
- e. A typewriter table and chair
- f. Steel lockers

2. A private office should contain:

- a. A flat-top desk
- b. A bookcase
- c. A file cabinet
- d. A magazine rack
- e. A desk lamp
- f. Steel lockers

3. The waiting room should contain:
 - a. A bench or chairs for visitors
 - b. A small reading table or magazine rack
4. The first aid room should contain:
 - a. Cot or couch
 - b. Platform scales.
 - c. A cabinet
 - d. Flat-top desk
 - e. Files
 - f. Chairs for visitors
5. Other items
 1. Laboratories, either in the private office or clerical space, screened from public view.
 2. Trophy cases, preferably in the corridor
 3. Pictures and window curtain in all rooms

III. Office Aids:

- A. Major office aids are:
 1. A duplicating machine (mimeograph or similar)
 2. A typewriter
 3. Adding or calculating machine
 4. Filing cabinets
- B. Minor office aids are: stapling machine, memorandum tickler, desk baskets, deskwork organizer, clock, ink stand, paper weight, stamp moistener, scissors, ruler, pencil, sharpener, slide ruler, rubber stamp and pad, paper punch, and paper cutter.

IV. Communication Aids

A. Vital communication aids are:

1. A telephone
2. A program clock
3. Letter boxes for teachers and janitors
4. A buzzer or electric bell signal
5. A radio and public address system

V. Records (Those marked (*) are required by the state)

A. Pupil accounting records

1. Age-grade card
2. Age-progress card
3. Athletic eligibility record
4. Census report*
5. Cumulative folder (individual)
6. Educational age-grade card
7. Enrollment by grades*
8. Guidance record card
9. Health record card
10. Individual participation record (in athletics)*
11. Individual profile sheet
12. Office record of grades by six weeks or month
13. Pocket class record of attendance and grades*
14. Permanent record of units of credit*
15. Record of punishment and problem cases
16. Registration card
17. Student transcripts*
18. Transfers

- a. application for transfers*
- b. Transfer lists*
- c. record of attendance of transferred pupils*

B. General records

1. Application for state accrediting, parts I, II, and III*
2. Certificates of teachers, truck drivers, and janitors*
3. Cumulative record of subjects taught by years*
4. Daily programs*
5. Instructional score card
6. Inventories of equipment, apparatus, books, and furniture*
7. National Youth Administration records
8. Record of the minutes of the annual meeting*
9. Record of the minutes of the board meetings*
10. Rules and regulations of the school
11. Statistical Report, Part I (State)*
12. State bulletin file
13. Teacher transcripts*
14. Teacher rating cards
15. Teacher's semester summary
16. Transportation map*
17. Transportation report (bus drivers)*
18. Transportation report (State)*

C. Financial records

1. Auditor's report* (independent districts)

2. Budgets
 - a. Long term financial plan
 - b. Detailed annual to determine exact needs
 - c. Official Approved Estimate and Financial Statement*
 3. Claims*
 4. Coupons on bonds
 5. Expenditures and appropriations record (may be clerk's record of warrants issued)*
 6. Extra-curricular funds record
 7. Insurance record
 8. Purchase orders*
 9. Receipt book
 10. Statistical Report (financial) Part II*
 11. Secondary Aid report* (in order to obtain aid)
 12. Tax collection record
 13. Warrant book*
- D. Temporary office records
1. Absence and tardiness excuses
 2. Calendar of events
 3. Report cards*
 4. School directory
 5. Unsatisfactory work report to parents
- E. Professional library (see page 78)

CHAPTER VI

OFFICES IN OKLAHOMA VILLAGE AND CONSOLIDATED SCHOOLS

This chapter deals with a treatment of data derived from the field survey of twenty school offices and the questionnaire study of 106 school offices in Oklahoma. The method employed in the development and use of the survey and questionnaire has already been discussed in Chapter I. The purpose of the chapter is to analyze and portray the school office in Oklahoma village and consolidated schools varying from the five to twenty-teacher system sizes with a view of suggesting improvements and aiding others in providing adequate office facilities. The analysis will be attempted by utilizing the criteria developed in Chapters III, IV, and V.

In general, this chapter follows the outline for the presentation of materials and data in those chapters. Some of the functions of the Oklahoma school office will be discussed. The location, size, and arrangement of the offices under consideration will be given treatment. The health conditions of the offices will be examined. Finally, there will be an analysis of the office furnishings as determined by the use of the questionnaire.

Table VI shows the number of schools in each of the three size classifications according to the number of teachers employed in the system, the number of questionnaires returned from that group, and the per cent that the returned questionnaires were of the total number. It is included

to show the adequacy of the sampling employed in this analysis.

TABLE VI
COMPARISON OF THE NUMBER OF ACCREDITED SCHOOLS IN THE STATE
TO THE NUMBER OF SCHOOLS REPORTED BY THE QUESTIONNAIRE

No. of Teachers Employed in School	Number of Schools		Per Cent
	In State	Questionnaires	
5 - 8	340	37	10.89
9 -13	213	40	18.78
13-20	121	29	23.97
Total	674	106	15.73

A relatively high percentage of returned questionnaires is found in Table VII. Approximately an average of seven out of each ten sent out were answered.

TABLE VII
COMPARISON OF THE NUMBER OF QUESTIONNAIRES
SENT TO THE NUMBER RETURNED

No. of Teachers Employed in School	Questionnaires		Per Cent Returned
	Sent Out	Returned	
5 - 8	60	37	61.67
9 - 13	50	40	80.00
14 - 20	40	29	70.25
Total	150	106	70.67

THE FUNCTIONS OF THE OFFICE

Records of the Board.--In the study of the 106 schools reporting it was found that in 80.2 per cent of the cases, the school office served as the meeting place of the school board or board of education. Very little difference was found between the large and small sized schools in this respect. However, the study revealed also that boards were

somewhat reluctant about keeping their records in the school office. In the schools employing five to eight teachers exactly 51.0 per cent or approximately one-half of the offices were utilized to keep the records of the boards. The practice is more common in the nine- to thirteen-teacher schools as shown by the fact that 62.5 per cent of the boards of that classification kept the school records in the school office. In the schools employing fourteen to twenty teachers the practice was found to be followed in 62.5 per cent of the cases noted.

School Employees Using the Office.--The tabulation here shown as Table VIII provides information relative to the percentage of schools having various school officials who use the school office.

TABLE VIII
PERCENTAGES OF SCHOOLS HAVING CERTAIN OFFICIALS
BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED

Number of Teachers Employed in School	School Officers				
	Sup't	1 Prin.	2 Prin.	Clerk	N.Y.A. Help
5- 8	100.0	68.6	13.5	2.7	10.8
9- 13	100.0	70.3	20.0	10.0	75.0
14- 20	100.0	75.9	24.1	24.1	13.8

It will be noted that all schools listed employed someone designated as superintendent. In the five- to eight-teacher schools, 68.6 per cent had one principal while only 13.5 per cent of schools possessed two principals. In the same size schools only 2.7 per cent had the services of a clerk. The study reveals that there is a very decided

tendency toward greater frequency of principals and clerks in the larger schools.

According to the views of authorities cited in Chapter III, there seems to be need for a principal in all schools enrolling 100 pupils in addition to the superintendent. It is very probable that all schools in the five- to eight-teacher group enroll over 100 pupils. Therefore, there would appear to be a deficiency of principals in the smaller schools studied. There can be no questioning the fact that the two larger groupings need at least one principal in every case and yet even in the fourteen to twenty-teacher systems approximately one-fourth of the schools do not have a principal. Two principals, one for the grade school and one for the high school are far from being commonly found in even the larger schools studied, since the second principal was to be found in but 24.1 per cent of them.

Again, the criteria set up in Chapter III would indicate that there is a need for a full-time clerk in all schools of 150 enrollment or more. In our schools the questionnaire returns reveal that but 10.0 per cent of the nine- to thirteen-teacher schools have clerks and but 24.1 or approximately one-fourth of the fourteen- to twenty-teacher schools have clerical help in the office. It is noteworthy that in the nine-to thirteen-teacher schools there is far greater use of National Youth Administration help in the office than in either the larger or smaller

schools. This condition is probably due in part to the great need for clerical help in that classification.

There was no attempt made to evaluate the number of schools having a counsellor or the work of the counsellor. This omission is not because the work was not felt to be important but because this office is not found as a separate and distinct feature in the size of schools analyzed. Again, while every superintendent and principal is to some extent a counsellor, there is no way of determining the exact extent of his or her work. It is safe to assume, however, that here is a field that needs development in most, if not all of these schools.

First Aid as an Office Function.--In the 106 schools covered by the questionnaire study, it was found that 78.1 per cent had a first aid kit in the office and 13.2 per cent had a first aid cot in the office. Two officials indicated that they had cots for first aid purposes elsewhere in the building. There appeared to be no significant variance between the different sized schools in the percentage having either first aid kits or first aid cots, the variation being less than 10.0 per cent in either case.

There exists a very great need for better first aid facilities in our schools if this study is any criteria. All educators recognize the importance of health and yet approximately one-fifth of our school offices are not supplied with first aid kits. Less than one-seventh have a first aid cot. This means that when a pupil becomes suddenly ill or

is severely injured, in most of our schools he must needs be put upon an improvised pallet composed of the wraps of other children. In hygiene, so often one thing is taught while something entirely different is practiced by the school and its authorities!

LOCATION OF THE OFFICE IN THE BUILDING

A study of the location of offices on the different floor levels reveals the fact that the offices in Oklahoma schools are commonly to be found on the first floor. Virtually 70 per cent of the offices in all sizes of schools were located on the first floor. The size of the school appears to have small bearing upon which floor level it is located.

Moreover, it is interesting to notice that there is an increasing tendency in this direction. In Table IX which shows tendencies in office location based upon the date of erection of the building in which the office is contained, it is found that few of the older buildings have the office on the first floor. In the 99 cases in which the data were complete, it will be noted that but 15.4 per cent of the early schools were built with offices on the first floor. In fact 61.5 per cent or eight of the thirteen listed during the 1904-14 period had the office built on the second floor. Fifteen and four-tenths per cent, or two of them, were located on the third floor.

TABLE IX
 LOCATION OF THE OFFICE ON DIFFERENT FLOOR LEVELS
 COMPARED BY THE DATE OF ERECTION CLASSIFICATION
 In 99 SCHOOLS STUDIED

Date of Erection	Number of Offices	Percentages			
		First Floor	Between 1st & 2d Floor	Second Floor	Third Floor
1904-14	15*	15.4	7.7	61.5	15.4
1915-25	44	75.0	-	22.7	2.3
1926-37	40	87.5	-	12.5	-
Total	99				

*

Two schools in this classification had no offices whatsoever, therefore, percentages are based upon the thirteen which had offices.

In the period 1915-25, thirty-three or 75 per cent of the schools built, which were covered by the questionnaire, located the office on the first floor. During the period 1926-37, this tendency was even more marked as demonstrated by a percentage of 87.5 in favor of offices on the ground floor. At the same time, there was a steady decrease in locations between the first and second floor, on the second floor, and on the third floor. In fact, the space-consuming plan of having the office located mid-way between the first and second floor seems to be entirely discarded. This appears to be true also of the idea of having the office on the third floor.

In this respect, it seems that our schools are improving. As it was pointed out in Chapter III, there are conditions under which it may be advisable to locate the

office on the second floor. Thus the fact that during the period 1926-37, in 12.5 per cent or five of the forty new school buildings erected, the office was still on the second floor, is perhaps entirely defensible.

In the matter of accessibility and central location of the office the subjective opinion of the administrator filling out the questionnaire was used in the absence of definite, objective measure. It is therefore recognized that the method is open to question. However, even the subjective opinions of school officials should bear some weight in the matter. Of the 102 offices reported, approximately 56.0 per cent were judged to be readily accessible to the main entrance of the building. Forty of the 102 or approximately 40 per cent were listed as being centrally located, i. e. occupying a position easily accessible from all parts of the building. There seemed to be very little difference between large and small schools, or old and new buildings in these two matters.

THE DESIGN OF THE OFFICE

Number of Rooms and Size.---Judged by the results of this questionnaire analysis, rooms other than the general and private office as part of the office suite are quite rare in the type of schools under survey. In Table X it appears that the general office is firmly established as a precedent in most schools. It would seem to be found in well over 90 per cent of schools of all sizes under consideration. The private office is much more common in the larger

TABLE X
A COMPARISON OF THE PERCENTAGES OF OFFICE SUITES
CONTAINING CERTAIN ROOMS BY GROUPING ACCORDING TO
THE NUMBER OF TEACHERS EMPLOYED

No. of Teachers Employed	No. of Schools	Type of Room or Space						
		Gen. Off.	Priv. Off.	Sec. Space	Work Room	Wait. Room	First Aid	Board of Ed.
5 - 8	37	83.8	8.1	5.4	-	2.7	8.1	-
9 - 13	40	92.5	25.0	12.5	7.5	12.5	2.5	2.5
14 - 20	29	82.8	51.7	10.3	3.4	10.3	3.4	6.9
Total	106							

schools. In the fourteen to twenty-teacher schools, about one-half are furnished with private offices, according to the data collected. On the whole, this table presents a picture of inadequate and inappropriate office space in our schools. In Chapter III, it was demonstrated by quotation from authorities recognized in the field that all schools should have at least three main divisions: (1) a public space; (2) a clerical space; and (3) a private office. The best showing of clerical spaces in the table in the groups designated is 12.5 per cent or five out of forty cases analyzed! This condition is also true in regard to waiting rooms which are found in but 12.5 per cent of office suites in the most favorable grouping. Vaults were common to 23.6 per cent of school office suites (among 106 offices, only twenty-five vaults were found). Such features as work rooms, first aid rooms, and board of education rooms are seldom found in spite of the fact that especially the first two mentioned are so vital to satisfactory office functioning. Central radio control rooms

are undoubtedly luxuries that do not exist in these schools judging from the fact that only three public address systems were found in any of the 106 schools studied.

The custom of having but one general office is less prevalent in the larger school classifications surveyed. This fact is presented in Table XI.

TABLE XI
PERCENTAGES OF SCHOOL OFFICE SUITES HAVING BUT ONE MAIN OFFICE BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED (106 Schools studied)

Size of School (No. of Teachers)	Total Number	Number Having One Office	Percentage Having but One Office
5 - 8	35*	30	85.7
9 - 13	40	28	70.0
14 - 20	29	13	44.8
Total	104	71	68.2

*

Two of this group had no office

Table XII shows a gradual increase in the inclusion of certain rooms in the office suite in the newer school buildings. There appears to be a small increase in the number of office suites possessing private offices, clerical spaces, waiting rooms, and board of education rooms. However, again in this matter, there is the greatest of need for improvement still in our schools. These increases, while commendable, are coming too slowly.

TABLE XII
A COMPARISON BY PERCENTAGE OF 97 OFFICE SUITES
CONTAINING CERTAIN ROOMS BY DATE OF ERECTION PERIODS

Date of Erection	No. of Schools	Gen. Off.	Priv. Off.	Cler. Space	Work Room	Wait. Room	First Aid	Board of Ed.
1904-14	13	92.3	23.1	0	-	-	7.7	-
1915-25	44	100.0	22.7	9.1	6.8	4.5	2.3	2.3
1926-37	40	80.0	35.0	12.5	2.5	17.5	35.0	7.5
Total	97							

Another interesting problem in considering adequate office space is the size of rooms necessary. The results of tabulating the sizes of sixty-five general offices are presented as Table XIII. It will be noted that the mean or average size is considerably larger in the fourteen- to twenty-teacher systems than in the nine- to thirteen-teacher systems, and that the nine- to thirteen-teacher systems also in turn, possess more spacious general offices than the five- to eight-teacher schools.

These general offices are certainly not ample in size to meet the demands of a satisfactory office suite. Most of the office suites in the five- to eight-teacher groups have but one room, the general office as indicated in Table XI, which shows that 85.7 per cent of them are so constructed. In view of the findings in Chapter IV the average general office in this five- to eight-teacher grouping (156.0 square feet) is very little larger than the minimum for a private office of 140 square feet. The difference (16 square feet) is far from being sizeable enough

TABLE XIII
 CUMULATIVE FREQUENCY OF THE FLOOR AREA OF 65 GENERAL
 OFFICE COMPARED BY GROUPING ACCORDING TO NUMBER
 OF TEACHERS EMPLOYED

Square Feet of Floor Area Less than	5 - 8 Cumul. Freq.	9 - 13 Cumul. Freq.	14 - 20 Cumul. Freq.
339.5	26	20	19
309.5	25	-	17
279.5	-	18	16
249.5	24	16	14
219.5	22	13	13
189.5	18	12	8
159.5	13	5	6
128.5	12	4	4
99.5	7	3	2
69.5	1	2	1
Total	26	20	19
Mean	156.0	188.0	198.2

to accommodate a vault, storage space, clerical space, or public space, to say nothing of meeting space requirements for first aid needs!

Again the average size of the general office found in the nine- to thirteen-teacher schools is expressed in Table XIII as 188.0 square feet. This is scarcely more commodious than a public space should be. One hundred seventy-six square feet is the minimum size recommended in Chapter IV. It affords but 48 square feet more than the

minimum size for a private office, which would be about the right size for a storage closet but would fall far short of meeting the other needs of the office suite. Reference to Table XI will demonstrate that 70.0 per cent of the office suites in the nine- to thirteen-teacher systems possess just one such room. Even the minimum size for a satisfactory general office (clerical space and public space) is 320 square feet.

Finally, while the fourteen- to twenty-teacher schools appear to be fitted with somewhat larger general offices, they too, fail to meet the minimum size set up as criteria for a general office on the average. In fact, in the nineteen cases cited in Table XIII, just one met the recommended minimum. This general office was the sole room in the office suite, therefore, it could not be considered as meeting the office needs for space. The average size of 198.2 square feet as shown in the table is somewhat less than two-thirds the minimum of 320 square feet which was set in Chapter IV. It should be borne in mind that this minimum size of 320 square feet was considered ample only in conjunction with several other rooms or spaces. Among the group under discussion about 45 per cent of the offices were composed of simply the one general office.

A study of 18 private offices reported fully revealed much the same condition. Four measurements were given in the five- to eight-teacher groupings. Of these two exceeded the 140 square feet minimum set up in Chapter IV.

However, in three of these four cases, the so-called private office served as the sole office suite! Therefore, not one of these four private offices should be considered sufficient in size. Two of seven private offices listed under the eight- to thirteen-teacher classification reached the required minimum. Exactly the same condition obtained in the seven cases shown as fourteen- to twenty-teacher schools, as far as private offices were concerned.

Table XIV indicates that little thought is given to the actual needs of the school when vaults, workrooms, and clerical spaces are designed. For example, one vault is noted to be nine feet square while another (which incidentally was in a small school) contained 72 square feet or eight times as much area. While a workroom of 100 square feet is certainly desirable, one of such proportion as 420 square feet is probably very unnecessary and affords much of wasted room. Finally attention should be directed to the difference in the sizes of the clerical spaces. One, the maximum size noted, contained 168 square feet. This is a good size. The minimum space suggested as adequate in Chapter IV was 144 square feet. In contrast to this is the little clerical cubby-hole containing 18 square feet which was found in a school of the thirteen- to twenty-teacher class.

On the whole, it appears from the analysis of the number and sizes of rooms and spaces found in the questionnaire study that the offices of our village and consolidated

TABLE XIV
COMPARISON OF MAXIMUM, MINIMUM, AND MEDIAN
FLOOR AREAS OF VAULTS, WORKROOMS, AND
CLERICAL SPACES IN 106 SCHOOLS STUDIED

Item	Area Measurement in Square Feet			No. Measured
	Maximum	Minimum	Median	
Vault	72	9	24	11
Workroom	420	100	-	2
Clerical Space	168	18	108	6

Schools have been constructed with slight regard for the functions of the office. Furthermore, that very few of them can possibly claim adequacy as to area or number of rooms.

Arrangement and Accessibility of Room.--It was established through the study of 102 schools reported in the questionnaire that in eighty-six or 84.3 per cent of the offices, the main entrance to the office is from the corridor. In three offices, the main entrance is from a classroom. Eleven entrances are made to the office through the library. There appeared to be no relation between the size or age of the school building and the location of the main entrance to the office. From this condition, it may be deduced that most of the main entrances into the office are satisfactory as far as location is a factor. However, entrance through a classroom is not satisfactory, since office traffic will necessarily detract from the work of the classroom so affected. Entrance through an auditorium is undesirable since during activity periods in the auditorium,

office traffic is frequently a cause of disturbance and often the noise of the activity causes distraction to those working in the office each time the door is opened between. Gaining access to the office through a library is certainly unhandy to say the least.

In all suites containing a private office in addition to the general office or waiting room, the private office opens directly into the general office, the findings revealed. Counters are found between the clerical space and the public space or waiting room in each office containing such spaces. Clerical or secretarial control of office traffic is provided in all offices having such officials.

Built-in Office Fixtures.--The information gained from the questionnaires in regard to built-in fixtures tends to prove that such office adjuncts are only moderately common. This fact is displayed in Table XV.

TABLE XV
FREQUENCY AND PERCENTAGE OF SEVERAL ARTICLES
FOUND AS BUILT-IN FIXTURES IN THE OFFICES
STUDIED OR ADJACENT THERETO

Item Studied	Frequency	Per Cent of Schools Possessing Item
Cabinet	60	56.6
Bulletin Board	58	54.7
Trophy Case	34	32.1
Mail Boxes	28	26.4
Vaults	25	23.6
Clothes Closet	11	11.6

Cabinets and bulletin boards are built into over one-half of the offices studied. Trophy cases are found as built-in features in approximately one-third of the offices. Mail boxes and vaults are common to about one-fourth of the offices, while clothes closets are fixtures in less than twelve per cent of them.

No significant difference could be established between the percentages of the various items in large and small schools, nor in old and new buildings.

HEALTH FEATURES OF THE OFFICE

The health features discussed under this caption are: (1) ventilation; (2) heating; (3) lighting; and (4) floors and walls.

Ventilation.--The problem of providing adequate ventilation in a room that cannot be heated to a temperature of 68° Fahrenheit in a serious one, since no one wishes to let in cold air from the outside when the room is already too cold for occupancy.

The question asked in the questionnaire study was: "Can the office be heated to approximately 68° Fahrenheit in the coldest weather?"

From the compilations displayed in Table XVI, the conclusion may be drawn that the larger schools are in better condition in this respect since in all cases, even in the older buildings, it was reported that an approximate temperature of 68° was always possible in cold weather. However, the medium sized group of schools studied also reported 100

per cent ability to maintain such a temperature except among the group of schools constructed between 1902-1914. Among the smaller schools, it appears that heating facilities are improving as evidenced by the fact that in the older buildings 80 per cent of the offices could be so heated, while in the buildings built between 1926-1937, 92.3 per cent were capable of being heated in severe winter weather to that degree.

Unfortunately, because of the necessity for limiting the study, it was impossible to treat the subject of relative humidity in connection with the study of Oklahoma School conditions. However, there can be no question that this phase of health is one which is sadly neglected in our schools, classrooms and offices alike.

Heating.--A survey of heating methods was not made by the questionnaire method. The results of the personal visitation indicated three types of heating. Sixteen of the twenty schools had steam heat furnished by low pressure steam boilers, two were heated by individual gas stoves, two possessed radiators heated underneath by gas flames, and one was heated by a hot air furnace. (One school was heated by both a steam radiator system and gas stoves. This made it possible to heat the various rooms one at a time without firing the boiler.) There are still a few Oklahoma consolidated and village schools that are heated by individual wood or coal stoves. Five of the twenty heating plants were thermostatically controlled.

Lighting.--Among the twenty school offices visited, eleven were found in which natural light came to the office desk from the left, three desks obtained the light from the rear, and five received the light from the right. It is indeed peculiar that educators who would not allow

TABLE XVI
PERCENTAGE COMPARISON OF THE HEALTH FEATURES:
HEATING, WINDOW AREA, AND ARTIFICIAL LIGHTING
IN 106 SCHOOL OFFICES STUDIED

Year of Erection of Building and Item	Number of Teachers Employed			Total
	5 - 8	9 - 13	14 - 20	
1904-14 ₀				
68° Temperature	80.0	85.7	100.0	
1/5 Glass Area	80.0	85.7	66.7	
Semi-indirect L.	20.0	42.8	33.3	
No. Schools	5	7	3	15
1915-25 ₀				
68° Temperature	80.0	100.0	100.0	
1/5 Glass Area	73.3	100.0	73.3	
Semi-indirect L.	12.3	50.0	46.6	
No. of Schools	15	14	15	44
1926-37 ₀				
68° Temperature	92.3	100.0	100.0	
1/5 Glass Area	92.3	94.4	88.9	
Semi-indirect	23.1	66.7	55.6	
No. of Schools	13	18	9	40
No Date ₀ Shown				
68° Temperature	75.0	100.0	100.0	
1/5 Glass Area	75.0	100.0	50.0	
Semi-indirect	25.0	-	50.0	
No. of Schools	4	1	2	7
Total No. of Schools	37	40	29	106

light to come to a student's desk from the right under any circumstances, still permit the practice in their own offices to work hardships upon their own eyes!

Again referring to Table XVI, it will be noted that not all of our schools possess a window glass area equal to one-fifth of the floor area. One odd finding is that the smaller schools appear to meet this lighting need just a trifle better than the larger schools. A further study of the table seems to indicate that there is some improvement in this regard among the newer buildings. No group shows less than two-thirds of its membership meeting the required ratio.

An examination of semi-indirect lighting by artificial means as shown by Table XVI bears out the fact that except in the newer and larger schools, less than 50 per cent of the school offices surveyed employed semi-indirect lighting. Many of the questionnaires returned contained comments which indicated that the common artificial light was simply a bulb and socket suspended from the ceiling by a pair of light wires.

One hundred one schools reported the number of hours per week spent by the superintendent and principal at night in the office under artificial light. Table XVII reveals the number of hours so spent each week in the three-size groupings of schools studied. The average number of hours so spent each week is 3.24 or about one-half hour per day.

This does not take into consideration the dark days scattered all through the school year in which artificial illumination is necessary.

TABLE XVII
HOURS PER WEEK OF OFFICE NIGHT WORK REPORTED
BY 101 SCHOOLS STUDIED

No. of Teachers Employed in School	No. of Schools	Average Number of Hours
5 - 8	34*	2.16
9 - 13	39	3.75
14 - 20	28	4.21
Total	101	Mean 3.24

*Two schools reported no lights available

Table XVIII presents a sorry picture in regard to the adequacy of artificial light in our school offices.

TABLE XVIII
FOOT-CANDLES OF ARTIFICIAL ILLUMINATION AT POINT
OF MOST FREQUENT USE IN 17 SCHOOL OFFICES VISITED

Foot-Candles	Grouping by Number of Teachers Employed			Total Measured
	5 - 8	9 - 13	15 - 20	
0 - 1.9	2	-	-	2
2 - 3.9	1	1	1	3
4 - 5.9	1	3	2	6
6 - 7.9	2	2	-	4
8 - 9.9	-	1	1	2
Total	6	7	4	17

These measurements were made as explained in Chapter II by use of a sight meter. Since this experimentation necessitated actual visitation in order to insure accurate measurements, an extensive survey was impossible. If this meager

survey is indicative of actual conditions prevailing in our school offices, untold harm is being done to the eyes of our administrators who work under artificial lights. The table shows only two with even the minimum requirement of eight foot-candles at the point of most frequent use. None were found with the ten to twenty foot-candles recommended! Over one-half possessed less of light intensity than the recommended minimum for toilets and wash rooms.

Floors and Walls.--Very little was established in this respect in the study. In the twenty schools visited all of that number possessed rough, plastered walls which were painted a light color. All of the floors were made of pine flooring with no other covering with the exception of one office which afforded a rug. One office was finished with metal woodwork in place of the dark finished, regular woodwork found in the other nineteen.

OFFICE FURNITURE AND FIXTURES

The frequency of the most common articles of office furniture and fixtures as studied in the 106 schools surveyed appears tabulated as Table XIX. Filing cabinets are found more commonly than any other article according to the results obtained. Window shades and book cases are found in over one-half of the schools in the three groupings.

Flat-topped desks appear more frequently in the larger schools than in the smaller ones. Less than one-half of the offices in the smaller schools are equipped with this

type of desk. In the five- to eight-teacher group, 8.2 per cent of schools (three cases) had no office desks of any sort. The roll-top desk still is found in about one-half of the schools. However, in the larger schools both types of desks are often found in the same office. The office swivel chair which is preferable for desk use is not found in one-half of the small schools. Over 60 per cent of the larger schools are so equipped. The common straight-back chair and the low-back office chair still are used at the desks in many offices. A folding chair constitutes the desk chair in two small schools answering the questionnaire. Window curtains or drapes are common to about one-fourth of the school offices. Less than one-fifth of the school offices possess magazine racks. Safes are much more common in the larger schools than in the smaller ones.

Such items as waiting room furniture, rugs, and steel lockers are seldom found in our school offices in the sizes under discussion. The desk lamp, which is so essential to economical and correct lighting at a desk, is also infrequently found. They are more common in the larger schools than in the smaller ones. Duplicate key sets are kept in less than one-half of the school offices noted.

AIDS AND COMMUNICATION DEVICES

The percentages of aids and communication devices found in the different sized schools included in the 106 studied have been displayed as Table XX. Also in this table will be noted a comparison with some results from a similar

TABLE XIX
 COMPARISON OF PERCENTAGES OF SCHOOL OFFICES CONTAINING
 CERTAIN ARTICLES OF FURNISHINGS BY GROUPING ACCORDING
 TO TEACHERS EMPLOYED IN 106 SCHOOLS STUDIED

Item	Percentages		
	Number of Teachers Employed		
	5 - 8	9 - 13	14 - 20
File Cabinet	75.7	85.0	86.2
Window Shades	59.5	85.0	75.9
Bookcases	54.0	65.0	65.5
Type. Table (or stand)	45.9	77.5	79.3
Flst-top Desk	45.9	65.0	79.3
Roll-top Desk	45.9	60.0	48.5
Office Swivel Chair	40.5	67.5	62.0
Duplicate Key Set	32.4	42.5	48.3
Straight-back Chair	29.7	12.5	17.2
Low-back Chair	24.3	20.0	20.7
Curtains or Drapes	21.6	35.0	24.1
Magazine Racks	18.9	17.5	17.2
Safe	8.1	20.0	31.0
Waiting Room Furn.	5.4	25.0	24.2
Rug	5.4	7.5	3.4
Steel Locker	5.4	-	-
Folding Chair at Desk	5.4	-	-
Desk Lamp	2.7	5.0	17.2

study made a few years ago by Reavis and Woellner (25:98) among 522 representative schools in the United States. These latter schools all belonged to the North Central Association of Secondary Schools and therefore, probably represented a very much more selective group than those in the present study.

TABLE XX
PERCENTAGE COMPARISON OF THE NUMBER OF SCHOOL OFFICES CONTAINING CERTAIN OFFICE AIDS AND MEANS OF COMMUNICATION BY GROUPING ACCORDING TO NUMBER OF TEACHERS EMPLOYED IN 106 SCHOOLS STUDIED; ALSO COMPARISON TO THE REAVIS AND WOELLNER STUDY

Item	Percentages			Reavis and Woellner study
	Number of Teachers Employed 5 - 8	9 - 13	14 - 20	
Typewriter	67.6	75.0	100.0	98.1
Mimeograph	54.0	67.5	82.8	91.5
Signal Bell	40.5	32.5	27.6	(not shown)
Private 'phone	21.6	47.5	58.6	94.2
Public 'phone	18.9	25.0	31.0	
Buzzer Signal	13.5	10.0	3.4	(not shown)
Adding Machine	10.8	20.0	24.1	71.2
Multigraph	8.1	10.0	20.7	19.1
Central Control Clock	5.4	17.5	27.6	85.8
Public Address System (Radio Control)	-	5.0	3.4	(not shown)

The Reavis and Woellner report was made about seven years ago (it was published in 1930). Therefore, it may not be a very exact characterization of conditions today.

In view of this consideration, only generalizations clearly outstanding will be made from the comparison.

It will be noted that at that time the public address or radio control system was not common enough in schools to be included. Signalling devices were not listed either. The greatest use of such devices is to signal for the ending and beginning of class periods. In the schools noted by Reavis and Woellner, there would be little use for these signalling instruments, since 85.8 per cent of these schools possessed centrally controlled program clocks. Adding machines and program clocks were found to be much more common in the group surveyed by Reavis and Woellner. The Oklahoma schools in the fourteen- to twenty-teacher systems compared very favorably with those in the larger survey in regard to such items as typewriters, mimeographs, telephones, and multigraphs.

Among our Oklahoma schools, typewriters, mimeographs, telephones, adding machines, multigraphs, and centrally controlled program clocks were found to be much more common in the larger schools. Signal bells and buzzers tended to decrease as the program clock increased in frequency of appearance. This fact needs no explanation. The public address system is very seldom established in the school offices of the range studied, according to the findings shown.

Table XX evidences great need for office equipment of the types indicated, especially in the small schools and

also to a great extent in the middle-sized group noted. It shows a surprising lack of equipment vital to economic use of time and energy in the office. Not only is this true, but these conditions lead also to less efficient school management and poorer provisions for careful supervision. Therefore, if school administrative and supervisory practice is to be at its best in our schools, the office aids and communication facilities must be greatly improved, especially in the small schools.

OFFICE RECORDS

The subject of uniform and adequate records for our schools is one of outstanding importance to all Oklahoma administrators and supervisors. If remedial work of any nature is to be effective and pupil progress is to be assured, complete records of pupil accounting must be kept. If a harmonious and progressive school program is to result, many general records are necessary. If the many pitfalls due to unsystematic expenditures of public money are to be avoided, carefully kept financial records are incumbent upon the school administration. In addition to these records several temporary office records are necessary to efficient administration and supervision.

Records Required by the State Department of Education.

The following records which are required by the State Department of Education for accrediting are kept by all of the officials in the twenty schools visited.

I. Pupil Accounting

- A. Enrollment by Grades.
- B. Pocket Class Record of Attendance and Grades.
- C. Permanent Record of Attendance and Credit.
- D. Transcripts of Work Completed in Other Schools.
- E. Report Cards.

II. General

- A. Parts I, II, and III of the Application for State Accrediting.
- B. Certificates of Teachers, Truck Drivers, and Janitors.
- C. Cumulative record of Subjects Taught.
- D. Daily Programs or Schedule of Classes.
- E. Inventories of Equipment, Apparatus, Furniture, and Library Books.
- F. Statistical Report, Part I.
- G. File of State Bulletins.
- H. Transportation Map of Territory Traversed and Served by School Buses.
- I. Transportation Report of Bus Drivers
- J. Annual State Transportation Report.

III. Financial

- A. Statistical Report, Part II

All twenty schools keep the Athletic Eligibility Record and the Individual Participation Sheet required by the Oklahoma State Athletic Association. The time sheets, applications, pay roll memorandums, and the various bulletins of

the National Youth Administration were also kept by the twenty schools.

Records Required by State Law.--Such records as: claims for payment for merchandise sold to the school; the official estimate; the record of minutes of the board meetings; the record of minutes of the annual meeting; the census report; teachers contracts; and the warrant book are kept by all of the twenty schools visited. In most cases, however, the clerk of the board of education keeps these records at his home or place of business and not in the office.

Other Valuable Records Found.--In addition to the records required by the State Department of Public Instruction and by State Law, many other records should be taken into consideration. Records common to all or almost all of the twenty schools visited are: the Instructional Score Card; a calendar of events; absence and tardiness excuses; and office records of grades by four or six weeks periods. All but the smallest schools also afforded a card file of the pupils registered in the school.

Since, in virtually every instance, the records just discussed were located in the office records of the school, or at least kept by school authorities, it was not deemed necessary to reconsider them all again in the questionnaire study. A few of the more important ones are shown in Table XXI. The reason for this is to demonstrate how frequently they are to be found actually in the office.

Among the pupil accounting records shown in Table XXI it appears that the individual cumulative folder is the more common. It is not found, however, in half of the offices except in the smallest schools. The individual health record, the individual guidance record, and the record of punishment and problem cases could well be brought together into the one individual cumulative folder, making a simpler arrangement with fewer files.

The individual profile sheet or card which is so valuable in remedial and diagnostic work is seldom found in our schools. On the average, less than ten per cent of the schools make use of this record.

Age-grade and age-progress charts or cards are very necessary to point out necessity for remedial work with individuals and group weaknesses, yet they are not commonly provided in the usual school office records.

Among the general records, the teachers' semester summary is the more frequently found of those noted. It was observed to be common to approximately 70 per cent of the 106 schools covered by the questionnaire. Records of the annual meeting and of the board meetings were located as definite office records in over one-half of the schools reporting. The use of teacher rating cards is not general among the schools.

There is also a very apparent need for better financial records and accounting in Oklahoma school offices. Table XXI indicates that not many more than half of the schools

TABLE XXI
 PERCENTAGE COMPARISON OF CERTAIN OFFICE RECORDS
 KEPT IN 106 SCHOOL OFFICES STUDIED BY GROUPING
 NUMBER OF TEACHERS EMPLOYED

Type - Record	Number of Teachers Employed		
	5 - 8	9 - 13	14 - 20
Pupil Accounting Records			
Indiv. Cumul. Folder	54.0	45.0	31.0
Indiv. Health Record	27.0	32.5	27.6
Age-GradeChart	21.6	20.0	34.5
Indiv. Guidance Rec.	16.2	15.0	3.4
Age-Progress Chart	13.5	2.5	3.4
Indiv. Profile Sheet	10.8	10.0	3.4
Rec. of Punishment and Problem cases	8.1	17.5	20.7
General Records			
Teachers' Semester Sum.	67.6	70.0	72.4
Record of Annual Meet.	62.2	62.5	65.5
Record of Board Meet.	51.3	62.5	65.5
Teacher Rating Card	35.1	25.0	27.6
Financial Records			
General School Funds Expenditure Record or Encumbrance Record	67.6	85.0	79.3
Purchase Orders	56.7	62.5	58.6
Extra-Cur. Funds Rec'd	56.7	60.0	82.8
Detailed State. of Needs (annual)	56.7	70.0	79.3
Receipt Book	35.1	27.5	24.1
Insurance Record	32.4	67.5	69.0
Coupons on Bonds Rec'd	13.5	15.0	48.3
Long Term Fin. Plan	10.8	17.5	13.8
Tax Collections Rec'd.	5.4	7.5	20.7

represented use purchase orders. Yet any board of education may legally turn down any claim presented for payment, if a properly filled purchase order has not been made. Oklahoma school law provides that in such a case, the superintendent, principal, or other purchasing agent is liable for the entire bill.

Returns from the questionnaire study also indicate that many schools are negligent about keeping an extra-curricular funds record. Such a record will go far to show honesty and integrity on the part of the person handling this money to say nothing of providing a business-like procedure for accounting accurately. This lack of careful accounting has been a source of criticism of many otherwise competent school administrators in this state for many years. It is high time that this condition be remedied.

The careful use of a receipt book will also do much to remove all question about the proper accounting for all extra-curricular funds, yet relatively few of school officials employ this accounting device.

The use of a detailed annual statement of needs for the coming year is shown to be fairly common in our schools. This is not true of the long term financial plan. This latter condition is undoubtedly influenced somewhat by the relatively short tenure of school administrators in the schools making long term planning an uncertain procedure. This is not in defense of such an attitude, since no definite plan for a school program is complete without long term planning.

Without such planning, the program outlined must be a haphazard assembling of needs from year to year without any definite goal.

Finally, no financial records are adequate or complete without a record of insurance, coupons on bonds, and tax collections. At present, these records are not very commonly found as Table XXI will demonstrate. Especially is that true of the record of tax collections.

CHAPTER VII

CONCLUSIONS

Since this analysis represents a questionnaire survey of 106 representative schools selected by random sampling, featuring data from 15.73 per cent of the total number of schools in the state belonging to the classification studied, it is considered fairly representative of the whole number of such schools. While there is no intention to justify the conclusions drawn from the visitation of the twenty schools, it is interesting to note that there was close correlation in most cases between the findings from the visitation and the data resulting from the questionnaire study. A small deviation was noted in cases wherein subjective judgments played a part; the data from the questionnaire study were slightly more favorable to the school and its office than were the findings from the visitation.

It appears from the analysis that there is great need for better office facilities in our village and consolidated schools. Particularly is that true of the smaller systems. If it is impossible or impractical for the smaller units to obtain these facilities, then they must give way in time to larger units having more effective and efficient administration and supervision obtainable through better facilities.

Definite Observations.--In view of the findings from the data tabulated and studied, the following observations and conclusions seem justified.

1. In many cases, administrators and supervisors have all the routine office work. Better results would obtain with more clerical help. Less than one-fourth of the schools in even the fourteen- to twenty-teacher systems possess a clerk. This means that the time of a relatively highly paid superintendent or principal must be employed to do routine work which a much less expensive clerk could do, allowing more time to the superintendent or principal for administrative and supervisory functions.

2. First aid facilities are found to be sadly lacking in spite of the fact that school people recognize that health is a first principle in educational practice.

3. More rooms are needed in most office suites. A private office is a practical necessity, and yet it is found in only about one-half of the office suites of even the larger schools studied. Workrooms and waiting rooms are apparently still considered a luxury by authorities planning school offices. Every school office suite should contain three spaces or rooms: the public space, the clerical space, and the private office, yet by far the most common office is simply one large room.

4. The study has also revealed that the size of room ordinarily found in the office suite is entirely inadequate to house the necessary apparatus and permit the needful activities common to the room. Rooms possessing even the minimum number of square feet necessary for ordinary office functions are seldom found.

5. Built-in fixtures, in spite of their obvious advantages are generally overlooked and left out by those who plan the offices. Vaults are found far too infrequently. Less than one-fourth of the offices possess them. The reason for such poor office accommodations is because few definite criteria have been available in the past, judging by present conditions. Specifications for building plans have been vague and indefinite in regard to the office varying from no mention at all to little more than a small room left somewhere. Any competent architect can design a satisfactory office if he knows just what is desired but few school people know, themselves, just what is needful. The contractor cannot be blamed, since it is to his interest to fulfill his contract at the least possible expense to himself for labor and materials.

The blame then for the present conditions must be shouldered by the administrator and the school board who have failed to develop criteria to govern the construction and fixtures of the office suite. In contemplating any kind of school building program, the services of the Oklahoma State Schoolhouse Planning Board, a division of the State Department of Public Instruction, should be secured. The services of this office would save many serious and costly blunders in all school construction.

6. While heating, ventilating, and natural lighting facilities are generally fair in our schools, the study indicates that artificial lighting is not far short of being

atrocious. It was found that merely a small number of offices possess even the minimum number of foot-candles of light permissible. Not one of the number studied showed the recommended number. The purchase of a so-called "student lamp" which can be procured for the approximate sum of three dollars is recommended as being adequate to light properly an office desk. By moving this lamp, the right light intensity may easily be secured at the point needed. All lamps of this type which are properly constructed are stamped "I. E. S." This means that the lamp meets the standards of the Illumination Engineers Society referred to in Chapter V. A lamp which does not meet these specifications should not be purchased. On the whole, less than one-half of the school offices have semi-indirect lighting. The newer and larger schools show marked improvement in this respect.

7. Furniture, general office, and communication aids adequate for functional office needs are not to be found in most offices. As has already been observed, small schools are particular offenders in this respect. Almost one-half of the offices do not have the office swivel chair at the desks, but still utilize some other less comfortable type. Bookcases are found in over one-half the offices observed. Magazine racks and safes are not commonly found in offices, although they are needful equipment. Curtains and drapes which give an air of refinement to an office if carefully selected, are to be found in about one-fourth of the school

offices. Typewriters are common to about two-thirds of the small school systems, three-fourths of the middle sized systems, and in all the school offices of the larger classification surveyed. Telephones, mimeographs, signalling devices, and adding machines are far from being common in all schools, especially the smaller ones. As conservers of time and energy, these aids are essential.

8. While all records required by Oklahoma State Law and the State Department of Public Instruction are kept fairly well by the schools, there has been shown a vital need for record improvement. The subject of record improvement is, in itself, an ample one for the basis of several master's theses.

The individual cumulative folder containing all records on each individual student is recommended. Health and guidance records should be kept. At present these records are not found in one-half of the schools surveyed.

Purchase orders should be used for all school purchases and then become a part of the permanent records. Careful accounting should be given for all extra-curricular activity funds. More thorough planning of financial needs over a period of years should be made in most schools. Such records as that of insurance carried, coupons on bonds, and tax collections should be kept in the office.

APPENDIX A

A CHECK LIST FOR THE OFFICE SUITE

Field Survey of Offices

Name of School Surveyed _____, _____ County

I. General

A. Date of erection of building -----

B. Number of teachers:

1. Five to eight -----

2. Nine to thirteen -----

3. Fourteen to twenty -----

C. Number of administrative officers -----

D. Notes on remodeling of office since erection -----

E. Type of heating:

1. Steam or hot water - radiator -----

2. Gas stoves -----

3. Furnace-register -----

4. _____ -----

5. Thermostatic control -----

F. Type of walls:

1. Wainscot -----

2. Plaster -----

3. Composition, woodpulp, etc. -----

4. Wallboard -----

5. _____ -----

G. Sketch showing location of office suite in building

H. Sketch showing principal items of equipment found

I. List of records kept:

1. Pupil accounting

- a. Age-grade card-----
- b. Age-progress card-----
- c. Athletic eligibility-----
- d. Census report-----
- e. Cumulative folder (individual) -----
- f. Educational age-grade card or sheet -----
- g. Enrollment by grades-----
- h. Guidance record card -----
- i. Health record card -----
- j. Individual participation sheet
(athletic groups) -----
- k. Individual profile sheet -----
- l. Office record of grades by six
weeks or month -----
- m. Pocket class record (attendance and grades)-----
- n. Permanent record of units of credit by
semesters -----
- o. Record of punishment of problem cases -----
- p. Registration card-----
- q. Students' transcripts -----
- r. Transfers:
 - (1) Applications for transfer -----
 - (2) Transfer lists -----
 - (3) Record of attendance of transferred pupils---

2. General records:

a. Application for State Accrediting:

(1) Part I -----

(2) Part II -----

(3) Part III -----

b. Certificates:

(1) Teachers -----

(2) Truck drivers -----

(3) Janitors -----

c. Cumulative record of subjects

taught by years -----

d. Daily programs -----

e. Instructional Score Card -----

f. Inventories - equipment, apparatus,
library, furniture, etc. -----

g. National Youth Administration

(1) Applications -----

(2) Time sheets -----

(3) Bulletins -----

h. Record of minutes of board meeting -----

i. Record of minutes of annual meeting -----

j. Rules and regulations -----

k. Statistical Report, Part I (State) -----

l. State bulletin file -----

m. Teacher transcripts -----

n. Teacher contracts -----

o. Teacher rating cards -----

p. Teacher semester summary	-----
q. Transportation map of territory	-----
covered by school buses	-----
r. Transportation report (bus drivers)	-----
s. Transportation report (State)	-----
3. Financial records	
a. Auditor's report	-----
b. Budgets	
(1) Long term financial plans	-----
(2) Detailed annual (used to	
determine needs for the year)	-----
(3) Official Approved Estimate and	
Financial Statement	-----
(a) Sources of income	-----
(b) Bonds purchased and	
outstanding	-----
(c) Distribution of funds in	
accounts	-----
c. Claims	-----
d. Coupons on bonds	-----
e. Expenditures and appropriation record	-----
f. Extra-curricular funds record	-----
g. Insurance record	-----
h. Purchase order (requisition)	-----
i. Receipt book	-----
j. Statistical Report (financial) Part II	-----
Secondary Aid Report	

k. Tax collections record	-----
l. Warrant book	-----
4. Temporary office records:	
a. Absence excuses	-----
b. Calendar of events	-----
c. Report cards	-----
d. School directory	-----
e. Tardy excuses	-----
f. Unsatisfactory work report to parents	-----
J. Check list of equipment:	
1. Adding machine	-----
2. Book case	-----
3. Bulletin board	-----
4. Chair (office swivel)	-----
5. Chairs (visitors)	-----
6. Clothes rack or closet	-----
7. Cot (first aid)	-----
8. Counter in secretarial space	-----
9. Desk (flat-top office)	-----
10. Desk or work table	-----
11. Desk lamp	-----
12. Filing cabinet	-----
13. First aid kit	-----
14. Key cabinet (for all school keys)	-----
15. Laboratory	-----
16. Mail boxes for teachers	-----
17. Magazine rack	-----

18. Multigraph	-----
19. Mimeograph or other duplicator	-----
Mimeoscope	-----
20. Pictures on wall	-----
21. Program clock	-----
22. Public address system	-----
23. Rug on floor	-----
24. Teachers register	-----
25. Telephone	-----
26. Typewriter	-----
Typewriter table	-----
27. Trophy case	-----
28. Vault or safe	-----
29. Waste basket	-----
30. Window drapes or curtains	-----
31. Window shades	-----

II. Office (Private)

A. Type of lighting	
1. Direct	-----
2. Semi-indirect	-----
3. Indirect	-----
B. Foot-candles of light at point of frequent use	-----
C. Window area compared to floor area	-----
D. Floors	
1. Linoleum, cork, fiber, composition or rug on a wooden floor	-----

- 2. Bare wooden floor -----
- 3. Cement floor -----
- E. Ventilation
- 1. Windows only -----
- 2. Window ventilators -----
- 3. _____ -----
- F. Measurements of room and chief items of equipment

III. Secretarial space

- A. Type of lighting
- 1. Direct -----
- 2. Semi-indirect -----
- 3. Indirect -----
- B. Foot-candles of light at point of
frequent use -----
- C. Window area compared to floor area -----
- D. Floors
- 1. Linoleum, cork, fiber composition
or rug on floor -----
- 2. Bare wooden floor -----
- 3. Cement floor -----
- E. Ventilation
- 1. Windows only -----
- 2. Window ventilators -----
- 3. _____ -----

F. Measurements of room and chief items of equipment

IV. Waiting room

A. Type of lighting

- 1. Direct -----
- 2. Semi-indirect -----
- 3. Indirect -----

B. Floor

- 1. Linoleum, cork, fiber, composition
covering or rug on floor -----

C. Measurements of room and chief items of equipment

V. Other rooms included in the office suite

- A. Library -----
- B. Workroom -----
- C. First aid -----
- D. Radio closet, space or room -----

APPENDIX B

A QUESTIONNAIRE ON THE SCHOOL OFFICE

Name of the School _____, _____ County

Date of erection of building in which office is located

Number of administrative officers (superintendent, Principals, clerks, secretaries, etc.) using the office _____

Total number of the instructional staff in school _____

Functional Uses of the Office.

1. Does the board of education meet in the office? _____
2. Is there a first aid cot in the office? _____
3. Is there a first aid kit in the office? _____
4. How many hours per week does the superintendent and principal average working at night under artificial office light? _____
5. Do you have a secretary or clerk? _____

Location of Office in the Building.

(Underline items that apply to your office)

1. The office is on the (first, second, third) floor.
2. The main entrance to the office opens into (the corridor; a classroom; auditorium or gymnasium; library).
3. The office (is near the main entrance; is centrally located; has more than one entrance).

Design of the Office.

(Underline rooms or spaces common to the office suite and give measurements of each in the space following).

1. General office ___x___; private office ___x___;

secretarial space x ; workroom x ; waiting room
 x ; vault x ; first aid room or space x ;
 Board of Education room x .

(Answer yes or no if the statement applies to your school)

1. All private offices open into the waiting room or general office. _____

2. The rooms are directly accessible to each other _____

3. The arrangement permits the secretary to control office traffic. _____

4. The secretary or clerk has a counter to separate his (or her) space from the waiting room space. _____

Built-in Fixtures.

(Underline the items common to your office or proximity)

1. Bulletin board; clothes closet; cabinets; mail boxes for teachers; vault; trophy case.

Health Features of the Office.

1. Can the office be heated to approximately 68° Fahrenheit in the coldest weather? _____

2. Does the window space equal 1/5 or more of the floor space? _____

3. Are the light fixtures the semi-indirect (translucent, inverted bowl) type? _____

4. Do you use a desk lamp? _____

Office Furniture.

(Underline items of furniture contained in the office)

1. The desk chairs are (office swivel; low back, office style; ordinary straight back).

2. The office has (a bookcase; magazine rack; flat-topped desk; roll-topped desk; file cabinet; desk lamp; fire proof vault; safe; duplicate key set; waiting room furniture; typewriter table or stand; shades at windows; curtains or drapes at windows; rug on floor).

Office Aids and Communication.

(Underline the following items contained in the office or accessible to the office force)

1. Mimeograph; private telephone; public telephone; typewriter; multigraph; public address system; bell; buzzer, or signal light; central control clock; adding machine.

(Add here other aids found in your office)

Office Records.

1. Does the board of education keep its records in the school office? _____

(Underline the records kept in your office listed below)

2. Pupil Accounting Records (individual health record; individual guidance record; individual cumulative folder containing all records of a pupil; record of problem and punishment cases; age-grade chart; age-progress chart; individual profile sheet).

3. General Records (teacher's semester summary; teacher's rating card; record of board meetings; record of annual meetings).

4. Financial Records (auditor's report; long term financial plan; detailed annual statement of needs for the estimate; record of coupons on bonds; insurance record; purchase orders; receipt book; tax collections record; unified extra-curricular funds record; general school funds expenditures record).

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