

PLAYGROUNDS AND PLAYGROUND EQUIPMENT
IN THE
ONE-TEACHER RURAL SCHOOLS OF KANSAS.

J. H. Loganbill.

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BY

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CHAPTER I.

INTRODUCTION.

State Superintendent J. W. Miley, in his report for 1923-1924, states that there are 7559 one-teacher schools in the state of Kansas and that they outnumber all other types. These schools have enrolled approximately 115,000 pupils. The one-teacher rural school is therefore still an important institution in this state and indications are that it will remain so for some time in the future. Any progressive Educational policy must recognize the needs of the children in these schools.

The writer has had the opportunity of observing a number of the playgrounds and their equipments in the rural schools of the central part of the state. He was led to believe that they were inadequate in comparison with the playgrounds and the equipments in the city schools. The purpose of this investigation is to secure more definite information in regard to the school playgrounds and playground equipment in the one-teacher rural schools of Kansas. This study should be valuable for all those that are interested in the mental and physical growth of the child in the rural communities. It should be of particular interest for members of school boards, teachers in rural schools and county Superintendents. Mrs. Katherine M. Cook, head of the division of rural Education from the Department of the Interior says, "We have a good many

inquiries for more specific information such as your study, when completed, will doubtless give."(1)

1. Answer to a personal inquiry in regard to the study.

CHAPTER II.

INVESTIGATION OF LITERATURE.

After an investigation of the literature in this field the author was led to believe that this study was unique in its field. Mrs. Katherine Cook states that she knows of no other study like it. Mr. J. F. Rogers, Chief, Division of Physical Education and School Hygiene of the Department of the Interior Says, "We do not know of any study of the kind you propose which is being conducted in Kansas. We think it would be a very useful undertaking." (1)

Dr. F. P. O'Brien and Professor T. J. Smart of Kansas University in their study of "Schooling in One-teacher Schools" (2) made a comparative study of the results of instruction and the educational facilities provided in some one-teacher schools of Kansas. In this study they found that in six typical one-teacher schools in this ^{State} ~~three~~ had no playground equipment and that in all six no public funds were available for playground equipment. Not one of districts took any steps to make play serve in the interests of health in a systematic way.

F. B. Dresslar (3) made a study in 1914 which dealt with the one-teacher schools. A part of this study was devoted to the grounds of these schools. He made his investigation in two counties of each of the following eighteen states, Alabama, Arkansas, Colorado, Indiana, Maryland, Minnesota, Missouri, Montana, Nebraska, North

1. Answer to personal inquiry in regard to literature.
2. Bulletin of the University of Kansas, Vol. 22, Dec. 1921.
3. U. S. Bureau of Education, 1914: 12, 1-158.

Carolina, North Dakota, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, West Virginia and Wisconsin. He sent a total of 5300 questionnaires and received about fifty percent of returns. He found that the size of the schoolgrounds was as follows,

Size in Acres.	Number of Schools.
Less than $\frac{1}{2}$	321
$\frac{1}{2}$ - 1	406
1 - 2	394
2 - 3	74
3 or more	50

This table shows that there are 321 schools that had a schoolground area of less than one-half acre each. He further found that 156 schools had less than one-tenth acre of ground available for gardening, 34 had more than one-tenth acre, while 1106 schools had no ground available for gardening.

The study further states that 1030 schoolgrounds were on comparatively level land, 253 were on hilly land, 1014 were well drained while 234 were wet and undrained. 130 had one or more trees and 340 report no trees at all.

The United States Bureau of Education made an Educational Survey of the Schools of Arizona in 1917. (1) Questionnaires were sent to 390 schools and 213 or 55 percent answered. 149 of these schools or 70 percent

1. U.S. Bureau of Education, Bulletin, 1917, No. 44.

were one-teacher schools, 35 were two teacher schools and 29 were three-teacher schools. It was found that 66 schools or 32 percent had some playground equipment and 136 schools or 68 percent had no playground equipment. 70 schools had fenced yards and 143 had no fences. 104 schoolgrounds had one or more trees while 98 had no trees.

An investigation was made under the direction of a joint committee of the American Medical Association and the National Council of Education in 109 one-teacher rural schools in the states of New York and New Jersey. (1) This investigation shows that 74 schools have less than one-half acre of school ground, 25 have between one-half and one acre and 10 have from one to two acres. 32 school buildings were located on the side of a hill, 43 on level ground, 28 on high ground and 6 on low ground.

While the investigations in regard to the playgrounds and playground equipment in the one-teacher schools have been limited there have been many studies made in regard to the playgrounds and their equipment in the larger cities. An illustration is the Madison Recreational Survey made at Madison, Wisconsin. (2) This survey purposes, 1. To determine what the recreational needs or demands of the population of Madison are as indicated by their activities and efforts; 2. To discover what facilities there are to meet the needs by a survey of the city

1. U.S. Bureau of Education. Bulletin, 1914: 12.
2. Madison Recreational Survey.

and its environment and by a study of the various agencies that supply recreation; 3. To indicate the social, educational, and economic influences of the various recreational activities as they exist; 4. To show where the facilities of the better class that exist might be more effectively used and where other facilities and organizations are needed; 5. To make recommendations concerning needs, facilities, influences, organizations and effort, and propose a plan for constructive civic effort that will make play and recreation life of the city wholesome and progressively better.

The survey advances the following factors as criteria for judging a playground, namely, distance, location, equipment, surface and supervision.

Other playground investigations were made in Pittsburgh, Washington, Buffalo, and other cities.

The United States Bureau of Education, Bulletin of 1912, gives definite requirements for a suitable playground and its equipment. It states that the four factors that are necessary in order that a playground may function properly are first and most important, playground organization; second, equipment for games; third, provisions for athletics; and fourth, playground apparatus.

The investigations that have been made in the one-teacher rural schools state: the size of the playgrounds, the location of the grounds and whether they have playground equipment; they give the number of trees on the

schoolground and one study has investigated whether funds were available for playground equipment. The questionnaire method of investigation was used in those studies where a large number of schools were involved. The data for "Schooling in One-teacher Schools" was secured first hand.

Most of the above studies have not investigated the number of pupils that use the playgrounds, the time that they spend on the playgrounds and the type of games that they play. Although statements are made whether or not there is playground equipment, no effort has been made to determine the kind of playground equipment that is available. It would also be interesting to know the attitude that the patrons, schoolboards and teachers take toward play activities.

CHAPTER III.

SPECIFIC PROBLEM.

The specific problem for this investigation is a study of typical playgrounds and playground equipment of the one-teacher rural schools of Kansas. The problem is (1) to find the number of pupils that make use of the playgrounds, (2) the time that they spend on the playgrounds, and (3) the kind of games that they play. The study shall discover (4) the playground space per pupil as well as the size of the schoolgrounds. Another part of the problem is (5) to discover the attitude taken toward play activities by the patrons, the school boards and the teachers. The problem is not only to discover if there is playground equipment but (6) to find out what kind of equipment is used. The solution of this problem should (7) determine the various obstacles and buildings on the schoolground and the playground space available.

The questions in this problem can be grouped into six groups. The first deals with the general information in regard to the school; the second with the schoolground; the third with the equipment and apparatus on the schoolground; the fourth with the use that is made of the schoolground and the kinds of games played; the fifth part deals with the attitude that is taken toward play activities; and, sixth is a school map giving an approximate location of the school buildings and playground apparatus.

CHAPTER IV.

THE QUESTIONNAIRE STUDY.

The questionnaire method was employed to secure the information for this study. As there was no suitable questionnaire available to obtain the desired information one had to be devised for this purpose. The questionnaire as it was first worked out was given to eighteen University students who had at one time taught in a one-teacher rural school and they were asked to fill in the questionnaire, keeping in mind a particular school in which they had taught. Answers to questions such as dimensions of school-grounds were to be estimated. They were further requested to mark any question that was not clear in its meaning. After these questionnaires were returned they were carefully checked over and questions that were not clear were restated. This questionnaire was then submitted to a number of specialists in the field of Education for final approval. A copy of this questionnaire may be found on the next page.

It was the aim of the author to make the study in one-half of the counties of the state taking every other county. Letters were written to 53 county Superintendents asking them for their cooperation in this study, and for a directory of the schools of their county. 31 Superintendents^{sent} either a directory or the names of the teachers of their county, with their addresses. One Superintendent sent the questionnaires to the teachers of her county.

Questionnaire for the Study of the Playgrounds and Playground Equipment
in the One-teacher Rural Schools of Kansas.

This questionnaire is sent out to secure information with reference to the playgrounds and playground equipment in the one-teacher rural schools of Kansas. This study is approved by the School of Education of the University of Kansas and also by State Superintendent J.W. Miley.

Please fill in this questionnaire as promptly and as accurately as you can and send it to J.H. Loganbill, Lawrence, Kansas.

Your personal cooperation in this study will be deeply appreciated.

A. GENERAL INFORMATION ABOUT YOUR SCHOOL.

- | | |
|---------------------------------------|----------------------------------------|
| 1. Date | 7. Name of teacher |
| 2. County | 8. Address |
| 3. Name of school | 9. Teacher is, Male. . . Female. . . |
| 4. District number | 10. Number of boys enrolled |
| 5. Rating of school. | 11. Number of girls enrolled |
| 6. No. months in school term. | 12. Total enrollment |

B. SCHOOL GROUND.

- | | |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 1. Length of schoolground in ft. | (Under score the word that describes the conditions in your school) |
| 2. Width of schoolground in ft. | |
| 3. Length of schoolhouse in ft. | 10. Is school centrally located with reference to district, Yes, No. |
| 4. Width of schoolhouse in ft. | 11. The road leading to the school house is Good, Fair, Poor. |
| 5. Number of trees on ground | 12. The schoolground is Hilly, Rolling, Level |
| 6. Number of flower beds | 13. The drainage is Good, Fair, Poor. |
| 7. Number of shrubs. | 14. The schoolground is fenced on One, Two, Three, Four, No sides. |
| 8. Check the following if found on schoolground, a. Toilets, one..two. | 15. Give number of sides fenced with Barb-wire. . . , Woven-wire. . . , Trees. |
| b. Fuel house. . . ; c. Stable . . | Stone fence. . . , Board fence. . . |
| d. Agriculture plot. | Trimmed hedge. . . , Other fence. . . |
| e. Well or cistern | |
| 9. What percent of ground is covered with, a. Grass. . . . ; b. Weeds. . . | |
| c. What percent is bare | |

C. EQUIPMENT AND APPARATUS.

- | | |
|--------------------------------------------------------|-----------------------------------------------------------------------------|
| 1. Check the following if you have them in your school | |
| a. Sand-box. | q. Tennis balls |
| b. Slide. | r. Horse shoes. |
| c. Swing. | s. List other play equipment and apparatus found in your school |
| d. Teeter-totter(see-saw). | |
| e. Horizontal bar. | |
| f. Giant-Stride | |
| g. Merry-go-round. | |
| h. Basket ball goals. | 2. Money spent for play equipment and apparatus this year \$. |
| i. Base ball diamond | 3. Amount of money secured for play equipment and apparatus this year from- |
| j. Foot ball goals. | a. School board. |
| k. Volley ball | b. School programs |
| l. Base ball. | c. Pupils. |
| m. Indoor base ball | d. Teachers |
| n. Basket ball. | e. Other sources |
| o. Foot ball | |
| p. Tennis net | |

D. USE OF SCHOOL GROUND.

1. Does your school enter competitive contests with other schools in
 - a. Base ball
 - b. Basket ball
 - c. Foot ball
 - d. Volley ball
 - e. Tennis
 - f. Track
 - g. Other athletic contests
2. How many minutes are allowed daily for recess and noon intermissions. . . .
3. How much time do you spend on the playground daily
4. Do you direct or supervise the playground activities.
5. Name in their order the ten games played most by the pupils this year-
 1.
 2.
 3.
 4.
 5.
 6.
 7.
 8.
 9.
 10.
7. Does the community use the schoolground for-
 - a. Picnics.
 - b. Athletic activities
 - c. Community gatherings.
8. What use is made of the playground in summer time
9. Are the weeds kept down
10. Do pupils use playground on Saturdays

E. ATTITUDE TOWARD PLAY ACTIVITIES.

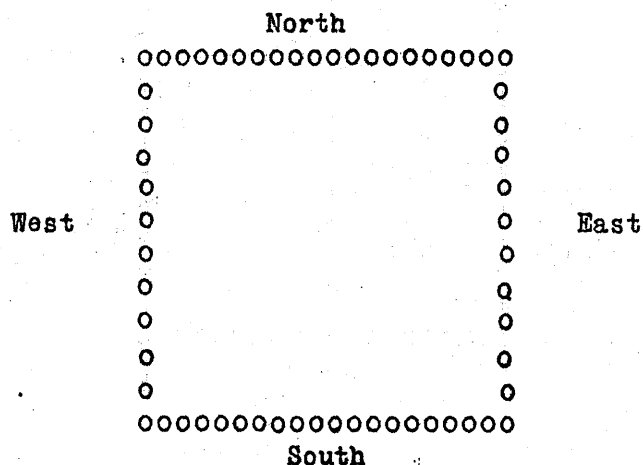
(Underscore the words that answer the following questions)-

1. Do patrons take an interest in pupils' play activities, Yes, No.
2. Does your school board consider play activities as, Essential, Unessential, A hindrance.
3. Do you think that play has any definite relation to the mental development of children, Yes, No.
4. Do you encourage play activities as a part of your Educational program, Yes, No.
5. Does play activity exert a vital influence upon your pupils, Yes, No.

F. SCHOOL MAP.

1. Let the square below be a picture of your schoolground. Please indicate on it the location of the following items- indicate the location of the Building by the letter -B

Base ball diamondD
 Basket ball courtC
 ToiletsT
 Well or cisternW
 RoadsR
 TreesX
 Flower bedsF
 Fuel houseH
 StableS
 Play apparatusA



Questionnaires were sent to all the teachers of the one-teacher rural schools of 32 counties of this state.

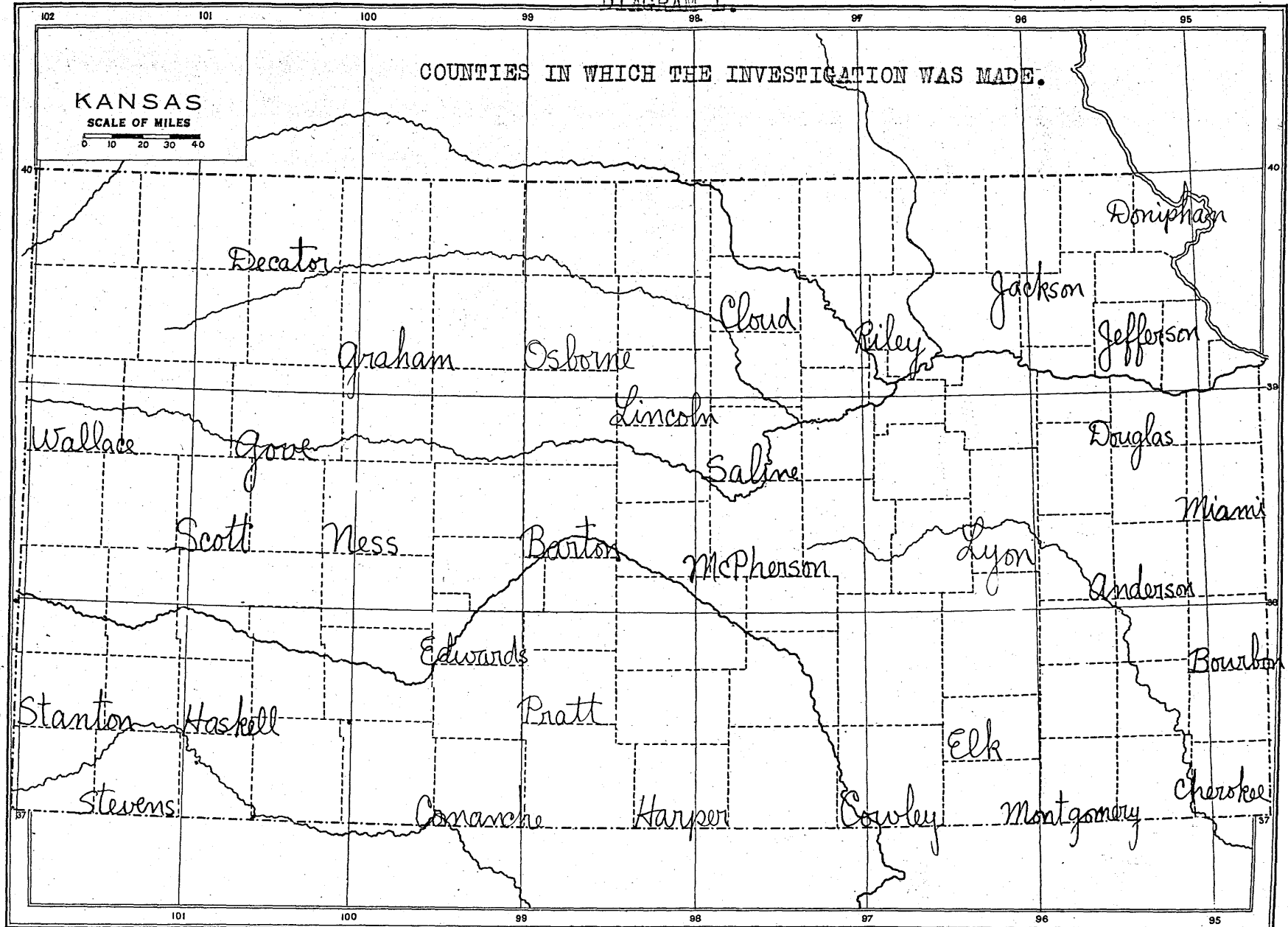
TABLE I.

Number of Questionnaires That Were Sent to Each of the 32 Counties and the Number and the Percent That Were Returned.

Counties.	Questionnaires Sent.	Number Answered.	Percent Answered.
Anderson	79	34	43.5
Barton	93	18	19.3
Bourbon	99	118	18.1
Cherokee	82	16	19.5
Cloud	102	29	28.4
Comanche	34	10	29.4
Cowley	125	36	28.8
Decatur	79	28	35.4
Doniphan	59	21	35.5
Douglas	76	29	38.1
Edwards	29	9	31.
Elk	70	17	24.2
Gove	41	15	36.5
Graham	78	20	25.6
Harper	74	24	32.4
Haskell	23	6	26.
Jackson	92	23	25.
Jefferson	75	23	30.6
Lincoln	84	28	33.3
Lyon	101	39	38.6
McPherson	105	51	48.5
Miami	94	27	28.7
Montgomery	90	14	15.5
Ness	63	16	25.3
Osborne	98	32	32.7
Pratt	45	12	26.6
Riley	64	27	42.1
Saline	74	25	33.7
Scott	23	11	47.8
Stanton	17	4	23.5
Stevens	36	9	25.
Wallace	22	8	36.3
Total	2225	685	30.8

This table reads, 79 questionnaires were sent to Anderson county and 34 or 43.5 % were returned. The total number of questionnaires sent to teachers was 2225 and

DIAGRAM I.



685 or 30.8 percent were returned. Eleven more questionnaires came too late to be included in this study. 679 questionnaires are used in the tabulations in the next chapter as those were all that were available when the tabulations were made. 487 questionnaires were received within three weeks after the questionnaires were sent out. The remaining 98 were received after a follow up letter was sent to those teachers not sending in the questionnaire.

The percent of returns in this study is less than the percent of returns in some of the investigations mentioned in chapter II. The returns in Dresslar's study was 50 percent and in the Arizona Survey it was 55 percent. The lower percent of returns in this study can in part be accounted for the fact that a part of the schools were closed when the questionnaires were sent. The follow up letters were sent after all the schools were closed. It was the aim of the author to send the questionnaires four weeks before the close of the rural schools and send the follow up letters two weeks later. It was impossible to get them in the hands of the teachers at that time and the result was a lower percent of returns.

CHAPTER V.

TABULATION OF DATA AND INTERPRETATION OF RESULTS.

The rating of the schools in this study show that two are superior, 86 are standard and the remaining teachers left this question blank. Of the remaining ones a number stated that they did not know what was meant by the question. In order to have obtained better results the question should have been stated, is your school Superior, Standard or Unstandardized ?

In order to determine the period of time that the playground is used it is necessary to know the length of the school term. According to law all schools of the state are required to maintain a school term for a period of not less than eight months.

TABLE II.

The Length of the School Terms of 679 Schools.

Schools having seven months term	1
Schools having eight months term	662
Schools having eight and one-half months term	1
Schools having nine months term	15

The facts in this table show that out of eight months of each year the pupils of the one-teacher rural schools have the opportunity to use the playgrounds of the schools for their playtime.

The number of women teachers in the one-teacher rural schools far outnumber the men teachers as is illustrated by the following table.

DIAGRAM II.

Distribution of Men and of Women Teachers in 679
One-teacher Rural Schools of Kansas.

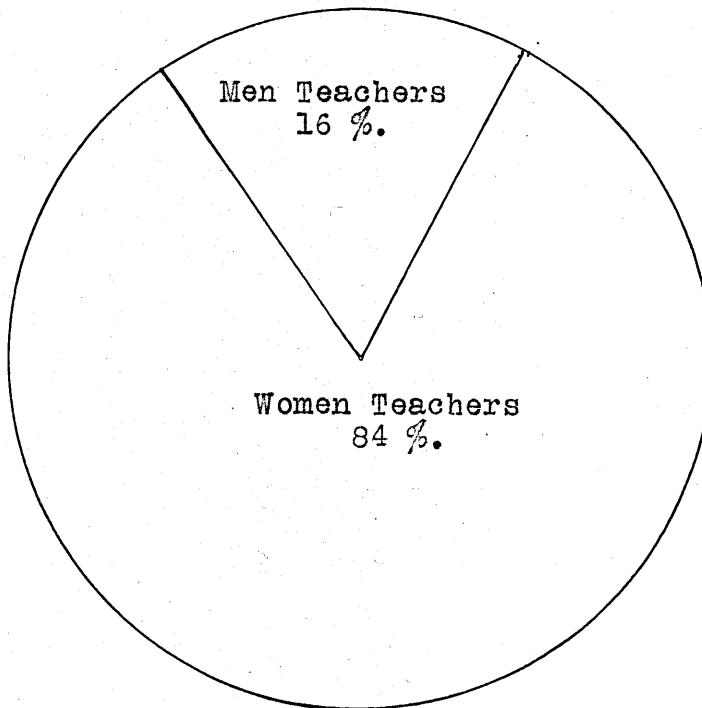


DIAGRAM III.

Diagram showing the Length of the School Terms.

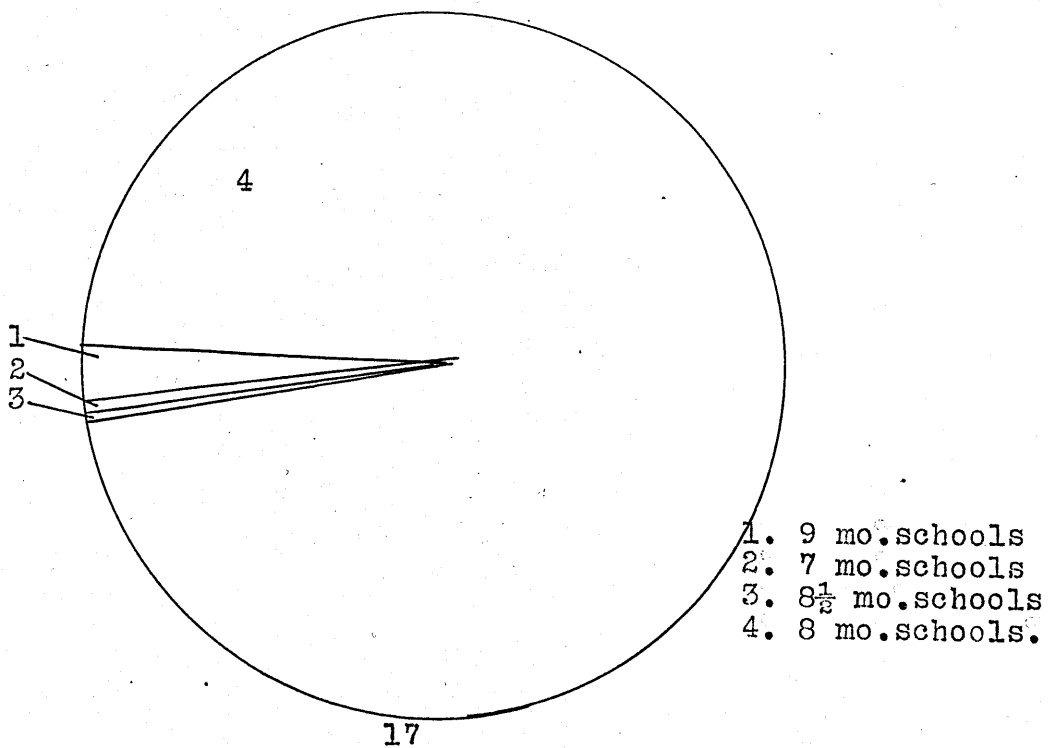


TABLE III.

Number of Men and Women Teachers in 679 Schools.

Number of Men Teachers 109

Number of Women Teachers 570

Total 679

This table shows that a large majority of the pupils on the playgrounds of these schools are under the supervision of women teachers. In the city schools the boys' play activities are supervised by men teachers but the country boy in most cases is denied this advantage.

Table IV.

Distribution of the Boys and the Girls in Schools Reporting.

Number Enrolled	Schools Having Boys	Schools Having Girls	Number Enrolled	Schools Having Boys	Schools Having Girls.
0	4	9	23	0	1
1	10	18	24	0	1
2	19	22	25	0	0
3	21	53	26	0	0
4	43	67	27	1	0
5	66	64	28	0	0
6	51	62	29	1	0
7	67	64	30	0	1
8	65	54	31	0	0
9	65	53	32	1	0
10	58	40	33	0	0
11	46	34	34	0	0
12	34	38	35	0	0
13	43	25	36	0	0
14	19	19	37	0	0
15	17	16	38	0	0
16	11	7	39	0	0
17	15	7	40	0	0
18	6	4	41	1	0
19	4	5			
20	2	6	Median	3.35	7.65
21	2	3			
22	3	3	Q.	2.85	3.02

Table IV should read, there are four schools that have

DIAGRAM IV.

A Graph Showing the Distribution of the Boys and Girls Enrolled in 675 One-teacher Schools

Number
of
Schools

196-210

181-195

166-180

151-165

136-150

121-135

106-120

91-105

76-90

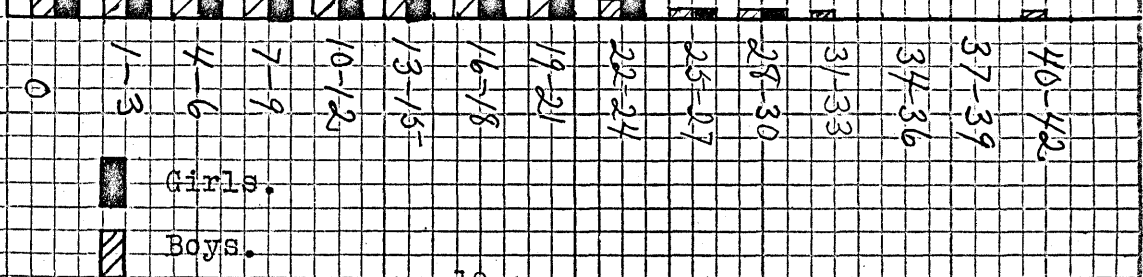
61-75

46-60

31-45

16-30

1-15



no boys enrolled and nine schools that have no girls enrolled. Ten schools have one boy enrolled and eighteen schools have one girl enrolled in each school. There is one school that has 41 boys enrolled and one that has 30 girls enrolled. The median enrollment is 8.85 boys and 7.66 girls. This table shows that the enrollment by sex for each school is small. Many of our popular games are impossible in these schools because of the limited number to participate. According to official rules 18 players are necessary to play base ball. There are 21 of the 579 schools that have the required number of boys enrolled, not considering the age nor the size of the boys. 7 schools have the required number of boys to play foot ball and 264 to play basket ball. The result is that if these are played the boys and the girls must play together or these games must be so modified as to be played by a smaller number.

The total enrollment varies from one to 65 pupils. The play activities in the one can not be the same that they are in the other. In the one, games like throwing jar rubbers predominate while in the other foot ball, base ball and basket ball are more popular. The problem of supervision in the the small school will be different than in the larger school. The playground equipment will necessarily be different in the two schools.

TABLE V.

Student Enrollment Per School.

Number of Pupils Enrolled.	Number of Schools.
1- 3	6
4- 6	42
7- 9	69
10-12	97
13-15	109
16-18	117
19-21	75
22-24	64
25-27	43
28-30	19
31-33	13
34-36	9
37-39	7
40-42	3
43-45	0
46-48	0
49-51	0
52-54	1
55-57	1
58-60	0
61-63	0
64-66	1
Total	676
Median	16.37
Q.	5.02

Table V reads, there are 6 schools that have from 1 to 3 pupils enrolled in each school, 42 have from 4 to 6 pupils and 62 schools have from 7 to 9 pupils enrolled in each school. The median for the 676 schools reporting is 16.37, which, as we may read from the preceeding table are about equally divided between boys and girls.

Diagram V.

A Graph Showing the Distribution of the Pupils
Enrolled in 675 One-teacher Schools.

Number
of
Schools

173-120

105-112

97-104

89-96

81-88

73-80

65-72

57-64

49-56

41-48

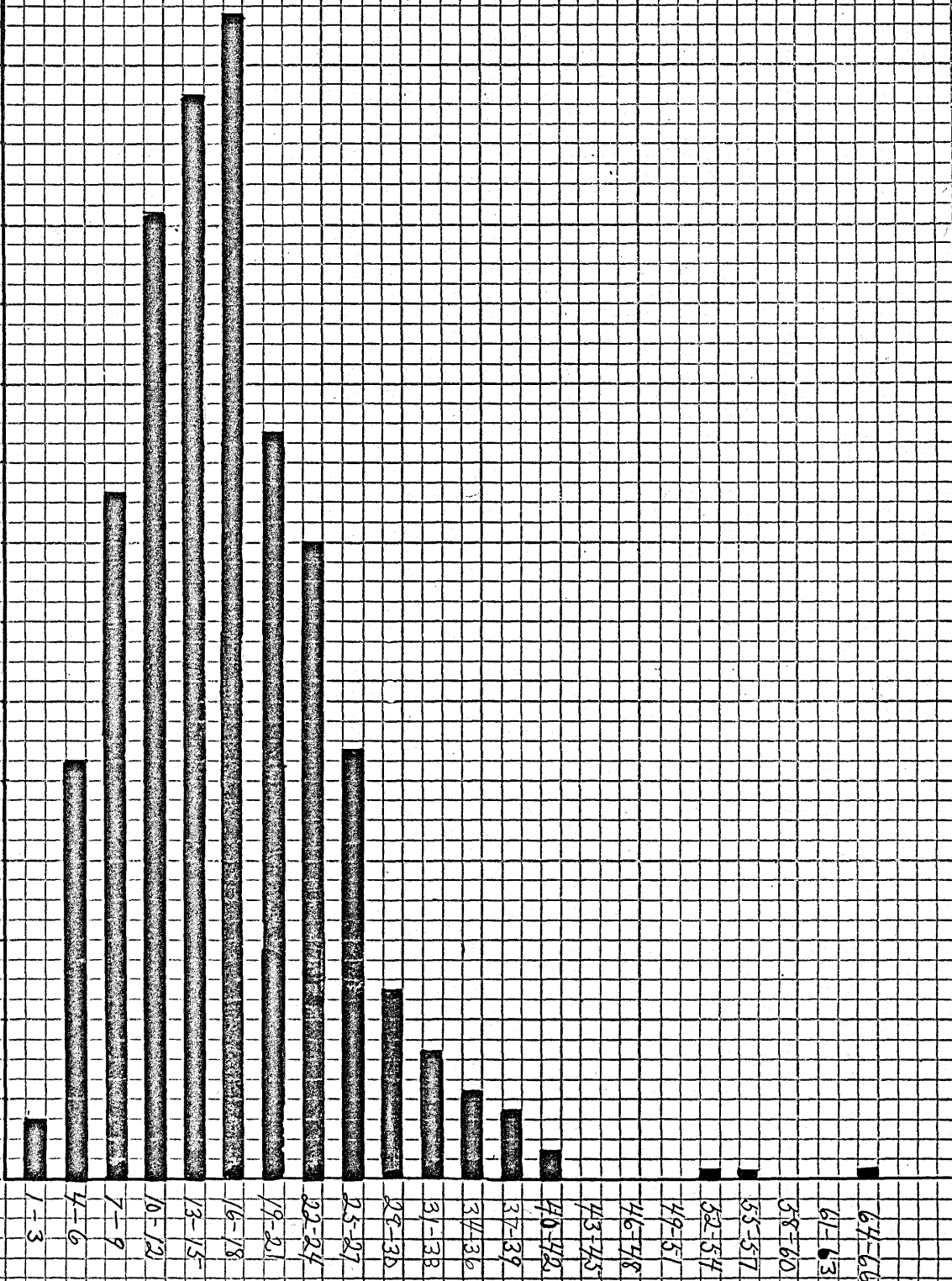
33-40

25-32

17-24

9-16

1-8



The Number of Pupils per School.

TABLE VI.

Size of 504 Schoolgrounds.

Size in Acres.	Number of Schools.
0- $\frac{1}{4}$	22
$\frac{1}{4}$ - $\frac{1}{2}$	35
$\frac{1}{2}$ - 1	59
1- 1 $\frac{1}{2}$	111
1 $\frac{1}{2}$ - 2	139
2- 2 $\frac{1}{2}$	44
2 $\frac{1}{2}$ - 3	21
3- 3 $\frac{1}{2}$	8
3 $\frac{1}{2}$ - 4	32
4- 4 $\frac{1}{2}$	5
4 $\frac{1}{2}$ - 5	5
5- 5 $\frac{1}{2}$	5
5 $\frac{1}{2}$ - 6	2
6- 6 $\frac{1}{2}$	0
6 $\frac{1}{2}$ - 7	2
7- 7 $\frac{1}{2}$	0
7 $\frac{1}{2}$ - 8	1
Above 8	15
Median = 1.045 acres.	
Q. = .273 acres.	

This table should read, there are 22 schools that have a schoolground area of less than one-fourth acre each, 35 that have an area of one-fourth to one-half acre each and 59 schools have an area of one-half to

three-fourth acre each. The median for the 564 schools reporting is 1.045 acres. H. S. Guttis in "School Grounds and Play" states that many schools in Delaware were built without playgrounds. This is not the case in Kansas schools as they all have playground space. There are, however, 45 percent of the schools that have less than one acre of schoolground which is often recommended as the minimum area for a schoolground. The Kansas law states, "When the school site is not in the city limits it shall not be less than one acre." 55 percent of the 504 schools comply with this law. The rules as passed by the State Board of Education of Delaware in 1921 state that the site for a one-room school shall not be less than two acres. 12.8 percent of the 504 schools reporting have schoolgrounds of two acres or more each.

TABLE VII.

A Distribution by percent of the Areas of the Schoolgrounds of Three Investigations.

Size in Acres.	504 Kansas Schoolgrounds.	Dresslar's Study of 1245 Schools in 18 States.	109 Schools in New Jersey and New York.
0- $\frac{1}{2}$	11.3	25.7	67.8
$\frac{1}{2}$ -1	31.4	32.6	22.9
1-2	42.	31.6	9.
2-3	8.5	5.9	
Above 3	3.9	4.	

This table reads, of the 504 schools for which information was secured, 11.3 percent had schoolgrounds of less than one-half acre each, 25.7 percent of the

schools in Dressler's investigation came in this group and 67.8 percent of the schools in the study made by the American Medical Association and the National Council of Education. A smaller percent of the Kansas playgrounds fall in the first class but a larger percent come in the third and fourth groups.

TABLE VIII.

Playground Area per Pupil in Square Feet for 10950 Pupils.
(Area of Building Deducted.)

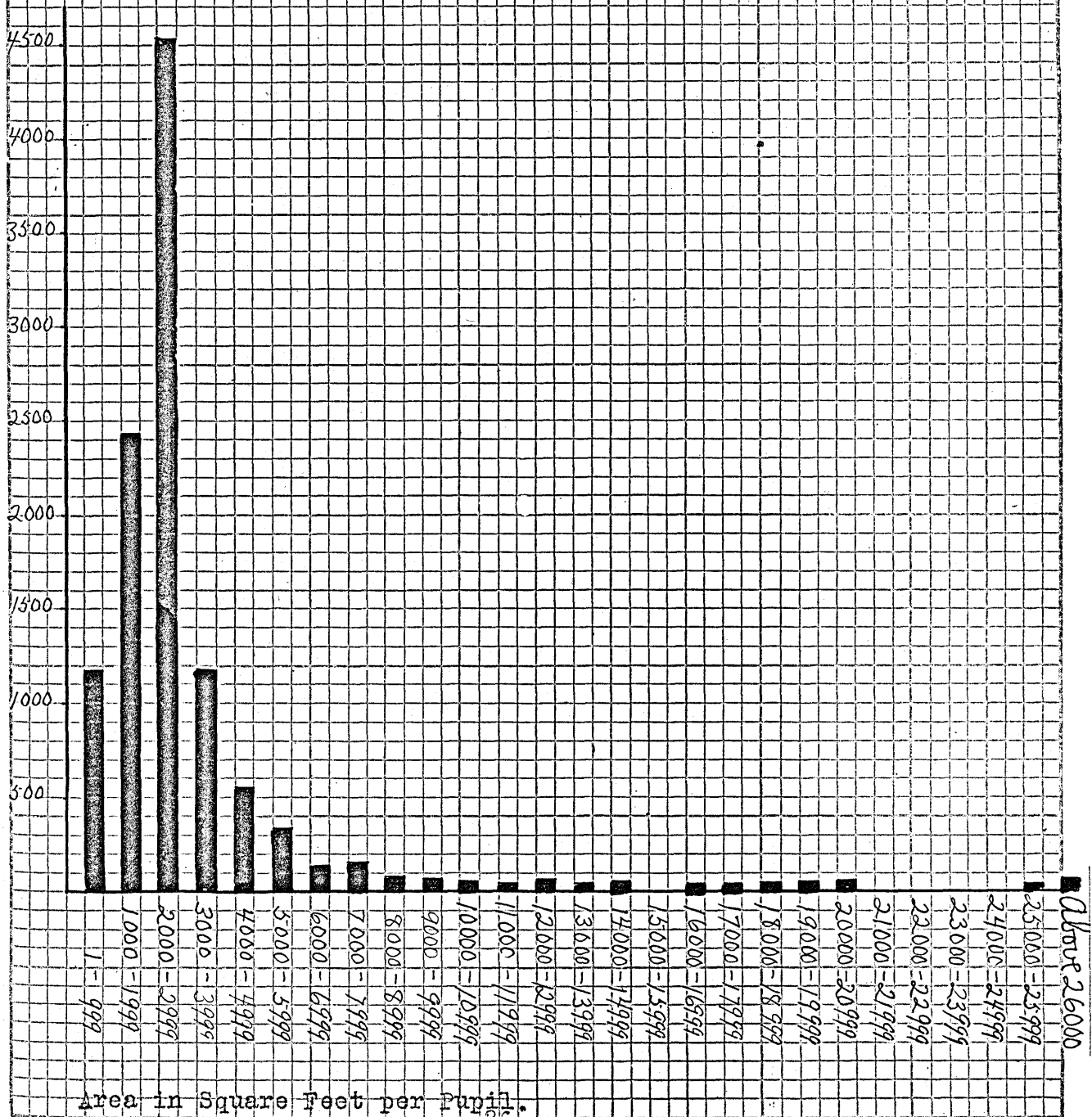
Area per Pupil in Square Feet.	Number of Pupils.	Area per Pupil in Square Feet.	Number of Pupils.
0- 999	7166	13000-13999	22
1000-1999	2413	14000-14999	31
2000-2999	4531	15000-15999	0
3000-3999	1166	16000-16999	26
4000-4999	550	17000-17999	20
5000-5999	312	18000-18999	19
6000-6999	123	19000-19999	22
7000-7999	154	20000-20999	21
8000-8999	72	21000-21999	0
9000-9999	61	22000-22999	0
10000-10999	44	23000-23999	0
11000-11999	27	24000-24999	0
12000-12999	58	25000-25999	17
		Above 26000	73
Median = 2418 Square Feet. Q. = 717.5			

Table VIII should read, there are 1166 pupils in 504 one-teacher schools that have a playground space per pupil of less than 999 square feet, 2413 pupils have a playground area of 1000 to 1999 square feet per pupil and 4531 pupils have a space of 2000 to 2999 square feet each. The median playground space per pupil is 2418 square feet. The minimum in these schools is 127 square feet for each of the 35 pupils in one school. One of the features of

DIAGRAM VI.

A Graph Showing the Playground Space per Pupil
for 10950 Pupils in Kansas One-teacher Schools.

Number
of
Pupils.



Area in Square Feet per Pupil.

these playgrounds is the adequate space per pupil. The National Education Association recommends 272 square feet of playground space per pupil. Strayer and Englehardt suggest 100 square feet as a minimum of playground space per pupil. All the 504 schools reporting have a playground area per pupil of more than 100 square feet and with two exceptions all have more than 272 square feet of playground space per pupil.

A playground is not adequate unless there are some trees properly located on the schoolground. H. S. Curtis in "School Grounds and Play" says, "A large tree, with spreading branches, offers many opportunities for play and for athletics. A limb is the cheapest and most satisfactory attachment for a trapeze, parallel rings and for a swing, as it furnishes also shade and much cooler shade than is cast by canvass awning. If there are a number of large branches it will also furnish a possible attachment for flying rings. Climbing ropes can be attached to the limbs as easily as to the framework of a gymnasium, and if knotted ropes are used, attached high up, the tree may be a pretty complete gymnasium."

The following table shows the number of Kansas schools that have trees and also the number of trees that are found on the schoolgrounds.

TABLE IX.

A Tabular Presentation of the Frequency Distribution of the Trees on 679 Kansas Rural Schoolgrounds.

Number of Trees.	Frequencies.	Number of Trees.	Frequencies.
0	388	41-45	2
1-5	135	46-50	4
6-10	54	51-55	2
11-15	46	56-60	0
16-20	18	61-65	1
21-25	10	66-70	0
26-30	7	71-75	0
31-35	0	76-80	0
36-40	4	81-85	0
		86-90	1
Median is less than one.			

This table reads, there are 388 out of the 679 schools that have no trees on their playgrounds, 135 schools have from 1 to 5 trees and 54 have from 6 to 10 trees on each schoolground. No information was secured in regard to the size of the trees. The following table gives a comparison, in percentages, of the schools having trees and those not having trees with the Arizona Survey and also with the schools investigated in Dresslar's study.

TABLE X.

Percentages of Schools Having Trees and Those Having no Trees in Three Investigations.

	679 Kansas Schools.	202 Arizona Schools.	470 Schools in Dresslar's Study.
Percent of Schools Having Trees.	42	51	27
Percent of Schools Without Trees	58	49	73

DIAGRAM VII.

A Graph Showing the Distribution of Trees
on 679 Kansas One-teacher Schoolgrounds.

Number
of
Schools.

400

380

360

340

320

300

280

260

240

220

200

180

160

140

120

100

80

60

40

20

0

1-5

6-10

11-15

16-20

21-25

26-30

31-35

36-40

41-45

46-50

51-55

56-60

61-65

66-70

71-75

76-80

81-85

86-90

Number of Trees.

29

The above table shows that a larger percent of the schools investigated in Arizona have trees than those in Kansas while the percent is higher in the Kansas schools than in the schools of the 18 states that Dresslar investigated.

Very little has been done in the Kansas one-teacher schools to make them attractive by the use of flower beds and shrubs. The difficulty here is that the playground is not in use during the summer months and no one feels obliged to take care of it. Most of the schoolgrounds are not fenced and are not guarded against roaming stock. The table below gives the number of schools that have made an effort to beautify their schoolgrounds by the use of flower beds and shrubs.

TABLE XI.

Schools Having Flower Beds and Shrubs.

Frequencies	Number Schools Having Shrubs.	Number of Schools Having Flower Beds.
0	659	620
1	16	37
2	7	15
3	5	3
4	1	4
5	4	0
6	4	0
7	0	0
8	1	0
9	1	0
10	0	0
11	0	0
12	1	0

This table reads, there are 659 schoolgrounds that have no shrubs on the schoolgrounds and 620 that have no flower beds. 16 schoolgrounds have one shrub each

and 37 have one flower bed each.

A schoolground should be free from needless buildings and those that are essential should be so located that they will not affect the play activities on the school playground. A fuel-house improperly located may often ruin a good base ball diamond or basket ball court. Some of the newer and more modern schoolhouses have the fuel-house and the toilets in the basements and in this way provide for more playground space. The following table shows the number of outbuildings that take up more or less playground space and in many instances are serious obstructions for playground activities because of their improper location on the schoolground.

TABLE XII.

The Number of Toilets, Fuel-houses, Stables, Agriculture Plots and Wells on the Schoolgrounds of 679 Schools.

Number	Toilets.	Fuel-houses.	Stables	Agriculture Plots.	Wells or Cisterns.
0	28*	37**	446	668	144
1	1	592	230	11	535
2	650	0	3	0	0

* Not found on schoolground but located in the basements.

**Part of these schools have fuel-houses in basements.

This table should read, there is one school that has but one toilet on the schoolground, 592 that have fuel-houses, 230 that have one stable, 11 that have an agriculture plot and 535 that have a well. These results show that of the 679 schools 95 percent have 2 toilets,

87 percent have one fuel-house, 84 percent have a stable, 1.6 percent have an agriculture plot and 73 percent have a well or cistern.

The surfacing of the schoolgrounds of the city schools is a big problem as grass will not stand the wear of the large number of pupils that use these playgrounds. In the one-teacher schools where the playground is of average size and where the enrollment is from 10 to 20 pupils a grass surface will stand the wear if the grass is given some attention. There will always be some places on the playground where the grass will be worn down. Basket ball courts, the infield of a base ball diamond and the playground next to the building are usually bare. The table on the following page gives the kind of surfacing found on Kansas playgrounds.

TABLE XIII.

The Type of Surfacing on Kansas Playgrounds.

Percent of School-ground Surfaced.	Schools Having Grass	Schools Having Weeds	Schools Having Bare Surface.
0- 1	0	369	281
1- 5	0	42	84
6-10	2	43	82
11-15	0	10	22
16-20	3	17	18
21-25	12	45	66
26-30	0	3	2
31-35	2	6	17
36-40	4	7	4
41-45	2	2	1
46-50	67	26	26
51-55	0	0	0
56-60	9	3	0
61-65	4	0	0
66-70	12	1	2
71-75	78	6	2
76-80	37	2	1
81-85	17	0	1
86-90	79	5	2
91-95	40	1	0
96-100	227	0	3
Median percent	89.05	0	1.7
Q.	12.34	5.05	8.73

There is no school, as may be seen from the above table, that has from 1 to 5 percent of its ground surfaced with grass, 42 that have that amount covered with weeds and 84 schools have from 1 to 5 percent of the playground bare. The table further shows that there are 227 schools that have from 96 to 100 percent of their schoolgrounds covered with grass. The median percent covered with grass for the 595 schools reporting is approximately 89 percent. The pupils in these schools are fortunate to have their playgrounds surfaced with grass to that extent.

567 schools are centrally located with reference to

the district, 81 are not centrally located and 81 did not answer this question. The Madison Survey stated that one of the criteria for judging a playground is location and distance. In the Kansas rural communities where the land is not densely settled it is impossible for all the pupils to live near the schoolground but it is important that the playground be so located that it can easily be reached by all the pupils.

A good road leading to the schoolhouse will help to make the the playground more easily reached by at least a number of the pupils of the school. 378 teachers answered that the road leading to the school was good, 245 answered fair and 44 reported poor.

H. S. Curtis in "School Grounds and Play" says, "All college and athletic fields and tennis courts are made almost level. No other surface is suited to play upon---. Few of our schoolgrounds have ever been leveled; yet this is the fundamental condition for successful play." 36 teachers reported their schoolgrounds on hilly land, 258 on rolling land and 372 on level land. In comparison with this Dresslar in his study reports 1030 schools located on comparatively level land and 253 on hilly land. The investigation made by the American Medical Association and the National Council of Education report 32 schools located on the side of a hill and 43 on level ground.

In regard to the drainage in these schools 393 report that the drainage is good, 220 fair and 50 poor. Diagram

DIAGRAM VIII.

Distribution by Percentages of the Hilly, Rolling
and Level Playgrounds of the 668 Schools Reporting.

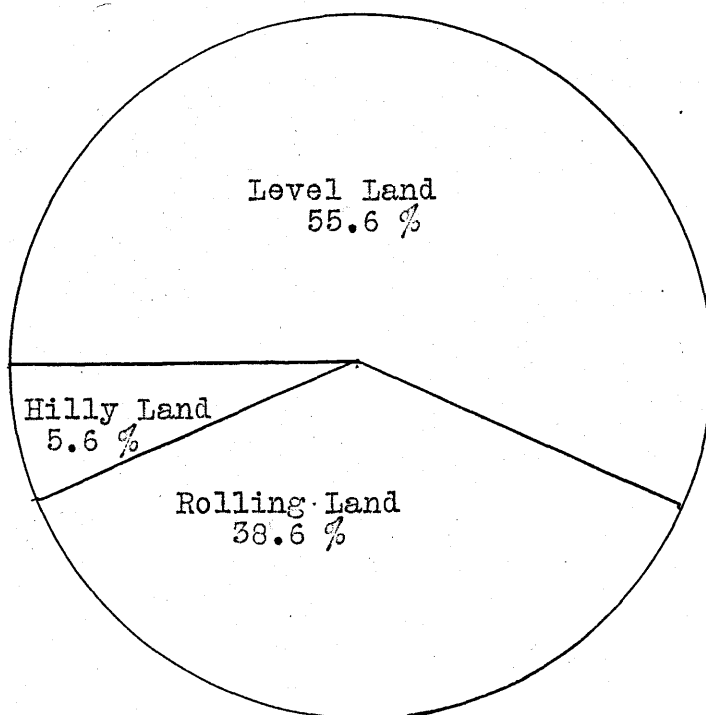
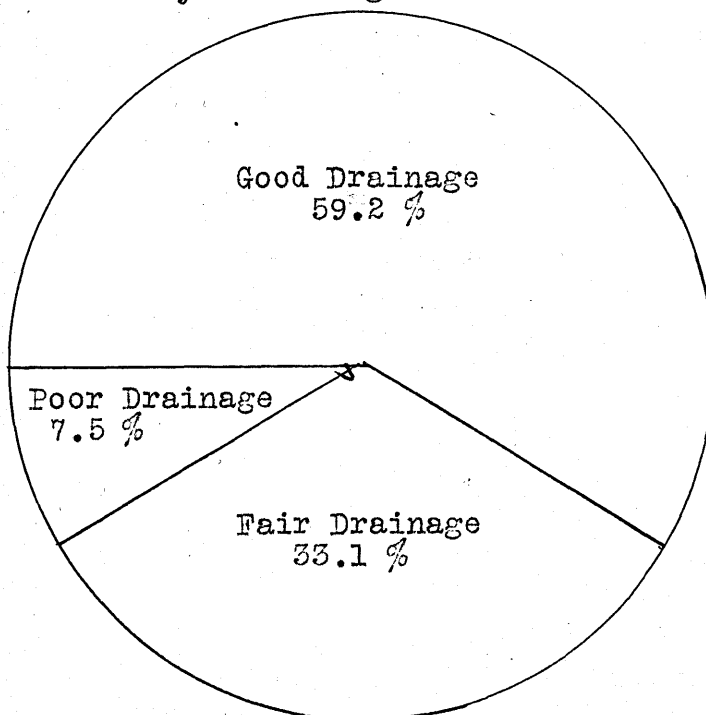


DIAGRAM IX.

Distribution by Percentages of the Kind of Drainage.



VIII shows the distribution by percentages. Out of the 1248 schools in Dresslar's investigation 1014 had well drained grounds while 234 were wet and undrained. Although as stated before a playground should be level it should at the same time be well drained. In this respect the Kansas schools are better than the schools investigated by Dresslar. In the former the percentage of schools with poor drainage is 7.5 and in the latter those that are wet and undrained is 18.7 percent.

TABLE XIV.

Number of Schoolgrounds and Number of Sides Fenced.

number of Sides Fenced.	Number of Schoolgrounds.
0	37
1	37
2	133
3	200
4	129
Median	3.15
Q.	.75

This table states that there are 37 schoolgrounds that have no side fenced, an equal number have one side fenced and 133 schoolgrounds are fenced on two sides only. The median number of sides fenced is 3.15.

These fences are of various types as is shown by the table on the following page.

TABLE XV.

The Type of Fence Used in Fencing the Schoolgrounds and the Number of Sides Fenced With Each Type.

Type of Fence.	Number of Sides of Schoolgrounds Fenced on				
	1 Side	2 Sides	3 Sides	4 Sides	Total Sides.
Barb-wire	56	200	145	28	1003
Woven-wire	57	35	20	10	207
Trees	22	10	4	0	54
Stone	4	1	1	2	15
Boards	1	9	2	0	25
Hedge	17	15	3	0	71
Other Fence	37	31	3	10	148

Table XV reads, there are 56 schoolgrounds that have one side of the schoolground fenced with barb-wire, 200 schools have each 2 sides fenced with the same type of fence and 145 schoolgrounds are fenced on three sides with barb-wire fence. Curtis has the following to say of fenced schoolgrounds, "There are advantages in having a fence. It sets the schoolground off by itself and gives it individuality. Conduct will always be a little better on a fenced ground. It is easier to control. There is less danger of children rushing into the streets in front of automobiles. There is less danger from dogs and runaway horses----. Small schools can-not afford the space but in the larger grounds a fence is probably worth while." Where there is no fence wandering stock will often injure small trees, flower beds and shrubs and destroy playground apparatus. Of the fences mentioned in the above table, hedge trees, especially if they are not trimmed, are probably the worst type of fence.

this type of fence acts as a barrier for the breeze in the spring and autumn and it is further undesirable because of its many thorns. The most common practice is a barb-wire fence on two sides of the schoolground. The two sides along the roads are usually not fenced.

EQUIPMENT AND APPARATUS.

Of the 679 schools reporting 631 or approximately 93 percent have one or more of the items listed under equipment and apparatus in the questionnaire. Table XVI gives the number of schools that have the equipment and the apparatus listed.

TABLE XVI.

The Number of Schools That Have Some of the Equipment and Apparatus Listed in the Questionnaire.

Equipment and Apparatus	Number of Schools.	Equipment and Apparatus.	Number of Schools.
Base ball	325	Indoor base ball	84
Base ball diamond	360	Jumping standards	9
Basket ball goals	244	Merry-go-round	13
Basket ball	295	Punching bag	1
Boxing gloves	4	Sand-box	235
Croquet set	15	Slide	20
Foot ball	152	Sponge ball	1
Foot ball goals	7	Swing	193
Giant-stride	46	Teeter-totter	268
Horizontal bar	47	Tennis balls	21
Horse shoes	104	Tennis net	46
		Volley ball	124

This table reads, there are 325 schools that have a base ball, 360 that have a base ball diamond and 244 that basket ball goals. The six items that are present in the largest number of schools are a base ball diamond, base ball, basket ball court, basket ball, teeter-totter and sand-box. 93 percent of the schools have one or more of the items listed. The Survey of the Arizona rural schools shows that 32 percent of the schools have equipment while 68 percent have no playground equipment. The percentage in the Kansas schools is therefore considerably higher

than in the Arizona schools. There should be more playground equipment to adequately supply the needs of the pupils. There are no definite standards and the amount and kind of playground equipment to be selected will in a measure depend upon the size of the playground, the age, the sex and the number of pupils. There should be a sand-bin on every playground where there are small children regardless of the number enrolled. Where the enrollment is small elaborate equipment for base ball is not needed but all playgrounds should be equipped with balls of some kind, for ball games can be devised that are suitable for a small enrollment. The game of keep-away with a basket ball or volley ball is suitable for as few as four pupils.

It is important to know not only the number of schools that have some playground equipment and apparatus but also how many items each school has.

TABLE XVII.

Number of Playground Items Possessed by the Schools.

Number of Playground Items Possessed.	Number of Schools.	Number Playground Items Possessed.	Number Schools.
0	48	10	5
1	69	11	4
2	111	12	0
3	92	13	0
4	101	14	0
5	90	15	0
6	72	16	0
7	48	17	0
8	28	18	0
9	10	19	1
Median = 4.18 Q. = 1.73			

This table shows that there are 48 playgrounds that have no playground equipment nor apparatus, 69 have each one of the items listed in the questionnaire, 111 schools possess each two items and 92 schools have three items each. The median is 4.18 items. One of the schools had all the items listed and also boxing gloves. The teacher makingv the report stated that they had everything they wanted. The school board of that particular school gave \$100. for playground equipment last year, which explains the fact that they had everything in playground equipment that they needed. This is an exception and the other schools are not so fortunate. Another teacher stated that they played base ball until the ball was worn out and there being no funds available to replace it the game had to be discontinued.

346 of the 679 schools spent some money for playground equipment and apparatus last year. The total amount spent by these schools was \$4848.52 , an average of \$14.01 for those schools spending money or an average of \$7.14 for all the 679 schools. The following table will show the distribution of the money spent for playground equipment and apparatus for last year.

TABLE XVIII.

Distribution of the Money Spent by Schools for Playground Equipment and Apparatus.

Amount Spent in Dollars.	Number of Schools.
0-1	333
1-5	113
6-10	84
11-15	46
16-20	29
21-25	23
26-30	20
31-35	3
36-40	6
41-45	3
46-50	3
51-55	1
56-60	0
61-65	1
66-70	1
71-75	1
76-80	0
81-85	1
86-90	0
91-95	0
96-100	1
Median \$.28	
Q. 6.88	

This table shows that there were 333 schools that spent no money for playground equipment and apparatus, 113 schools spent from 1 to five dollars, 84 spent from 6 to 10 dollars and 46 schools spent from 11 to 15 dollars. There was no school that spent over \$100. for that purpose.

Besides knowing the total amount used for playground it is also interesting to know what the source of the money was as is shown by the following table.

TABLE XIX.

Source of the Money Used for Playground Equipment.

Source.	Amount.	Percent.
School boards	\$1165.00	24.
School programs	\$2948.12	60.8
Pupils	\$ 101.65	2.
Teachers	\$ 222.95	4.7
Other sources	\$ 94.00	1.9
Not stated	\$ 316.80	6.4
Total	\$4848.52	100.

The school boards supplied only \$1165 or 24 percent of the \$4848.52 while the money secured from school programs amounted to \$2948.12 or 60.8 percent of the total. There is an Educational value of self-help where the money is secured by school programs. Schools should not have to depend upon this source alone. School boards should also provide funds for this purpose. One teacher stated that \$100 was voted for playground equipment and apparatus a year ago but the school board refused to spend the money for that purpose so no funds were used for playground equipment in that school last year. School teachers should not be expected to pay for the playground equipment and apparatus.

29 school boards or 13 percent of the 679 gave some money for playground equipment. 214 schools or 31 percent of the schools had school programs to raise funds for this purpose. These facts are brought out in the table on the following page.

DIAGRAM K.

A Graph Showing the Distribution of the Sources of
Amount.
Money Spent for Playground Equipment Last Year.

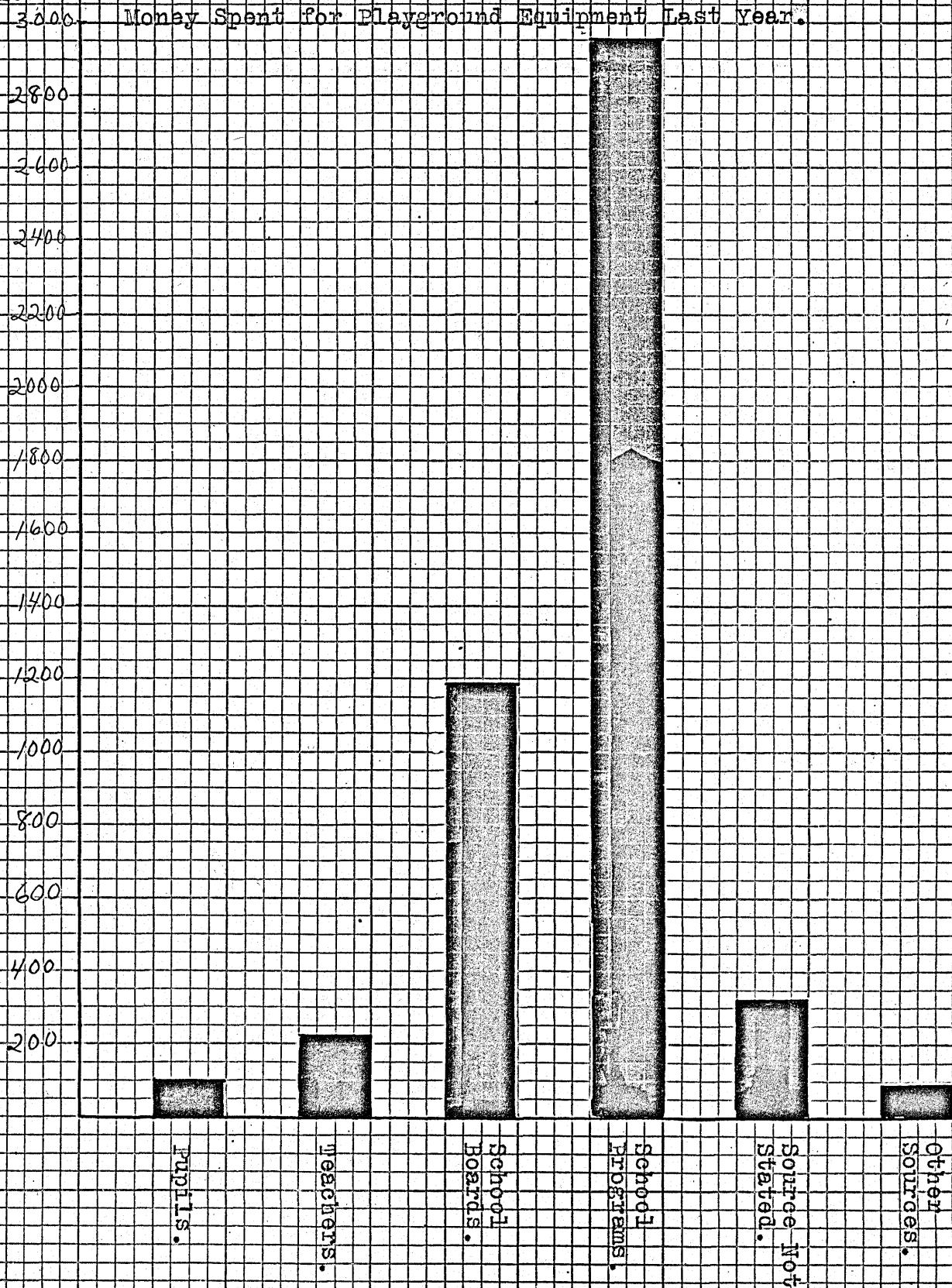


TABLE XX.

Distribution of the Money Supplied by School Boards,
School Programs, Teachers, Pupils and Other Sources
for Playground Equipment and Apparatus last Year.

Amount in Dollars.	School Boards.	School Programs.	Pupils.	Teachers.	Other Sources.
1- 5	40	53	22	44	19
6-10	21	55	0	3	5
11-15	8	40	0	3	0
16-20	6	17	1	2	0
21-25	5	24	1	1	0
26-30	5	13	0	0	0
31-35	0	5	0	0	0
36-40	0	4	0	0	0
41-45	0	1	0	0	0
46-50	0	0	0	0	0
51-55	0	1	0	0	0
56-60	0	0	0	0	0
61-65	0	1	0	0	0
66-70	2	0	0	0	0
71-75	0	0	0	0	0
76-80	0	0	0	0	0
Above 80	1	0	0	0	0
Total	89	214	24	53	24
Median	\$7.06	\$10.82	\$3.71	\$4.00	\$4.14

This table should read, there are 40 school boards that gave from 1 to 5 dollars for the playground equipment of their schools last year, an equal amount was secured from the school programs of each of 53 schools and the pupils of 22 schools gave from 1 to 5 dollars per school for the same purpose. The median for the 89 school boards is \$7.06, for school programs \$10.82, for the pupils it is \$3.71 per school and for the teachers the median is \$4.00 for the 53 teachers that contributed some money. These facts show that the burden of supplying the playground with equipment and apparatus falls to a

large extent upon the pupils and teachers.

USE OF THE PLAYGROUND.

The following pages show what use is made of the playgrounds in the one-teacher rural schools.

TABLE XXI.

The Number of Schools That Participate in the Various Competitive Athletic Contests With Other Schools.

Kinds of Contests.	Number of Schools.	Kinds of Contests.	Number of Schools.
Base ball	121	Soccer	1
Basket ball	75	Tennis	1
Dare base	2	Track	151
Foot ball	11	Volley ball	3
		Not specified	13

Track apparently is the most popular of the above mentioned games. One advantage with track is that very little equipment is needed for track events. Track work has become more important since some counties have introduced an "All Schools Day" in which one of the large events is a track meet. Many schools take part in these meets. Five teachers stated that they did not participate in athletic contests with other schools because the school authorities were opposed to the contests. The results of this table show that the Kansas rural schoolgrounds are little used for athletic contests with other schools.

In order to know the use that is made of the playgrounds it is important to find the length of all the intermissions, the time that the pupils usually spend on the playground. This is shown by the next table.

TABLE XXII.

Length of All Recess and Noon Intermissions per Day
For 674 One-teacher Rural Schools of Kansas.

Length of Intermissions.	Number of Schools.	Length of Intermissions.	Number of Schools.
60	4	95	2
75	3	100	6
80	8	105	2
85	1	110	3
90	643	120	2
Median = 90 minutes. Q = 1.45			

This table brings out the fact that there are 4 schools in which the recess and noon intermissions in each school total 60 minutes per day, 75 minutes for 3 schools and 80 minutes for 8 schools. The median for the 674 schools is 90 minutes. It is during these 90 minutes of each school day for the school term of 8 months that the pupils spend their time on the playgrounds. No information was secured in regard to the time that the pupils spend on the playground before and after school hours.

The Madison Wisconsin Survey states that one of the factors as a criteria for judging a playground is supervision. Some supervision is necessary on all playgrounds if play activities are to mean the most to the child. Table XXIII shows the amount of time that the teachers spend on the playground and table XXIV shows the amount supervising or directing that is done by the teachers.

TABLE XXIII.

The Length of Time That Teachers Spend on Playgrounds.

Number of Minutes.	Number of Teachers.	Number of Minutes.	Number of Teachers.
1-10	1	71-80	70
11-20	7	81-90	206
21-30	20	91-100	3
31-40	12	101-110	5
41-50	39	111-120	27
51-60	177	121-130	0
61-70	29	131-140	0
		141-150	2
Median = 72 minutes. Q. = 15 minutes.			

The above table reads, there is one teacher that spends from 1 to 10 minutes on the playground daily, 7 spend from 11 to 20 minutes and 20 teachers spend from 21 to 30 minutes on the playground daily. The median is 72 minutes which is 80 percent of the average total intermissions. The minimum time reported is 8 minutes and the teacher making this report further states that her program is too full to devote much time for supervision of playground activities. The maximum time reported is 150 minutes spent on the playground by the teacher daily.

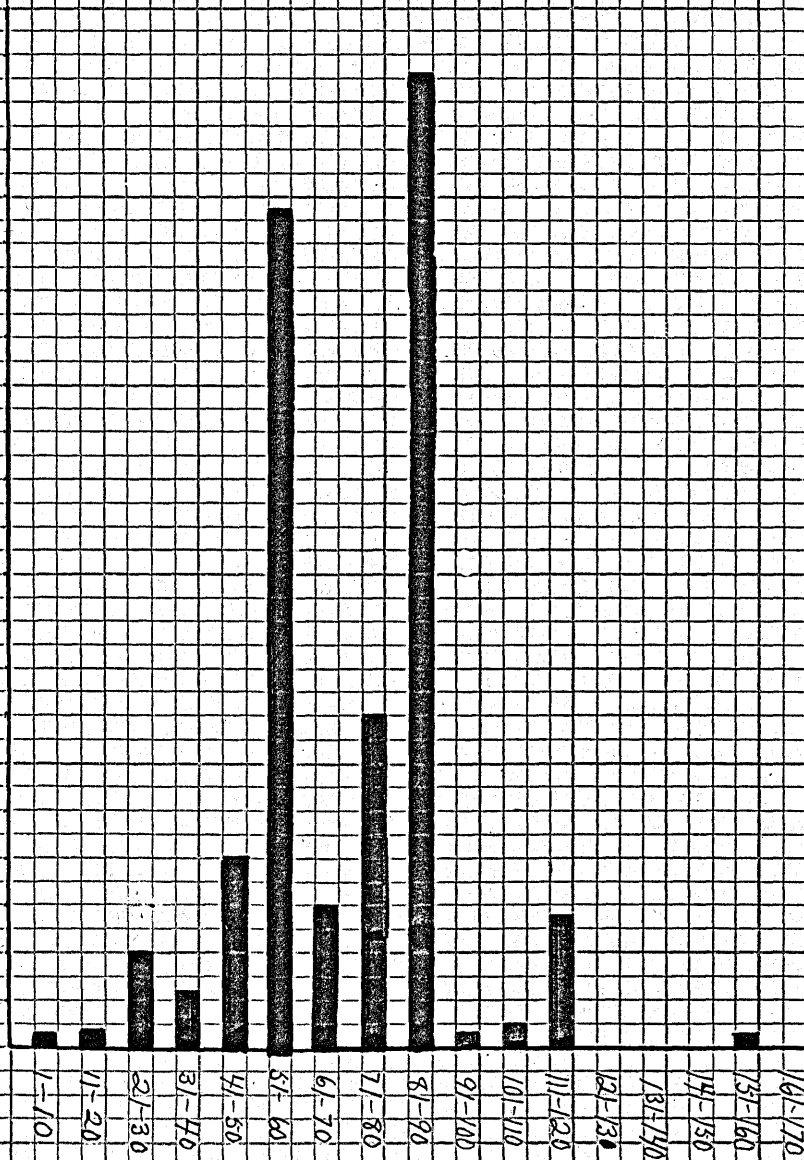
It is not only interesting to know that the teachers spend 80 percent of the time of intermissions on the playground but it is also worth while to note that practically all the teachers supervise or direct the playground activities of their school. The following table illustrates this fact.

DIAGRAM XI.

A Graph Showing the Distribution of the Time That Teachers of the One-teacher Schools Spend on the playgrounds.

Number
of
Teachers.

210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10



Length of Time in Minutes.

TABLE XXIV.

Answers to the question in Regard to the Supervision or Direction Of the Playground Activities.

Does Teacher Supervise	
Yes	651
No	1
Some	23
In Emergency	1

From this table it is evident that the teachers regard the supervision or direction of the playground activities as one of their duties regardless of the fact that they have a full daily program of other work.

Probably the best way to discover the use that the pupils make of the playground is to find out the kinds of games that they play in school. 664 teachers each reported from 3 to 10 games that they considered were played most in their schools last year. Table XXV gives a list of all those games arranged according to the number of times that the games were reported.

TABLE XXV.

List of Games That are Considered Most Important in the Kansas Schools and the Number of Schools Reporting Each.

Blackman	476	Running	98
Base ball	460	Beckon	93
Dare base	316	Ball(kind not sp)	99
Hide and Seek	238	Fox and geese	93
Tag base	219	Pull away	87
Ante over	138	Cat and mouse	74
Stealing sticks	127	Sheep in pen	74
Basket ball	118	Flying Dutchman	69
Keep away	106	Cheese it	63
Drop handkerchief	102	Volley ball	66
Foot ball	98	London bridge	64
Prison base	98	Three deep	64

Jumping	59	Follow the leader	8
Marbles	59	Mumble peg	8
Wolf	59	Tennessee	8
Indian	55	Throw the wicket	8
Lose your supper	53	Chicken	7
Blind man's buff	49	Deer and hound	7
New orleans	49	Fox and hound	7
Bear	47	Policeman	7
Horse shoes	47	Red light	7
Last couple out	47	Red Rover	7
New York	44	Ring around Rosy	7
Poison	41	Trades & professions	7
Run sheep run	37	Tug of war	7
Dodge ball	32	Charades	6
Fruit basket upset	30	Redman	6
Dog and wolf	28	Six sticks	6
Jacob and Ruth	27	Tennis	6
Run for supper	27	Wrestling	6
Farmer in the dell	26	Animal	5
Old witch	25	Around the house	5
I spy	23	Crack the whip	5
House	22	Kick the can	5
Red line	21	May I	5
Pussy wants corner	20	Senders	5
Shinney	20	Squirrel	5
King base	19	Still water	5
Jail	18	Tin tin	5
Hop scotch	16	Track	5
Kick the wicket	16	Vaulting	5
Croquet	14	Whiteman	5
Leap frog	14	Circus	4
Swinging	14	Duck on the rock	4
Teeter-totter	14	Horse	4
Ten steps	14	Jack stones	4
Blind fold	13	Show	4
Needles eye	13	Ten sticks	4
Hide the thimble	12	Wink	4
Wave, give me a wave	12	Work up	3
Black and white	11	Bird games	3
Captain	11	Blue Tom	3
cross the line	11	Crazy man	3
Goal	11	Drown the duck	3
Motion	11	Ice box	3
Statue	11	In and out the window	3
Armory ball	10	It	3
Bean bag	10	Lion base	3
Clap in clap out	10	Miser	3
Rabbit	10	Neurkey	3
Dog and rabbit	9	Pig in the pen	3
Gypsy	9	Prove it	3
Seven sticks	9	Ring on a string	3
Spider and fly	9	Scatter beans	3
Beef steak	8	School	3

Shadow S	3
Steal steps	3
Tap the bell	3
Wave, whistle, holler	3
Boxing	2
Bugger	2
Cow	2
Crows and cranes	2
Four old cat	2
Frog in the meadow	2
Ghost	2
Guess	2
Hill dill	2
Hockey	2
How do you like your neighbor	2
Knock out	2
Midnight	2
Miller boy	2
One old cat	2
Picket	2
Pig	2
Punt	2
Ribbon	2
Ringworm	2
Robber	2
Sixty-six	2
Skating	2
Soldier	2
Sticker chief	2
Still pond	2
Surrounding	2
Tap the rabbit	2
Tommy Tiddler's ground	2
Too late for supper	2
Touch me not	2
Turnkey	2
Washington post	2
Wiggle	2
Wind the clock	2
Wolf and sheep	2
All to the corner	1
Corner ball	1
Automobile	1
Hot ball	1
Backward ten	1
Bait	1
Bar down	1
Beast, bird or fish	1
Bicycloing	1
Bobbity bob	1
Bombardment	1

Boston exchange	1
Bull pen	1
Change cars	1
Clams and oysters	1
China wall	1
Church	1
Color	1
Corner base	1
Cow-boy	1
Dasher	1
Deck on board	1
Dixie sore toe	1
Dog	1
Double supper	1
Double tap	1
Drop out	1
Each man in his den	1
Farming	1
Filling space	1
Fish	1
Five steps	1
Five up and five back	1
Flip the pancake	1
Flying kites	1
Four base	1
Free chance	1
French and English	1
Funeral	1
Gathering nuts in May	1
Giant stride	1
Give me a wing	1
Going west	1
Golf	1
Go yourself	1
Green gravel	1
Grunt	1
Ham and Eggs	1
Hawk and dove	1
Hiawatha	1
Hiding beans	1
Hustle the craser	1
Jack be nimble	1
King of forest	1
Knock the pin down	1
Lame duck	1
Lie low	1
Lemonade	1
Log off	1
Long base	1
Mamma	1
Magic music	1
Miss you	1

Moonlight	1	Shipload	1
Muffin man	1	Silence	1
Mulberry bush	1	Skip to my Lou	1
Negro base	1	Spill the beans	1
"Nigger baby"	1	Spinning tops	1
Old sow	1	Spud	1
One old base	1	Stage coach	1
Oysters and clams	1	Stay put	1
Pass in	1	Stink base	1
Pin up	1	String the beans	1
Pinch me	1	Telephone	1
Pitch jar rubbers	1	Three claps	1
Pumpkin ball	1	Tit tat toe	1
Punch and Judy	1	Trail	1
Punch the pig	1	Tree to tree	1
Punch the iceman	1	Troubled waters	1
Puss in the circle	1	Two on a base	1
Put them in the ring	1	War	1
Ralley halley	1	What time of day	1
Red Riding Hood	1	Wheel	1
Rock	1	Where are you from	1
Round base	1	Who has seen my friend	1
Rolling hoops	1	Wolf and chicken	1
Rotten egg	1	Wood chuck	1
Running waters	1	Yard stick	1

The result shows that there are 284 games mentioned in all. 114 games appeared only once, 57 games are mentioned twice and 20 games appear three times in the above list. The ten games that appear most frequently are blackman, base ball, dare base, hide and seek, tag, ante over, stealing sticks, basket ball, keep away and drop the handkerchief.

Although the teachers recorded the games in their order of importance in the questionnaires no attempt was made to weight them in this study. It would be interesting to determine if a certain game, or games, appeared as first choice in a larger percent of instances than do other games. Another problem would be to determine the effect that the numbers enrolled, the

sex of the pupils and the age of the pupils have upon the type of games played. Another phase of a problem would be the investigation of the amount and kind of equipment necessary to play each of the above games. In answer to the question if the community uses the schoolgrounds for picnics 287 responded No and 68 answered Yes. 67 stated that the community uses the schoolgrounds for athletic activities while 249 do not. Community gatherings are held in 336 schools while there are 177 schools that are not used for that purpose. City and municipal playgrounds are used practically all the year. This is not the case in the one-teacher rural schools as may be seen by the table below.

TABLE XXVI.

Use Made of the Schoolgrounds During Summer.

Schoolgrounds are Used for the Following Uses:			
Athletic sports	1	No use	484
Ball ground	5	Pasture	18
Campers ground	10	Picnic grounds	9
Christian Endeavor	1	Playgrounds	1
Church	2	Sunday School	3
Community gatherings	8	Swedish School	1
Games	1	Tennis court	3
Hay land	5	Union meetings	1
		Weed patch	1

This table shows that 1 schoolground is used for athletic activities, 5 are used for ball grounds and 10 are used for campers grounds. 484 state that no use is made of the grounds in summer while 70 have some use.

316 teachers stated that the weeds are kept down in their playgrounds during the summer time and 305 stated

that the weeds were not kept down. 58 teachers made no report on this question.

31 questionnaires give the information that the pupils make no use of the playgrounds on Saturdays. 600 state that the pupils made no use of the playgrounds on Saturdays. One teacher reported that country children had to work on Saturdays and that there was no time for play on those days.

The results show that there is but very little use made of the school playgrounds outside of the regular school time, either by the pupils or the adults of the community. There is apparently little effort made to keep the schoolground in condition for play activities during the summer.

ATTITUDE TOWARD PLAY ACTIVITIES.

The patrons in 371 schools take an interest in the pupils' play activities and 200 teachers report that the patrons of their schools take no interest in the pupils' play activities.

TABLE XXVII.

Attitude of School Boards Toward Play Activities.

Play Considered.	Number.
Essential	433
Unessential	170
Hindrance	10
Unanswered	66

This table shows that a large majority of the school boards think that play activities are essential.

TABLE XXVIII.

Teachers Attitude Toward School Play Activities.

	Has Play Any Definite Relation to the Mental Development of Children ?	Do You Encourage Play Activity as a Part of Your Educ. Program ?	Does Play Activity Exert Vital Influence Upon Your Pupils ?
Yes	671	668	656
No	2	2	8
Not Answered	6	9	15
Total	679	679	679

This table shows that all but 2 teachers think play has a definite relation to the mental development of children, all but 2 teachers encourage play activities as a part of their educational program and all but 8

state that play activity exerts a vital influence upon their pupils. The proper attitude toward play activities by the teacher is of vast importance. With the attitude shown in the above table, with the time spent on the playground and with the supervision and direction of playground activities the teachers work on the playground is as vital as her instruction in the school room. It is on the playground that the child learns team work, cooperation, initiative and self-expression; it is here that he learns to do "better the things that he will do any way" and it is here that, in a large degree, he learns to be a child among children and eventually a man among men. It is on the playground that the teacher's example of skill, fairness and justice, her directions and words of encouragement and inspiration help in a large measure to develop the innate abilities and the human personality of the country child. A teacher who has an interest in the mental and physical growth of the child can not be replaced by any amount of playground equipment and apparatus but her work will be worth infinitely more if the playground is adequately equipped.

SCHOOL MAP.

Six hundred seventy two teachers filled in that part of the questionnaire dealing with the school map. While each map is valuable in describing the schoolground and the arrangements of the buildings for a particular school it is difficult to satisfactorily tabulate the results from all the maps so that they may have the proper meaning.

A piece of transparent paper the size of the school map was divided into 25 equal parts. By placing this upon the map of a particular schoolground it was found how many of the 25 parts were taken up by the buildings, trees, wells, flower beds and shrubs. The remaining of the 25 parts would be available playground space. For an illustration, if the school building took up one part, the stable another, the toilets one part and a grove of trees still another there would still be 21 of the 25 parts available for playground. The 21 parts for one schoolground would not be equal to the 21 of another if the dimensions of the two schoolgrounds were not the same. However, in both cases the results show that 21 of the 25 parts or 84 percent are available for playground space. The following table is the tabulation of the 672 schoolgrounds upon this basis.

TABLE XXIX.

Tabulations Of School Map.

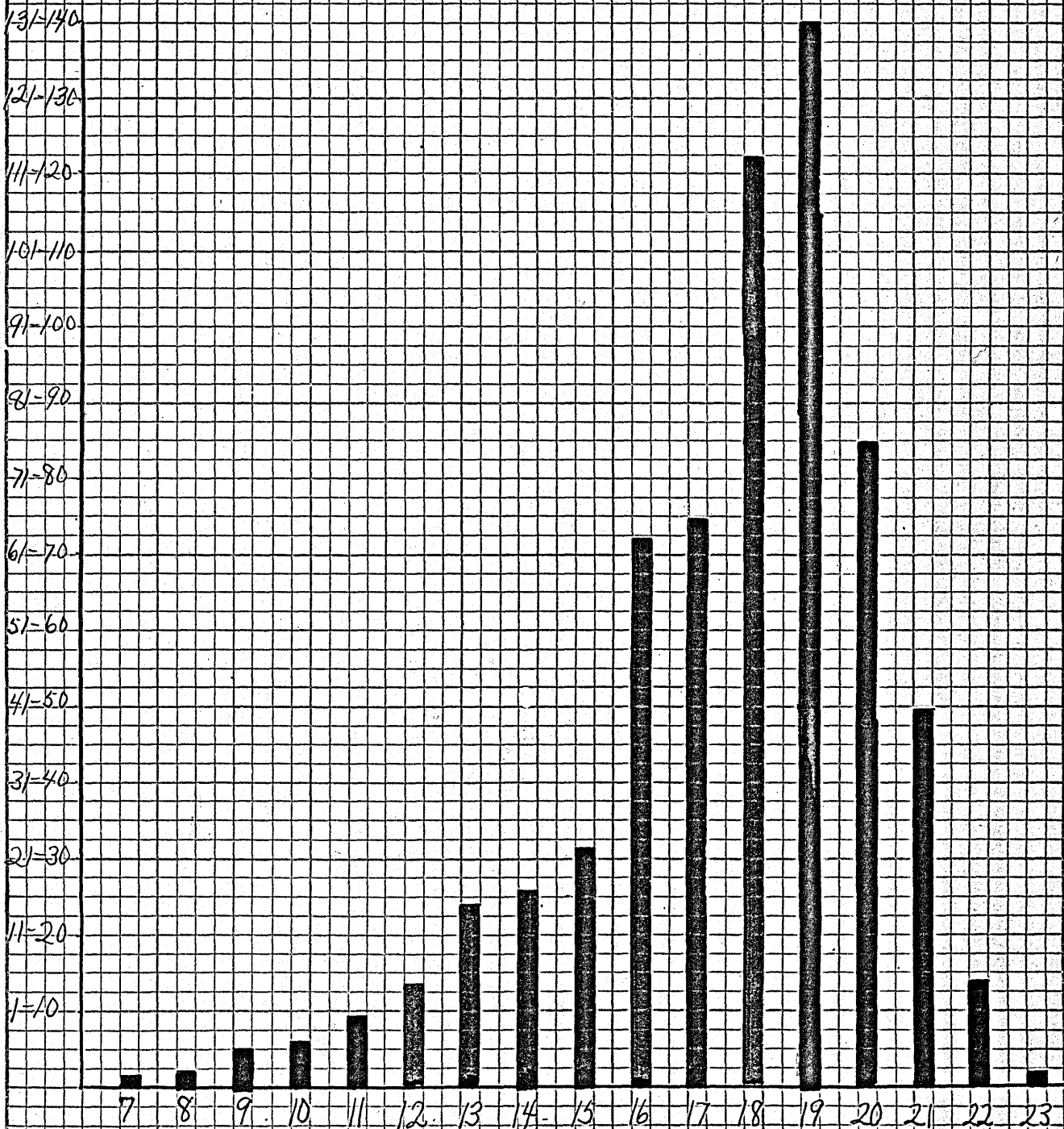
Number Parts Out Of 25 That Are Available For Playground Space.	Number Of Schools Or Frequencies
7	1
8	2
9	5
10	6
11	9
12	13
13	23
14	26
15	31
16	72
17	74
18	122
19	140
20	84
21	49
22	13
23	2
Median = 18.59 Q. = 1.57	

This table should read, there is one school, of the 672 reporting, that has seven out of the 25 total parts of the schoolground available for playground, 2 schools have 8 parts available and 5 schools have 9 of the 25 parts available for playground space. There are only 2 schools that have as many as 23 parts available playground space. In many schools there apparently has been no effort made to place the buildings and trees so that there will be a maximum amount of playground space and a minimum amount of obstructions.

DIAGRAM XII.

A Graph Showing the Available Playground Space on
the Kansas One-teacher Schoolgrounds.

Number
of
Schools.



Parts available out of 25.

TABLE XXX.

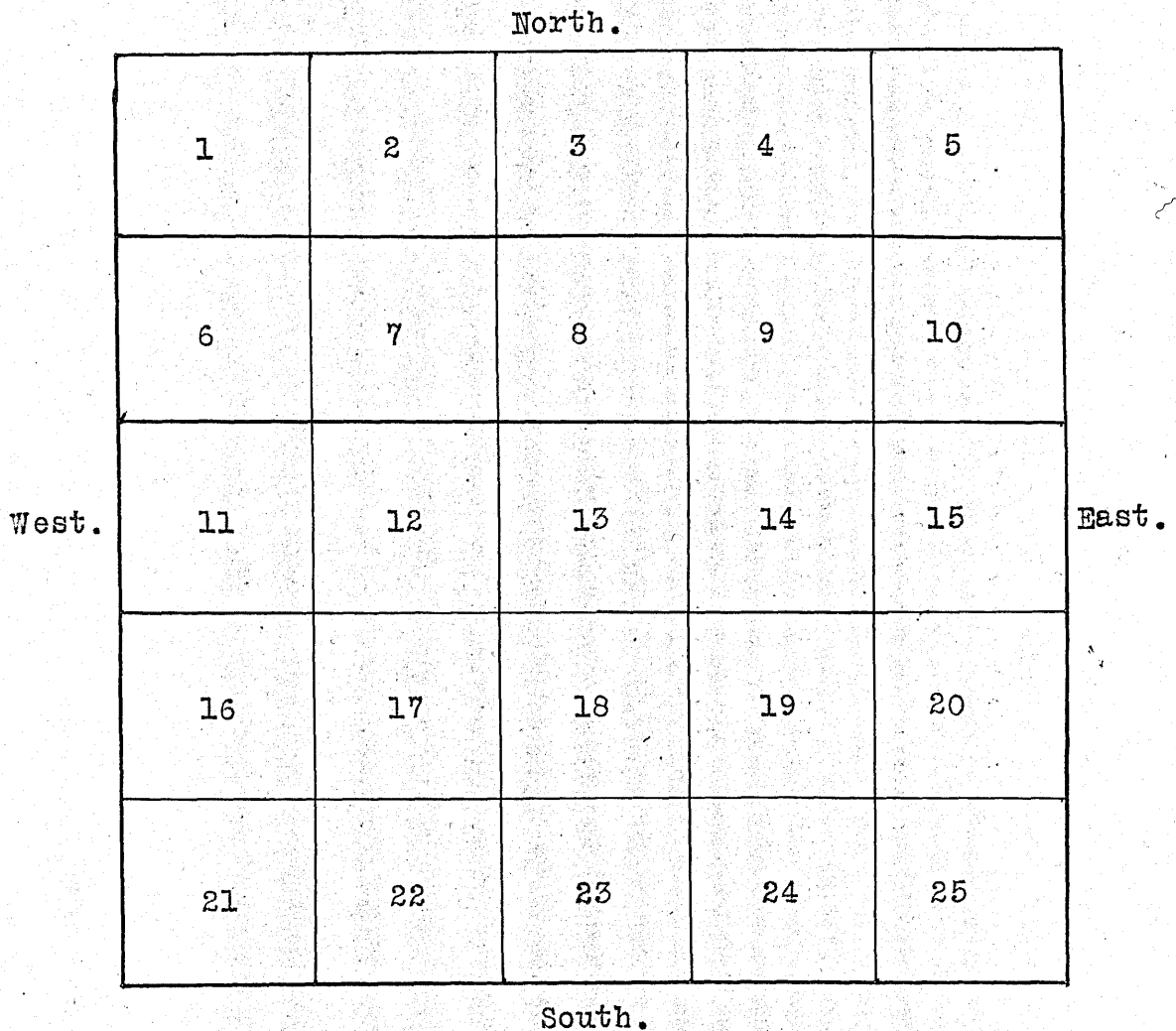
Table Showing The Location of the Buildings and Play-ground Equipment on the Schoolground by Percentages.

Percentages.										
Number of The Parts.	School- houses.	Toilets.	Fuel- houses.	Stables.	Wells.	Base Ball Diamonds.	Basket Ball Courts.	Flower-beds.	Play Apparatus.	Trees.
1	1.1	23.1	1.5	7.3	.4	1.4	1.8	3.7	2.	7.2
2	1.1	4.4	2.2	6.4	3.3	0	2.7	0	2.	6.8
3	2.9	1.8	7.9	13.7	2.	1.4	2.7	3.7	2.7	6.2
4	3.1	3.2	3.7	2.7	3.7	.9	3.6	3.7	2.	5.9
5	1.4	18.4	2.6	3.6	0	.4	.9	7.4	2.7	6.8
6	0	4.	3.	1.9	2.	.9	0	3.7	2.7	6.4
7	4.4	1.	4.1	2.7	5.4	4.3	5.4	3.7	1.3	.9
8	8.9	.3	5.6	.9	4.6	11.	6.3	0	1.3	.7
9	5.8	.6	5.3	2.7	7.4	3.3	7.2	0	3.3	5.9
10	1.1	2.4	1.8	.9	4.6	0	3.6	11.1	3.3	5.6
11	3.2	2.1	9.7	8.	3.7	1.9	2.7	0	4.	5.7
12	7.6	.6	4.8	2.7	4.1	11.	7.2	3.7	4.	1.1
13	16.2	.4	7.9	.9	4.1	8.7	4.5	11.1	5.4	.3
14	10.1	.7	4.1	.9	7.4	9.1	5.4	0	9.4	.3
15	4.	2.1	5.3	5.4	4.6	1.4	5.4	3.7	3.3	5.7
16	1.4	5.4	3.1	2.7	2.9	.4	4.5	3.7	3.3	5.4
17	4.4	.9	1.8	4.6	3.3	9.6	4.5	3.7	10.8	.9
18	8.1	.6	5.3	2.7	8.2	8.7	7.2	0	8.6	.4
19	8.1	.9	3.7	.9	11.7	11.	9.	3.7	11.4	.7
20	0	2.9	1.5	2.7	2.5	1.9	1.8	7.4	5.4	5.3
21	.8	10.3	4.1	11.	2.9	0	2.7	7.4	2.7	5.6
22	.8	1.7	1.8	.9	2.5	.4	1.8	3.7	1.3	4.3
23	3.2	.6	3.	3.6	2.	1.4	4.5	3.7	2.7	4.8
24	.3	1.	3.7	2.7	2.9	.9	3.6	3.7	3.3	4.5
25	1.4	9.4	1.5	6.4	2.5	0	.9	7.4	0	6.5

This table reads, there are 1.1 % of the buildings found on block one of the following page, 1.1 % are found on block number two and 2.9 % of the schoolhouses are found on block number three. The largest percent of the schoolhouses are found on block number 13 which is in

DIAGRAM XIII.

A Diagram Showing a Schoolground Divided into
Twenty-five Equal Parts with Each Part Numbered.



the center of the schoolground. The table further shows that the two toilets appear most frequently in blocks 1 and 5. 9.7 % of the fuel-houses are located in block number 11, 13.7 % of the stables are located in block number 3 and the largest percent of the wells are in block number 19. The largest percent of the trees are located in the corner and side blocks.

The results of this table show that the most common practice is to have the schoolhouse in the center of the schoolground, the outside toilets in the north-east and north-west corners of the ground, the well south-east of the schoolhouse on block 19. The fuel-houses are located west of the house near the west line on block 11. If the the schoolhouses were located nearer the sides of the schoolgrounds there would be more playground space available. Many playgrounds are too small to have an adequate base ball diamond with the building in the center of the schoolground. Where the building is on block 23 instead of on 13 the space will be more adequate for other games as well as base ball.

CHAPTER VI.

CONCLUSIONS.

This investigation shows that there are in Kansas at the present time 7339 one-teacher rural schools which have enrolled approximately 115,000 pupils. The information secured from 679 schools show the following facts.

1. These schools have a term of eight months.

2. The median enrollment in the average school is 8.85 boys and 7.66 girls and the median for both boys and girls 16.37. These pupils are usually taught by a woman teacher.

3. The area of the schoolground is 1.045 acres and the median playground space per pupil is 2418 square feet.

4. This average playground has no trees, no flower beds and no shrubs.

5. Upon the premises of the schoolground are two toilets, a well and a fuel-house.

6. 88 percent of the area of the schoolground is surfaced with grass and the remaining 12 percent is equally divided between weeds and bareness.

7. The school is centrally located with reference to its district and is on a good road.

8. The schoolground is level but not too level for good drainage.

9. The schoolground is fenced on three sides with barb-wire fence.

10. The playground equipment and apparatus is limited to a base ball diamond, a base ball, basket

ball court, basket ball and teeter-totter. No public funds are available for playground equipment.

11. The teacher spends 72 minutes or 80 percent of the time of the intermissions on the playground. She personally directs or supervises the playground activities.

12. With the exception of track competitive athletic contests with other schools are not held.

13. The ten most played games are blackman, base ball, dare base, hide and go seek, tag, ante over, stealing sticks, basket ball, keep away and drop the handkerchief.

14. The schoolground is used for community gatherings.

15. No use is made of the schoolground during the summer months when school is not in session.

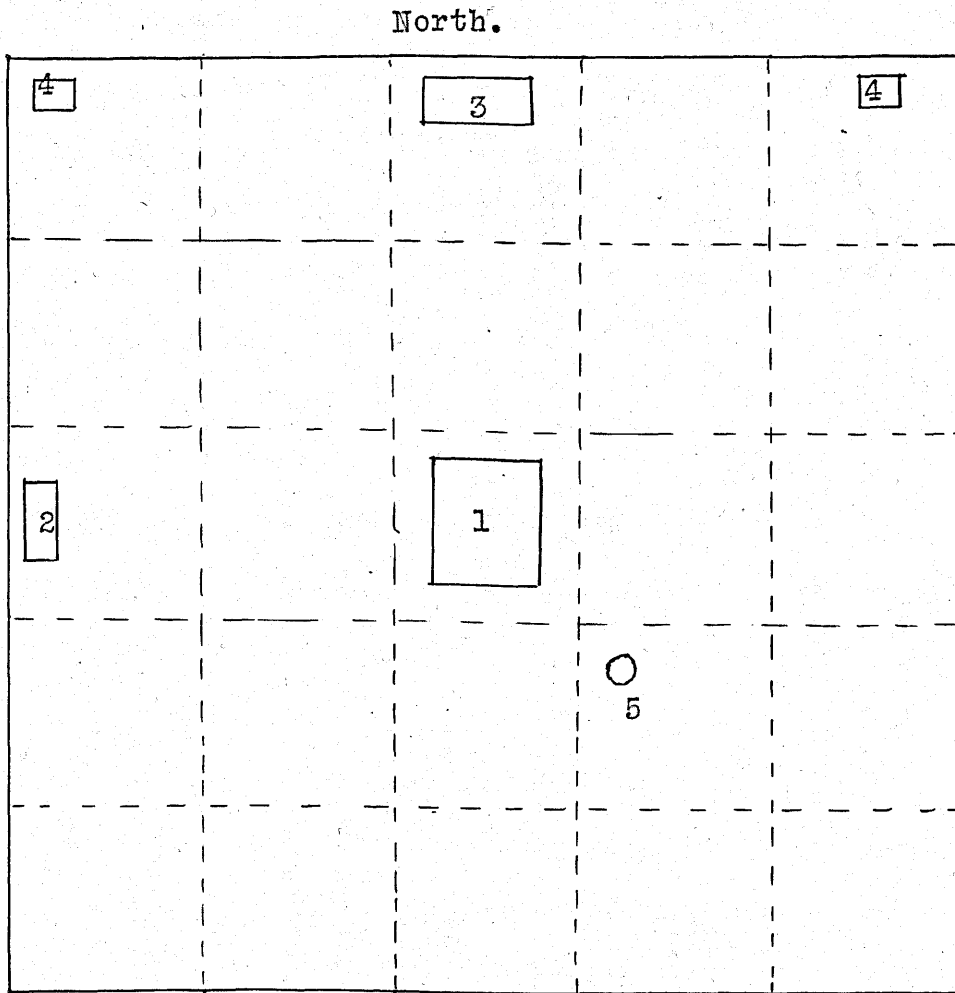
16. The patrons take an interest in the playground activities and the school boards regard them as essential.

17. Play activities are encouraged by the teacher as a part of her Educational program. Play has a vital influence upon the pupils.

18. 18.5 parts of the 25 of the schoolground are available for playground space. The building is located in the center of the schoolground, the toilets in the north-east and north-west corners, the fuel-house along the west side and the well south-east of the building. The diagram on the following page shows the location of the buildings.

DIAGRAM XIV.

A Diagram Showing the Most Frequent Arrangement
of the School Buildings on the Kansas One-teacher
Rural Schoolgrounds.



1. School-house
2. Fuel-house
3. Stable
4. Toilets
5. Well.

These facts show that the one-teacher rural school is still an important institution. Consolidation may eventually solve many of the problems of the rural school but that is some time in the future and for the present these problems must still be solved in the one-teacher school.

The enrollment in some schools is too small to justify a school. In schools where the enrollment is as low as one or two that school should be discontinued and the pupils enrolled in some other school. It will be an advantage for the pupil to come in contact with a larger number of pupils and it will be more economical.

No schoolground is adequate that is less than one acre in size and where the enrollment is large two acres are recommended. As regards the area per pupil these pupils have a much larger playing space than is usually recommended. Every schoolground should have some trees so located that they will not interfere with the play activities. They should be placed in rows along the sides of the schoolgrounds or in groups. A schoolground with a few trees, some flower beds, shrubs and with a grass surface should be the pride of every community. It should be cared for during the entire year. As new school buildings are built they should be made more modern. Fuel houses and toilets should be placed in the basements. This would provide for more playground space and greatly beautify the schoolground.

A good fence of woven-wire fence is a great advantage in keeping the schoolground properly cared for as it will guard against wandering stock.

The playground equipment and apparatus of the average school is too limited to be of maximum service to the pupils. The playground needs of the schools will vary with the size of the pupils and the number enrolled. There are, however, some things that every school should have. Among them are a sand-box and a slide. It is not necessary that every school have all equipment and neither is it necessary that it be expensive as much of it can be home made. The school board should provide funds with which to equip the playground. This would not all have to be done in one year but some equipment could be added every year until the needed equipment was obtained.

Occasional games with other schools, if properly directed, are beneficial to the pupils. These games need not be limited to base ball, basket ball and foot ball but other games as dare base and track are games suitable for contests. The games reported shows that there are several games that are common throughout the state but the fact that 40 percent of the games were named only once shows that many of the games are purely local.

The schoolground might well be used for play activities for the entire year by both children and adults instead of by the children only during the eight months

that school is in session.

Teachers show their interest in the play activities as they spend 80 percent of the play time on the playground. Board members consider play activities as essential but the fact that school boards provide no funds for play equipment indicates that such play is favored that requires no equipment.

School buildings should be so located on the school-ground that they will not interfere with the play activities of the pupils.

Millions of dollars are spent annually for ball parks, golf grounds and race tracks but no funds are available for the schoolgrounds of the rural schools. The farmer, the business man and the professional man provide themselves with the most modern equipment with which to perform the work and play activities. Cities are amply providing for the playground needs of their children. But the pupil in the one-teacher rural school must still perform those activities most dear and most important to him with little or no equipment.

CHAPTER VII.

SUMMARY.

1. A woman teacher, in the one-teacher school, has charge of 16 pupils for eight months.

2. The average playground has an area of 1.045 acres which is 2418 square feet per pupil. Most of the school-grounds have no trees, no shrubs and no flower beds. The out buildings are two toilets and a fuel house. 88 percent of the surface is grass. The school is well located in regard to the district, is on level ground and is well drained.

3. 93 percent of the schools have some playground equipment but in most of the schools it is too limited. The school boards should provide funds for playground equipment.

4. The pupils use the playground only during school months. The teachers spend most of the play time on the schoolground and supervise the play activities.

5. The patrons take an interest in the play activities and the school boards and teachers regard play activities as essential for the mental and physical growth of children.

6. The school house is located in the center of the schoolground and takes up too much playground space.

APPENDIX I.
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APPENDIX II.

List of games Arrange Alphabetically with Number of
Schools that Consider Them one of the Ten Most Important.

Ante over	138	Corner base	1
Animal	5	Cow	2
All to the corner	1	Cow boy	1
Around the house	5	Crazy man	3
Automobile	1	Crack the whip	5
Ball (kind not stated)	99	Croquet	14
Armory ball	10	Cross the line	11
Base ball	460	Crows and cranes	2
Basket ball	118	Dog and wolf	28
Corner ball	1	Dasher	1
Dodge ball	32	Dare base	316
Foot ball	98	Deck on board	1
Hot ball	1	Deer and hound	7
Volley ball	66	Dixie sore toe	1
Work up	3	Dog	1
Backward ten	1	Dog and rabbit	9
Bait	1	Double supper	1
Bean bag	10	Double tap	1
Bear	47	Drop the handkerchief	102
Beckon	93	Drop out	1
Beef steak	8	Drown the duck	3
Bird games	3	Duck on a rock	4
Blackman	476	Each in his den	1
Black and white	11	Farmer in the dell	26
Blind fold	13	Farming	1
Blindman's buff	49	Filling space	1
Blue Tom	3	Fish	1
Bardown	1	Five steps	1
Beast, bird or fish	1	Five up and five back	1
Bicycleing	1	Flip the pancake	1
Bobbity bob	1	Flying kites	1
Bugger	1	Flying dutchman	69
Bull pen	1	Follow the leader	8
Captain	2	Four base	1
Cat and mouse	2	Four old cat	2
Change cars	1	Fox and geese	93
Charades	11	Fox and hound	7
Cheese it	74	Free chance	1
Chicken	1	French and English	1
Circus	6	Frog in the meadow	2
Clams and Oysters	68	Fruit basket upset	30
Clap in clap out	7	Funeral	1
China wall	4	Gathering nuts in May	1
Church	10	Ghost	1
Color	1	Giant-stride	1
Coon	1		

Give me a wing	1	Long base	1
Goal	11	Lose your supper	53
Going west	1	Mamma	1
Golf	1	Magic music	1
Go yourself	1	Marbles	59
Green gravel	1	May I	5
Grunt	1	Midnight	2
Guess	2	Miller boy	2
Gypsy	9	Miser	3
Ham and eggs	1	Miss you	1
Hawk and dove	1	Moonlight	1
Hiawatha	1	Motion	11
Hide and seek	238	Muffin man	1
Hide the thimble	12	Mulberry bush	1
Hiding beans	1	Mumble peg	8
Hill dill	2	Needles eye	13
Hockey	2	Negro base	1
Hop scotch	16	Neurkey	3
Horse shoes	47	New Orleans	49
Horse	4	New York	44
House	22	"Nigger baby"	1
How do you like your neighbor	2	Old sow	1
Hustle the eraser	1	Old witch	25
I spy	23	One old cat	2
Ice box	3	One on a base	1
In and out the window	3	Oysters and clams	1
Indian	55	Pass in	1
It	3	Picket	2
Jack be nimble	1	Pig	2
Jack stones	4	Pig in the pen	3
Jacob and Ruth	27	Pin up	1
Jail	18	Pinch me	1
Jumping	59	Pitch jar rubbers	1
Keep away	106	Poison	41
Kick the can	5	Policeman	7
Kick the wicket	16	Prison base	98
King base	19	Prove it	3
King of the forest	1	Pull away	7
Knock out	2	Pumpkin ball	1
Knock the pin down	1	Punch and Judy	1
Lame duck	1	Punch the pig	1
Last couple out	47	Punch the iceman	1
Lie low	1	Punt	2
Leap frog	14	Puss in the circle	1
Lemonade	1	Pussy wants a corner	20
Lion base	3	Put them in the ring	1
Log off	1	Rabbit	10
London bridge	64	Ralley halley	1
		Red line	21

Red light	7	Teeter-totter	14
Redman	6	Telephone	1
Red Rover	7	Tennessee	8
Red Riding Hood	1	Tennis	6
Ribbon	2	Ten steps	14
Ring around Rosy	7	Ten sticks	4
Ring on a string	3	Three claps	1
Ring worm	2	Three deep	64
Robber	2	Throw the wicket	8
Rock	1	Tin tin	5
Round base	1	Tit tat toe	1
Rolling hoops	1	Tommy Tiddler's ground	2
Rotten eggs	1	Too late for supper	2
Run for supper	27	Touch me not	2
Run sheep run	37	Track	5
Running	98	Trades & professions	7
Running waters	1	Trail	1
		Tree to tree	1
Scatter beans	3	Troubled waters	1
School	3	Tug of war	7
Senders	5	Turnkey	2
Shadow	3	Two on a base	1
Sheep in pen	74		
Shinney	20	Vaulting	6
Shipload	1		
Show	4	War	1
Silence	1	Washington post	2
Six sticks	6	Wave, give me a wave	12
Seven sticks	9	Wave, whistle, holler	3
Sixty six	2	What time of day	1
Skating	2	Wheel	1
Skip to my Lou	1	Where are you from	1
Soldier	2	Whiteman	5
Spider and fly	9	Who has seen my friend	1
Spill the beans	1	Wiggle	2
Spinning tops	1	Wind the clock	2
Spid	1	Wink	4
Squirrel	5	Wolf and chicken	1
Stage coach	1	Wolf and sheep	2
Statue	11	Wood chuck	1
Stay put	1	Wrestling	6
Stealing sticks	127	Wolf	59
Sticker chief	2		
Still pond	2	Yard stick	1
Still water	5		
Stink base	1		
String the beans	1		
Surrounding	14		
Swinging	14		
Steal steps	3		
Tag	219		
Tap the bell	3		
Tap the rabbit	2		